Managing the

LABORATORY ANIMAL FACILITY

Second Edition

Jerald Silverman

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Dedication

This second edition is dedicated to those colleagues in the field of laboratory animal science — whether they are technicians, doctors, or others — who care for and care about the animals in their charge. This community of often maligned, little recognized, yet highly competent people strives to provide high-quality and compassionate care to laboratory animals — fellow sentient beings who cannot talk, cannot escape their lot, yet can so readily communicate their needs.

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Preface to the Second Edition

Before agreeing to write this second edition of *Managing the Laboratory Animal Facility*, I had to be introspective and ask if there was enough new and interesting information to merit a revised management book. The last thing I would want to do is expose the reader to the same information that was in the first edition but with a few more examples and corrected typographical errors. Therefore, I have tried quite hard to provide you with a moderately large amount of completely new information, and I have significantly expanded upon the information in the first edition. For example, there is an entirely new chapter on leadership, a new appendix on productivity goals and measurements, a revised appendix on how to calculate *per diem* rates, a greatly expanded chapter on the management of human resources, and so on. Additionally, in this edition I have tried in many chapters to repeat key concepts from other chapters. Overall, I think you will find this edition substantially different from the first, yet it has retained its focus; providing a basic understanding of management and leadership concepts in laboratory animal science.

Managing in the field of laboratory animal science continues to be a unique challenge. Not only do the people working in the laboratory animal facility come from diverse personal and educational backgrounds, but our customers — animals and investigators — are also quite varied. We interact with many people, from those who have little formal education to those with doctoral degrees. We care for just about every category of animal imaginable. Through it all, we have to provide high-quality animal care and friendly service in a financially sound manner. This is not always easy, particularly for those who have not had any formal management training. This book is a launching pad. It will give you much of the information you will need to become an effective and efficient manager, but it will not make you one. That is your job. You have to practice what you read and adapt the information to your own work circumstances. This is not as hard as it sounds; it just takes a little time and practice. If you have a trusted mentor who can help you over the bumps in the road, so much the better. Don't give up if you make mistakes, because we all

do. Certainly, if the leadership and management of the largest organizations in the world can make errors, you should not be surprised if you do the same from time to time. The real trick is to learn from your mistakes and move ahead.

My own thoughts about management have been influenced by good and bad managers, good and bad leaders, the writings of many authors, and my own successes and failures. I also manage a busy laboratory animal facility and therefore I prefer to get much of my continuing education in management theory from selected books and review publications. I hope this book becomes a valuable part of your library, but never neglect reading and hearing the thoughts of others. If you are managing a laboratory animal facility, your success will largely be evaluated by the decisions you make as a manager and their outcomes, not solely on your textbook knowledge of laboratory animal science. Keep current with your knowledge of laboratory animal science, including your knowledge of laboratory animal facility management.

Acknowledgments

Many thanks go to John Sulzycki and his colleagues at Taylor & Francis/CRC Press for their confidence in publishing the first and now the second edition of this book, and their invaluable help in its production. I also acknowledge the feedback from Drs. Paul Berger, Peter Flanagan, and Denice Godfrey, and David Bays and Eva Miele, all of whom read and provided feedback on drafts of the manuscript.

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Dr. Silverman is a Diplomate of the American College of Laboratory Animal Medicine and past president of the American Society of Laboratory Animal Practitioners. He has published more than 60 peer-reviewed research papers, book chapters, and books, and has coordinated the Protocol Review column for *Lab Animal* since 1988. His professional interests include management processes, Institutional Animal Care and Use Committee (IACUC) functioning, and the assessment of pain in laboratory animals, while his leisure interests focus on nature photography and his daughter's figure skating.

Chapter 1

The Basics of Managing a Laboratory Animal Facility

I grew up in Brooklyn. I thought I knew a lot about life, but in reality I knew very little. None of us living in the Borough Park neighborhood knew much about what happened in Bensonhurst, Bay Ridge, or Flatbush. That was because Brooklyn was, and still is, a series of neighborhoods. You lived in your neighborhood, not Brooklyn. Yet there were some areas of commonality among Brooklyn's 4 million residents. The rides and food at Coney Island, the Prospect Park Zoo, kids diving for pennies in the murky waters of Sheepshead Bay, and even the gangs in some of the schools were shared experiences for many of us. But one of the strongest threads that held us together was the Dodgers. The Brooklyn Dodgers were an integral part of our world. The Dodgers were the good guys. The Yankees were the bad guys. The Giants weren't worth mentioning. I left Brooklyn many years ago but I still remember the day — actually the moment — that Bobby Thompson hit the home run that gave the Giants the 1951 pennant over Brooklyn. Although I was just a child, I remember feeling sick and dejected, as if somebody squeezed all the air out of me. The only salvation was that the Yankees beat the Giants in the World Series.

We would usually take the bus to Ebbets Field to watch the Dodgers play. The manager of the team was Chuck Dressen, Jake Pitler coached first base, and Cookie Lavagetto was the third-base coach. As a kid, I could never understand if there was a difference between a manager and a coach. I thought that the words meant the same thing. I was sure that Lavagetto and Pitler, who you always saw, did most of

the work, and Dressen, the manager who stayed in the dugout, did very little. The only time I saw him was at the beginning of the game or when he went out to the mound to change the pitcher. At the time, that didn't seem particularly important to me. Now, many years later, I've figured things out. Dressen was responsible for overseeing the entire field operation and made the final decisions on the batting order, the playing positions, and the game strategy. He had final responsibility for molding the individual players into a team. No matter what the quality of his players, it was his job to get the most out of them. Lavagetto, Pitler, and the other coaches were his helpers, consultants, and administrators. Dressen delegated certain responsibilities to them, but he was ultimately responsible for the game and the season. He was also responsible to the team's upper management. If the Dodgers didn't win, Dressen and his coaches would be looking for jobs.

Chuck Dressen wasn't much different from today's laboratory animal facility manager. On the field Dressen was top management, but in the scheme of the entire organization, he was middle management. He had to make the best use of the resources he had, and even if resources were scarce, he was expected to win the game. The same analogy holds for most business executives, head chefs, and fire chiefs. Even though they have different duties on a day-to-day basis, as managers, they have similar responsibilities and problems.

As you might expect, the word *manager* can mean different things to different people. In large part it depends on whether you are the manager, the one who is being managed, or somebody in between. If we were to ask a hundred people on the street what it means to be a manager, I'm willing to wager that the majority would provide an answer such as "being a manager is the same as being a boss. You are in charge of supervising other people." They would say that because many people believe that telling other people what to do, where to do it, and when to do it is what management is all about. Actually, I used to think the same thing. That's not to say that managers never do those things, but supervising people is only one part of a manager's responsibilities. There is more to management than meets the eye and one of the goals of this book is to help you understand what a manager is and what you should be doing as a manager. This is more important than it sounds because almost nobody can do a job well unless he or she knows what he or she is supposed to do. Now, the cynic who has been in laboratory animal science for 20 years might say that there aren't too many things he hasn't seen or handled, so there really isn't much more to know about management in laboratory animal science. That, as you might guess, is nonsense. Management changes just as fast as laboratory animal science changes. Bad or outdated techniques with animals and bad or outdated techniques in management are inevitable. I vividly remember the admonition given to me and my classmates by Dr. George Poppensiek, dean of the veterinary school at Cornell, on the occasion of our first day of class. Poppensiek said that in order to be considered an expert in performing a surgical procedure, it was generally accepted that you had to do it at least 500 times. And even then, you could do it wrong 500 times. I have never forgotten that caution. Over the years

I have seen lots of people who became an expert at doing things wrong for many, many years. They survived in laboratory animal science because of reasonably good technical skills, a modicum of basic management skills, a lot of luck, and more job openings than there were people to fill them. I want you to be better than those people. I want you to know what a manager is supposed to do. I want you to have, at the least, the theoretical knowledge needed to be a competent manager. Then, as I wrote in the preface, you have to put this knowledge into action every day you are at work. It doesn't mean much to read a book and then fall back into tried-and-true bad habits when you are on the animal facility floor. That's just a shortcut to becoming an expert at doing things wrong.

In some ways, this book will give you some very traditional thoughts about management, and in other ways I hope that it will help you with the unique aspects of managing a laboratory animal facility. Overall, I like to think that this book is a guide, not a compilation of specifications that must be rigidly followed. More often than not, a good manager is an adaptable person, and if you want to do a good job managing an animal facility, you will have to be very adaptable.

A Definition of Management

We all know how to manage. If you can get out of bed in the morning, brush your teeth, and go to work, you have managed to do something. In this case, you managed to reach one small goal: getting to work. For those of us whose hearts don't start to beat until noontime, that is no small accomplishment. On a small scale, that is (in part) what managers do. There is a goal (getting to work on time), a specific plan to reach that goal (getting out of bed on time and getting washed up in a set amount of time), a means of organizing the goal (using strategies such as setting an alarm clock the night before, making sure clothing is laid out for the morning), and you even made a decision that doing all this was the best way to proceed. On a more serious note, the concept of setting goals and developing plans to accomplish those goals are two of the cornerstones of successful management.

Setting goals and developing plans to accomplish those goals are two cornerstones of successful management.

Since most people can manage (or at least manage a little), for most of you this book will take some of the things that you intuitively know and place them in a logical order to help you become a better manager. I'll talk to you about the things expected of good managers by other good managers. I'll try to point out problems that have confronted many managers of laboratory animal facilities, and give you

suggestions on how to approach them. In many instances you many think "That's just common sense." That is probably true, but the trick is to recognize that there are some basic actions that good managers use in almost all situations in order to reach a goal.

Let me begin by providing a working definition of management. *Management* is the art and science of using resources efficiently and effectively in order to accomplish a goal. This definition should hold whether you are managing an animal facility, a baseball team, or a multinational corporation. It's not perfect, some people would add or subtract a little, and some would disagree, but in general, it will do.

Management is the art and science of using resources efficiently and effectively in order to accomplish a goal.

To put this into plain language, if you have a job that has to be completed or a problem that has to be resolved (both are goals), you should develop a plan and use all the resources at your disposal to reach that goal. Don't waste time or money, but make sure it gets done right. If that sounds like common sense, you're right … it is. I have used the phrase "art and science" to emphasize that although there is a good deal of textbook knowledge that is part of the science of management, there still is a large amount of finesse that is needed, and that only comes with experience. That is the "art" of management. This definition of management raises further questions that are important to managers. What is meant by "resources," by "efficient," by "effective," and by "goal?" As you read through this book, you will start to find the answers to these questions. First, however, let's see if you are a manager.

Are You a Manager?

There is no universally accepted definition of what it is about work responsibilities that makes a person a manager. One well-known management theorist defined a manager as "that person in charge of an organization or subunit" [1]. I don't subscribe to that definition because "in charge of" is far too vague of a statement and says nothing about goals. It can include every person who has any control, no matter how limited, over a specific resource, such as a cage washer. My preferred definition of a *manager*, which is shown below, is derived from the definition of *management* I just presented.

The most important criterion for being an animal facility manager (or any other manager) is that you are expected to establish goals that can significantly affect

your animal facility's operations and you have the authority to use all or some of the resources of your organization (such as money or people) to reach those goals. If you can do that, you are a manager. Everyone has goals, but not everyone has a responsibility to establish goals that can significantly affect the functioning of their business (in this case, the animal facility). Managers have that responsibility. On the other hand, if the only work you are responsible for is your own, and if you really do not have the authority to use resources in order to make significant decisions toward reaching a goal, then you are not yet a manager. The fact that you are not a manager has nothing to do with the importance of your work. For example, we all know that laboratory animal facilities could hardly function without animal care technicians.

Don't worry about titles. You may be called a facility director, operations manager, supervisor of animal care, administrative assistant, or any such designation. The question is not one of titles; rather, it is whether you have the authority to control resources to reach a goal. If you have the authority to hire a new person, you have controlled at least one resource (people), which can have a significant impact on organizational operations. If your authority includes making purchasing decisions for the animal facility, you have control over another resource (money). In either case, you have fulfilled the basic criterion for being categorized as a manager.

A manager is a person who has the authority to use an organization's resources to establish goals and make decisions that can significantly affect the organization's operations.

In a laboratory animal facility, most animal care technicians are not managers. They may have the authority to separate animals if they are fighting, to perform certain diagnostic tests when they feel it is appropriate, and to meet with vendors or to order supplies when needed. But they probably do not have the authority to purchase animals, cancel a contract with a vendor, hire another technician, or order a new cage washer. They are responsible for their own actions, and they have very limited ability to make decisions that significantly affect the organization's overall operations.

Unfortunately, not all people with the title of manager are truly managers. Consider the "manager" whose primary responsibility is to make sure that animal care technicians are getting their assigned work done in an efficient and effective manner. If that person requires the approval of a higher authority to reassign a person to a different area, approve a salary raise, send a letter of reprimand, approve time off, buy new equipment, cancel an order, and so forth, then we have to wonder about that so-called manager's ability to use resources to make significant decisions

that can affect the animal facility's operations. That person may be a very talented supervisor, but at this time he does not fit the definition of a manager.

A manager does not have to use all of her available resources all of the time. Consider an accountant in a small company. There may be no people working for this person (people are a resource), but because the accountant may have the authority to set goals and make decisions about another resource (money), which can significantly affect the company's operations, that person is considered to be a manager.

Are You a New Manager?

So far, I have given you a definition of management and told you a few things about management in general. In a little while we will begin a discussion about the resources managers have at their disposal and then we will delve into what managers actually do on a day-to-day basis. But for right now, let me say a few words about becoming a new manager because it's easy to talk or read about management until the time you actually have to do it. I want to try to put your mind at ease (a little) by reassuring you that whatever you are feeling as a new manager, others have felt the same.

As I will repeat in more than one place, managers have to manage. Not all the time, but most of the time. If you continue to do most of your old job just to prove that you're still one of the good guys, you're going to be in for a rude awakening because the chances are that your former coworkers are not going to be as close to you as they used to be. You have to cut that umbilical cord. There may be times when you have to chip in so that the job gets done, but you have a new job now and that's what you have to do.

Most new managers have a degree of trepidation when entering their new world. Some are out-and-out afraid that they are going to fail (that was me). Some are afraid that if they succeed their success may lead to personal problems. A few are overconfident, perhaps to their detriment. One way or the other, most new managers will have some rude awakenings. It's far beyond the scope of this book (and my expertise) to write about all of the trials and tribulations of new managers, but consider reading Linda A. Hill's book *Becoming a Manager* [2]. To veer just a little from the subject, one of my pet peeves about postveterinary training programs in laboratory animal medicine is that they provide minimal formal management training. The residents learn by watching and doing what others do, but do the "others" really know what to do? AALAS (the American Association for Laboratory Animal Science) tries to help its members improve their management skills through its certification process and various training programs, but there is no substitute for on-the-job experience. You can use this book as a resource, but at some point you are going to have to put the information I'm giving you into a real-world context.

Let's return to the main subject. To succeed as a manager you will have to earn the respect of the people who report to you. This discussion is developed much

more in Chapter 3, but the take-home message is that whatever authority your position gives you will be diluted unless people respect and trust you. People will *not* respect you if you try to do their job, always hang out with them when they take a break, complain about your job, talk negatively about your own boss, and so on. Respect and trust, not raw power, leads to the kind of managerial authority you are seeking and you will probably need.

Gaining the respect and trust of coworkers leads to managerial authority.

Even with the importance of respect and trust, you have to be competent in your new role. You may have been the best veterinary technician of the group, but now, as the supervisor of veterinary services, your old skills count — but far less so than your new skills as a manager. Can you convince the director to purchase a new endoscope? Can you deal fairly and firmly with two technicians who are fighting with each other? How will you react to the weak link in your department who threatens to quit unless she gets a raise? Will you make sure that there are adequate continuing education opportunities? Can you put together a budget? Your managerial competency will be tested in many ways. Don't fear this; just understand that it's going to happen.

Perhaps the biggest mistake I made early in my career was to never ask for help. In 1975, when I left my private veterinary practice and entered laboratory animal medicine, I really didn't know anything about the field. When I interviewed for my first lab animal job I went so far as to tell my future employer that I knew nothing about laboratory animal medicine. When I began work, I knew essentially nothing about running a department with almost 30 employees. In both instances I did not (at first) turn to anybody for help — and I made some whopping errors. Don't do what I did. I finally figured out that I could have gone to my managers (my immediate subordinates) for some technical help on how to run an animal facility, and interestingly, I learned that I could *not* go to my boss for general help on management (he was worse than I was and invariably gave me bad advice). Now that you are a manager, and once you get a little time and skill under your belt, think about how you can mentor new managers. They need help getting away from the work that they did in the past and getting into a managerial frame of mind. They also may need help seeing the big picture and learning the management culture of the organization. Take them to the people they will be dealing with (for example, investigators, administrators) and make sure they know the key people with whom they need to interact to get their jobs done. In other words, put a face with a name. In a like manner, remind new managers that it can only help them to have

individual "get-to-know-you" meetings with each person they will be supervising. And, most likely, they will need general help learning how to be a manager.

Support new managers by introducing them to investigators and those they have to know to accomplish their jobs.

Basically, I learned, and you will learn, that you have to communicate openly and honestly, value people for their contributions, ask for help when it's needed, develop social networks within and outside the animal facility, and look and listen to people whom you respect, *even if they are not among your favorites*. And one more thing: read, read, read your laboratory animal science and management journals. You have to be able to talk with veterinarians, scientists, technicians, administrators, vendors, and so forth. Part of your present value and future growth potential as a manager and leader is based on what you know about many different but related topics and you will have trouble grabbing for opportunities and parrying off threats unless you can recognize them as such.

The "Levels" of Management

I hope you are starting to form a mental picture of who is a manager. You probably realize by now that managers are not just people who sit in large offices and have big desks, secretaries, and little concern about the day-to-day operations of their organization. There are all kinds of managers and most of them do not sit in large offices with those big desks and secretaries.

This book is directed to those of you who are (or would like to be) involved in the day-to-day management and leadership of a laboratory animal facility. Some of you may be first-line managers with a major responsibility to ensure that the work of nonmanagers is performed efficiently and effectively. Nevertheless, you should be able to manage whatever resources you have at your disposal using the same concepts that the president of a major corporation uses.

There are many levels of management, from *first-level supervisors*, who make sure that animals and their environment are properly cared for, up to that person in the large office with the big desk who has the title of president. First-level (and middle-level) management may be the toughest managerial positions because you are a supervisor to some and in turn you are supervised by others. Even though you may have some resources at your disposal, they may be relatively limited and your sphere of influence may also be relatively limited. On a daily basis your main focus is on

making sure that procedures already in place are being performed efficiently and effectively. Nevertheless, your own supervisor may ask you to fulfill vaguely stated goals that he or she has no idea how to accomplish (perhaps this can force some managers to become more creative in how they accomplish goals) [3]. You may be asked to develop specific goals, but because you are usually not involved in major organizational decisions, you may have to change your goals to fit organizational goals. If that isn't enough of a problem, as a first- or middle-level manager you have to supervise your staff as well as represent their interests to upper management. This can be a problem, since many employees believe that upper-level managers live in an ivory tower and have neither knowledge nor interest in their problems.

Above first-level management is that great nebulous area called *middle-management*. There is nothing specific that defines middle-level management. It can include anybody from the animal care supervisor to a veterinarian who directs the animal facility. It includes all the managers who are not first-level managers, but are not quite the top executives of their organization. Generally speaking, first-level and middle-level managers are closely involved in the day-to-day operations of the animal facility. Some people call this *operational management*. Of course, first- and middle-level managers have to establish long-range goals and plans at times, but for the most part, middle-level managers focus on what is happening in the short run.

The next step is *upper-level (or senior) management*. In general, upper-level managers make the decisions that establish the major programs and policies that the entire organization will follow. Senior managers should have a long-range outlook for their business, whether it is a university or a pharmaceutical corporation. They have the most resources at their disposal. These managers usually don't get involved in day-to-day operations. For animal facilities, upper management can include the person the facility director reports to, such as the vice president for research, the dean, the provost, or the president. As many of you already know, the vice president for research (or a similarly titled person) is frequently the individual who has the greatest direct influence on laboratory animal facilities. The vice president reports to the president and the president reports to the board of trustees (or a board of directors). So as you can see, everybody reports to somebody else.

I have to be honest and tell you that I loathe the term "senior management" when it is used by certain managers to distinguish themselves from all other employees. For example, you may hear the university president thank the school's senior management team for a job well done, or tell us that at the senior management level certain decisions were made. To my fragile ego this is ostentatious rhetoric and suggests a class system that has no place in any organization. We all know that there are managers who are in higher positions than we are and we also know that many decisions are made without our input, but to emphasize that there is a special group of people who have the power to do this detracts from the goal of working together as a smoothly functioning unit — a goal (stated or unstated) that essentially every organization strives for. There is no "us" and "them" or "senior" and

"junior" management. We are all coworkers. Words are powerful tools and we have to choose them carefully when we want to engender a culture of working together. Maybe in your animal facility you are a senior manager, but never hold that over the head of the other managers. We just have different levels of responsibility.

From my ranting in the last paragraph you will probably have deduced the obvious. That is, most laboratory animal facilities have a classical pyramid structure. There is a hierarchy with a director at the top of the pyramid, one or more levels of animal facility managers under the director, and technicians supporting the base of the pyramid. Although theories about organizational structure may come and go, the basic pyramid structure has been with us for a long time and seems to work fairly well. Not long ago I was at a lecture by a colleague who said that he did not like a pyramid structure because once you start dividing your employees into discreet working groups (such as animal care and veterinary services groups) they stop talking to each other and become compartmentalized. Rather, he said that his department was more of a flat matrix where everybody can readily interact with everybody else. He then went on to thank his associate directors and assistant directors for making it all possible. As I sat there, I almost laughed out loud when he made that last comment because he just described a traditional pyramidal structure.

Not every hierarchy has to have one person at the top. There are numerous examples in the corporate world where two or more people coequally lead an organization, with the investment firm of Goldman Sachs being a well-known example [4]. As another example, where I work the veterinary services division is led by two people, one with primary responsibility for surgery and large animals and the other with primary responsibility for veterinary technical activities and rodents. They have to work together because there is only one budget for all of veterinary services and they both report to the director. There are some distinct advantages to such an arrangement. The division of responsibility allows each of the two people to focus his or her managerial skills on areas of interest, they can back up each other when necessary, it is easier for them to develop relationships and expertise in their areas of interest, and they have a colleague with whom to discuss ideas and concerns about the division. On the negative side, if you have the wrong people in those roles there can be jealousy, backstabbing, lack of coordination, resource hoarding, and a slew of other problems. Choosing the right people for shared leadership is an art in itself.

Perhaps for some laboratory animal facilities, a pyramid is not necessary and other forms of managerial leadership will work, but for many others the pyramid seems to work just fine. At least with a pyramid there are clear lines of responsibility; it helps in making decisions, allocating resources, and managing people who need it [5]. On the negative side, it can isolate mangers from other employees and be dictatorial. Whether we agree or disagree about the use of a classical hierarchy, we should be able to agree that if there is a pyramid, then it is up to us, as managers, to make sure that we can talk to just about anybody without needing permission from someone else to do so. This is part of an "authoritarian democracy" in which

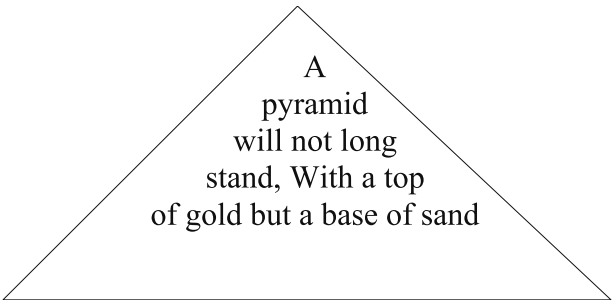

Figure 1.1 An animal facility is only as strong as its technicians.

managers use their authority to create a people-oriented management system. These managers know when to socialize and when not to socialize. They know when to push and when not to push. In other words, they have become both managers and leaders [6]. There will be more about communicating in Chapter 3 and leadership in Chapter 7.

No matter how good a pyramid may look on paper, no matter how much money is planned for animal-related work, anybody who has worked in animal facilities for any length of time knows that the animal facility pyramid is supported by the animal care and veterinary technicians (Figure 1.1). If technicians are not qualified and motivated, the entire facility will suffer.

Think about the basic truth of this statement. We have to work hard every day to be quality managers — otherwise morale will be low, turnover will be high, and the quality of animal care will suffer.

The Resources Managers Have

I have already emphasized that managers use their available resources efficiently and effectively to reach their goals. Soon you will learn that while using their resources they plan, make decisions, organize, direct, and establish control systems. Now it's time to be somewhat more specific about what is meant by "resources." Then, in later chapters, there will be much more detail about how you manage specific resources.

All organizations have resources; therefore, before you read on, stop for a few moments at the end of this sentence to think about what resources your own organization has.

The chances are that you came up with money as a resource. Did you realize, however, that you are a resource, a surgeon is a resource, an X-ray machine is a resource, medical records are a resource, and even the building you work in is a resource? Let's divide resources into five broad categories: human, fiscal, capital, information, and time.

Resources Available to Managers

- **Human resources (people)**
- **Fiscal resources (money)**
- **Capital resources (major equipment and physical plant)**
- **Information resources**
- **Time**

These categories, like the definition of management itself, are somewhat arbitrary. They are simply convenient pigeonholes. Still, I think that most professional managers would not argue strongly about them. More important, you can use them to help organize your thinking about resource management.

Human Resources

Human resources are the heart and soul of a business. In laboratory animal management, human resources are *all* of the people whose work affects the functioning of a laboratory animal facility, not just the veterinarians and technicians. This includes bookkeepers, receptionists, chemists, food suppliers, and anyone else, inside or outside your organization, available for you to call upon to help you reach a specific goal. Sometimes we get so wound up in our own organization that we forget that there are many outsiders whom we routinely use as resources. Food, bedding, and animal suppliers are obvious, but there are also other managers, technicians, a friend of a friend who can help you, and anybody else who forms part of that great network of people called "human resources." Part of this chapter was written while I was on the way to a national meeting of AALAS. One of my responsibilities as the director of my animal facility is to network with my colleagues, at all levels of lab animal science, to find better ways of doing things and to make friends that I might be able to call on in the future. In other words, I will be establishing, maintaining, and using human resources.

Fiscal Resources

Fiscal resources are the funds that your organization has or can get. In laboratory animal facilities, money may be acquired by charging investigators for the maintenance of their animals, by direct support from the parent organization, by charging for miscellaneous services such as the use of a surgery suite or for ordering animals, and many other procedures that are common in laboratory animal facilities. Your

inventory of cages and supplies can also be considered fiscal resources since, in theory, you can sell them to make money. Your parent organization may acquire its fiscal resources from government grants, from the sale of products, by investments, by borrowing, and many other ways.

Capital Resources

Some of your organization's capital resources are the building you work in, the grounds they are located on, and the major pieces of equipment that support your activities (such as an X-ray machine or a cage washer). When you hear people talking about "capital equipment," they are referring to the expensive, more or less permanent, equipment items. Different organizations have different ways of categorizing what is and is not a capital resource, but many define a capital resource as a building or piece of equipment worth at least $1,000 and with an expected life span of 5 or more years.

The use of capital resources will be discussed in the financial management chapter, but not to any great degree. This is not because they are unimportant but because animal facility managers are usually more involved in the *use* of these resources, as opposed to their management.

Information Resources

When I suggested that you think about the resources your organization has, the chances were that you did not consider information as a resource. But information is a real and valuable resource that all of us use on a daily basis. Some examples of information resources are animal health records, animal censuses, electronic mail, the World Wide Web, records needed to comply with regulatory agencies, your library, professional meetings, and vendors' representatives. In the last example (vendor representatives), you can readily appreciate that there is no clear-cut line as to where one resource ends and another begins since these people can be considered both human and information resources.

Time

As with information, most of us do not think of time as a resource. Not only is time a resource, it is a limiting resource because there are only 24 hours in a day. Part of your job is to use time in the most efficient and effective way you can. You can use time to schedule the optimum number of surgeries, to begin new experiments, to have staff meetings, and to have on-the-job training. There are many first-level managers who believe they need a 25-hour day, and there are some upper-level

managers who want their staff to give 110% of their time. Time (as well as these people) has to be managed.

Now that you know a little more about these five resources, what use will you make of them? What do they have to do with being a manager? It's a fair question and here is the answer: A manager's job is to use these five resources in an efficient and effective manner in order to reach a goal. This should sound familiar to you by now. Resources are the basic tools with which you work. In the vast majority of instances you will use more than one resource at a time. Indeed, you cannot effectively manage an animal facility using only one resource any more than you can build a house using only one tool. As a simple example, consider a laboratory animal facility where an employee spends five minutes cleaning each rat cage. If your goal is to have each cage cleaned in one minute in order to complete the day's work, both human and time resources must be considered. Of course, the manager realizes that "time is money," and thus, indirectly, fiscal resources are considered as well. You will probably use a cage washer, and that machine is a capital resource. If the cage washer cannot handle the number of cages you would like to put into it in one load, then you will have to decide if the cage washer is the problem or if the way people are using it is the problem. In this simple example, you can see that managers use their resources every day as part of the goal attainment process.

Let me give you another thought on how resources are used in day-to-day management. There are three questions that you will hear over and over in the management world (or at least in management textbooks). They are:

- Where are we now?
- Where do we want to be?
- How are we going to get there?

These three questions simply help us focus our planning efforts and resource utilization. There is usually a presumption that we know what our goal is (and reaching that goal is where we want to be) but that is not always true. Sometimes we have to do some hard thinking about what our goals should be, often involving many people from many different parts of the organization. As an example, suppose an airline has two flights a day between Boston and Los Angeles. It sells about 80% of the seats on one of the flights and about 50% on the other flight. The latter flight actually loses money. Should the airline's goal be to phase out the less full flight, or should the goal be to find out why one flight sells better than the other? Only thoughtful discussion will provide an answer but it is very important that your goal, whatever it is, be clear in your own mind and certainly clear enough that you can readily communicate it to others. Let's assume that one or more goals have been established, so at least one of the questions (Where do we want to be?) has been answered. Chances are, you know where you are now, so another question has been answered (although sometimes managers need a reality check). Therefore, in

many instances the key remaining question for the management team is, how are we going to get there? This is where plans and the strategies come into play. This is the point where managers start using all of their resources and also try to figure out what specific items are needed to make things happen. You gather a group of people together for some directed brainstorming. Maybe money is needed for a study, maybe some specialists have to be brought on board, and so on. People, money, time — all of these are part of your resources.

You must have a very clear picture of your goals and you must be able to communicate those goals to others.

Efficiency and Effectiveness

The resources you have must be used efficiently and effectively. By efficiently, I mean you want the most output from the least input. In the cage-cleaning example used earlier, an employee who cleans three cages in three minutes is more efficient than one who cleans one cage in five minutes. The person who cleans the most cages (output) in the least amount of time (input) is the most efficient one.

As managers, we have to realize that it takes more than people to have good efficiency. Efficiency involves all of the resources we have, and our job is to manage resources. How can a large-size animal facility run efficiently if the cage washer is not working correctly? What kind of efficiency will there be if there is no cage washer at all? That is bad planning on somebody's part unless you use disposable caging and wash your racks and carts in a special area. All the resources we have must be entered into the efficiency equation.

We also must recognize that it is not only animal care and veterinary technicians who have to be efficient. You, the manager, also must be efficient. Don't expect the people who work for you to be efficient if you're not. Your boss must be efficient too. If your supervisor has you running in circles, you will not be efficient and the chances are that he or she will not be either. And if your supervisor's supervisor is inefficient, there is a good chance that everybody below her or him will not be working at optimum efficiency. Clearly, efficiency is an organizational responsibility.

Effectiveness, on the other hand, is a measure of the quality of the output. It describes how well an organization, a part of an organization, or an individual accomplishes a goal. To continue with the cage-cleaning example, the manager would expect that regardless of the time required, the cages have to be cleaned properly. If not, the technician cleaning the cages would not be very effective. The manager wants the technician to be both efficient and effective. A good manager

— actually any good employee — should strive to be both efficient and effective in how he or she uses resources on the way to accomplishing a goal.

Efficiency is getting the most output from the least input. Effectiveness is a measure of the quality of the output.

In laboratory animal facilities we tend to be very service oriented. To that end, it is somewhat more important for us to be effective rather than efficient. But as I just noted, we try to balance both of these needs.

You have to be a little careful so as not to fall into the trap of thinking that your primary concern is to manage the efficiency and effectiveness of any one person. As managers we are managing a facility that has animals, floors, walls, ceilings, budgets, peeling paint, and persnickety people. We have to look at the whole picture of laboratory animal facility efficiency and effectiveness, not just the individual parts. We want the parts to mesh just right, and not just for our peace of mind. They must mesh to help reach the goals of our animal facility and our organization.

What Do Managers Do?

Let's concentrate now on what managers actually do. I don't want to spend any real time talking about managing the number of cages that should be going through the cage washer in an hour, but I do want to talk about the more general aspects of managing: those things that every manager does, whether in laboratory animal science or skyscraper construction. I suppose the simple answer to the question "What do managers do?" is that managers manage something, but we all know that is a simplistic answer that avoids discussing the details of a manager's job. As discussed earlier in this chapter, management is the effective and efficient use of resources in order to accomplish a goal. Therefore, it seems reasonable to reword this a little and say that managers want to use their resources effectively and efficiently to accomplish goals. Now, it is true that managers spend most of their work days *accomplishing* goals, but so does everyone else who is out there earning a living. The difference is that managers have more flexibility than nonmanagers in *establishing* goals, managers' goals are usually directed at ensuring the quality of the work that is being done, and managers move their area of responsibility forward (as opposed to doing specific tasks). Managers have more resources at their disposal than do nonmanagers and they typically have a level of authority that allows them to put their goals into practice. This does not mean that all of a manager's goals are of the utmost importance or that they sit around all day think-

ing about new critical goals. Like everybody else, managers have certain mundane chores that they have to do, such as filling out administrative forms or going to meetings where everybody knows that nothing much will be accomplished. One thing is for sure: effective managers do not come to work every morning hoping that all will be well and they can just sit in their office, praying that the day will end really quickly. Just like the manager of a baseball team, managers typically have part of their day planned out in their minds before they get to work. Maybe they'll be at a biosafety meeting making a decision about new equipment, or making phone calls to job applicants, researching a new sterilizer, organizing a scientific conference, checking on some work that was done the day before, and maybe they'll be meeting with some key people to try to develop a training program. One way or the other, on a daily basis, managers use one or more of the various resources at their disposal to reach one or more goals. Once again, these resources are human, financial, capital, information, and time. I will have much more to say later in this book about resources, but for right now, let's focus on how managers use the resources at their disposal to reach their goals.

A goal is a desired endpoint, and managers most certainly want to accomplish their goals. Developing a new veterinary technician training program or improving the efficiency of cage washing might be two of your goals. In order to reach a goal, managers make decisions, plan, organize, direct, and control each of their resources [7]. These are the so-called *roles of a manager*, and they help us understand why we need managers. There would be anarchy if all of us made our own plans and decisions and then tried to independently organize, direct, and control the resources we need to get a job done. We need managers, or even a team of people acting in unison, to make sure that there is efficiency and effectiveness, not chaos, in getting work done.

Managers plan, organize, direct, control, and make decisions about each of the resources that they use.

Interestingly, the eminent management theorist Henry Mintzberg questioned if managers really perform all of these roles [1]. For example, if a manager goes to a business luncheon, which of the above roles of a manager is he performing? The answer is, none of the above. The truth, as I see it, is that managers do not spend every moment of every day performing managerial roles that fit into nice little categories. Managerial roles indicate the outcome of something that previously happened, even if it was moments earlier. For example, if you go to an AALAS meeting to listen to a lecture and then talk with your colleagues, none of these activities neatly falls into planning or directing or any other managerial

role. However, if that meeting leads to a plan to build a transgenic mouse facility (the plan is an outcome of the meeting), then one of your managerial roles — planning — has surfaced. Then, if you have to make decisions about the transgenic facility, organize activities, and so forth, even more managerial roles come into play. So although managers are not always performing classical managerial roles, when they do plan, organize, direct, and so on, they do so to advance their goals for their animal facility. That can happen around a water cooler, in an animal room, or at a desk … it really doesn't matter. There will be times when a manager serves as a referee between bickering employees and when a manager looks at a wall in utter frustration, wondering why she ever got into this line of work. Managers often do what they do as the need arises, but they are always doing something. Taken as a whole, the manager is working with his or her resources to advance the goals of the animal facility, even if the specific work being done at a particular moment in time does not fit neatly into one of the roles of a manager.

Let me begin the discussion of how managers use their resources on a daily basis by discussing how each of these roles is performed by managers. Here is a hypothetical case report about the laboratory animal facility at Great Eastern University.

> *Great Eastern, like many universities, was chronically short on money. The state had cut back on its support of education, tuition was already high, and salary increases for faculty and staff were near zero. The university president had just imposed a 4.5% cut in the budgets of all divisions, including the laboratory animal facility.*
>
> *Jim Johnson, the manager of the facility, was already working with what he considered to be a skeleton crew and insufficient funding. Now things were even worse because the academic year was about to start and researchers were anxious to begin new projects.*
>
> *Jim knew what the problem was. He had less money but he was expected to provide the same amount of service, perhaps even more. He also knew that a major goal would be to find ways to cut labor costs without substantially decreasing efficiency or effectiveness. Now he had to figure out how to reach that goal. He had to use his resources, but he wasn't quite sure how he would do this.*
>
> *His first decision was to enlist the help of his senior staff in formulating a plan of action.*

1. A Manager Makes Decisions

Granted, Johnson's decision to ask for help was not an earth-shattering one, but it was a logical one nevertheless. Jim would use one of his resources (people) to help him. Just because it was a relatively easy decision does not mean that it was an unimportant step.

Managers are always making major and minor decisions. Some typical examples are a decision to hire a person, to have a meeting, to keep or reject a shipment of animals, to purchase equipment, or to discuss a problem with your supervisor. Managers also have to make decisions about how to spend their own time, because very often there are multiple competing projects that a manager is involved with. Decision making is a crucial managerial role for you, perhaps your most important one. You are frequently judged by the results of your decisions. Because of this, you don't want to jump too hastily into a decision. Sit back and make sure you have thought about the alternatives available to you because most decisions need not (and should not) be made with haste. For example, if you think you need a second cage washer, is it cost effective to pay people overtime to use your existing cage washer? Can you use an entirely new second shift to operate the existing cage washer? Should you consider robotics with a cage washer?

Managers are judged by the results of their decisions.

Decisions have to be based upon your knowledge of how your organization normally works, the requirements of your job, knowledge of laboratory animal science, a general knowledge of management, your facility and organizational mission, common sense, and many other factors. One good thing about making decisions in laboratory animal facilities is that they often are based on issues that occur on a somewhat regular basis, where we have previously encountered the question, and we have a framework for a response (for example, should we buy irradiated or autoclavable food, should we purchase a preventative maintenance contract?). Typically, the decisions you make when you are starting out as a young manager are probably going to be focused on getting a specific job done efficiently and effectively. Those decisions often need only a small amount of information and limited options in order to get a relatively rapid resolution. As you progress in your career you may find that you have to make more broad-based decisions, such as setting a direction for the entire animal facility. Making that kind of a decision may require additional information, time, consultation, feedback, and so forth. This change in your decision-making process over time is not at all unusual, and as you advance in management you should embrace the opportunity to incorporate new ways of doing things to reach a sound decision [8].

Very often the decisions managers have to make are so repetitive that they are incorporated into a set of policies outlining the day-to-day functions of a laboratory animal facility. This set of policies is usually called the *Standard Operating Procedures* (SOPs).

The purpose of making a decision is to establish and achieve organizational goals and objectives.

You cannot routinely avoid making decisions for fear of making a mistake, because if you do, you are not being an effective manager. You are also going to have to make some hard decisions, decisions you would just as soon not make. But if you shy away from these decisions, you are avoiding what you get paid to do, particularly if others know that you are shirking your responsibility. You rarely need every bit of possible information in front of you before making a decision, so don't use waiting for more and more information as an excuse for doing nothing. If you want to maintain the respect of your colleagues, earn your salary, and advance your animal facility, you're going to occasionally have to make some difficult decisions, and maybe you will make some wrong decisions. Like everybody else, you will learn from your mistakes and move on. You cannot dwell on mistakes forever and there are very few things you will do that you can't reverse. There is nothing wrong with changing horses in midstream if the horse is drowning. In the example used earlier, Jim Johnson was not looking for world-shaking input; he just needed some help.

Some key steps in making a decision [9] are:

- *Ask yourself if there is truly a problem that requires a decision on your part*. I would supplement this question by asking whether the decision (assuming a decision is needed) should be yours or someone else's. It is not a good idea to accept responsibility for making other people's decisions.
- *Obtain sufficient information to be able to make an intelligent decision*. Use whatever resources you have, such as spreadsheets, memos, journals, newspapers, discussions, gossip, and so on. You rarely need 100% of all available information to make a good decision. I am of the opinion that you can probably make almost all of your decisions with no more than 80% of the information you might think you need, and you can probably make many decisions with perhaps as little as 20% to 30% of the total information available.
- *Every decision requires some basic assumptions*. For example, if you have to decide whether to purchase new surgical lighting, there is an assumption that

the existing surgical lights are inadequate for current needs and that there is a means of getting the needed funds to buy the lights. Working with these assumptions, you have to develop potential solutions and choose the best solution. Therefore, if the surgery lights are rarely used, it may be wiser to purchase portable lighting than to try to get the funds for expensive overhead lights with prewired video capability.

- *Make your decisions at the right time*. Tell people about your decision when they are ready to accept it. A decision to close down one of your animal facilities should not come out of thin air two days before Christmas. Your employees should be primed for such a statement.
- *Keep your decisions flexible*. You should never lock yourself into a decision, as you may have to modify it.
- *Implement your decision*. Once a decision has been made, do something about it. There is no sense in making a decision and then doing nothing to implement it.

I'm going to add one more comment about decisions: Managers should explain the reason behind their decision. People may not agree with you, but at least you have provided important feedback.

2. A Manager Plans

> *Johnson was honest with his staff. He organized a meeting and told them about the budget cut and the reasons for it. He also told them that he knew they were doing as much as they could reasonably be expected to do. The question, he said, was "How can we make our daily operations even more efficient?" A lot of ideas were tossed out, but Randy Adams had the best one. His plan was to place more animals in each room in order to decrease the time needed to maintain many partially filled rooms. There were drawbacks to this idea, but it was the best they had.*

By definition, planning implies that something will be done at a future time. A plan is the method or methods you will use to take you from where you are to where you want to be. If successful, Randy Adams's plan would help Jim Johnson get the same amount of work done with less available money. In reality, more than one managerial role was being exercised in the previous paragraph. Johnson made a *decision* to have a meeting and *organized* the meeting. From that meeting came a *plan*. Nothing special, just something managers do every day.

A plan is the methods you will use to take you from where you are to where you want to be.

Depending on your position in your organization, you will be involved in different levels of planning, although there is always some overlap. For example, the vice president for research at Great Eastern University may be involved in developing long-range goals that the university must take in order to compete successfully for limited research dollars. The vice president must have good information about the state of the economy, about political realities concerning research funding, and perhaps how other universities (the competition) are reacting to the same situation before he can develop a plan on how to accomplish the goals.

Jim Johnson was not the vice president for research. He was more concerned about the daily operations of the laboratory animal facility. His planning was directed toward placing more animals in a room to increase labor efficiency. He couldn't do this overnight because he had to talk to the investigators, animal care technicians, and even find out if the heat load from the extra animals would be too much for the ventilation system. Nevertheless, it was a plan that would go forward with both care and determination. For both the vice president and Jim Johnson, their goals reflected a realization that money was hard to get, and plans (and decisions) had to be made to be able to accommodate the fiscal problem that affected the entire university.

3. A Manager Organizes

The decision was made to proceed with Randy Adams's plan. Jim Johnson decided that each of the supervisors who reported to him would coordinate the combining of animals from ten holding rooms into eight. They were each given the responsibility of working out the time schedule and implementing the plan. Johnson would help in the coordination of the plan with investigators whose studies would be affected.

It is sometimes difficult to separate organizing from planning. We have been discussing planning and the planning process. In using the word "organizing" I am referring to your responsibility to coordinate the activities under your control. For example, Johnson organized the meeting described above. Organizing includes the delegation of responsibility when appropriate. When responsibility is delegated, you must also delegate authority. The extent of, or what you delegate, is a decision

you must make. Nevertheless, although the immediate responsibility may be delegated to someone else, the decision to delegate was yours and you will be judged by the results of that other person's actions. There is nothing wrong with holding you responsible. You are the manager. If you make a wrong decision in the way you choose to organize your activities, recognize your mistake and correct it. If you do not, you should and will be held responsible.

Organizing is a critical role for you because it requires that you pull your resources together in order to make a whole that is greater than its component parts. In our example, Jim Johnson's actions were used to illustrate how planning, decision making, and organizing are integrated into the roles of the manager. Also, as part of his responsibilities, Johnson delegated a certain amount of responsibility to his supervisors. This integration of the roles of a manager, while using resources (mostly human, in this example) to reach a goal is typical of how managers function on a day-to-day basis.

4. A Manager Directs

When Johnson initiated the meeting with his staff, he assumed a leadership role in the meeting. He called the meeting itself, he organized it, and then he exercised his leadership by discussing the need to increase efficiency in support of the organization's overall need to save money. By discussing the situation with his staff and by getting their input and agreement on the plan of action, they had greater motivation to do the job in an efficient and effective manner. In turn, the supervisors might follow a similar procedure with the employees who will actually do the job of moving the animals. If all goes well, everybody will compliment each other on a job well done.

By now, you know that a manager is much more than a foreman who makes sure that a job gets done. Nevertheless, directing people is an important role for animal facility managers. In most instances when you are directing people, you are making sure that work is done correctly and on time. This should remind you that managers are always looking to accomplish their goals in a more efficient and effective manner. But when directing people, managers are also expected to motivate and lead their employees, not to stand over them with a whip. Many books have been written on managerial leadership and motivation, and for good reason. Your employees will look to you to provide leadership and motivation. In Chapter 7, the discussion on leadership will be expanded, but it is important to note that a good leader incorporates most or all of the roles of a manager, not just directing activities.

5. A Manager Controls

When Johnson gave the go-ahead to combine animals into fewer rooms, he assumed that the move would go smoothly, but he could not be sure of this. He therefore went

into the animal holding area to see for himself that there were no problems. This was a simple but effective way of monitoring (controlling) the progress of the plan.

You cannot make decisions, plan, organize, and direct, and then sit back and hope that all goes well. It was therefore important for Johnson himself to ensure that the plan was proceeding as anticipated. We call this managerial function "controlling." That does not mean that you must have your fingers in every nitty-gritty detail of everything that goes on every day. It *does* mean that you should have some mechanism for obtaining periodic feedback about the progress of a project. The feedback can be in the form of written reports, staff meetings, or going out and looking for yourself. A good manager monitors a project while it is ongoing, and then makes a final check when it is done. A discussion about what you can do to track the progress toward reaching your goal will be presented later in this chapter.

Try to avoid what has happened to many managers when they forget to look for themselves at the progress of an ongoing project. A former colleague of mine is a classic example of this problem. He invariably assumed that all of his people were doing exactly what they should be doing, but he did not take the time or effort to find out for himself how things were progressing. In one instance, a project was delegated to a subordinate and, unfortunately, it was not performed correctly. After all was said and done, my colleague tried to shift the blame for the failure to the subordinate and his employees. Well, perhaps there was an employee failure, but there was also a managerial failure by not having a control mechanism in place. Not long afterwards, my friend was fired. Managers cannot put the entire blame on their staff if they have failed to monitor a project's progress. You delegated the responsibility so you have to be sure the work is getting done properly. The worst excuse a manager can give is "I told them to do it but they didn't." That doesn't hold a lot of water with upper management, nor should it. That's like saying "I didn't know the gun was loaded." See how far that gets you on judgment day.

This raises another interesting point about controlling your resources. When people are working with you to reach a goal, they have to know what constitutes acceptable performance of a task. Can you effectively exercise managerial control over what people are doing unless they know what is expected of them? The answer is no. You must decide how much leeway to give in terms of time, money, or methods. Controlling is important, but we must define the limits of acceptable performance before we can control anything.

In order to have proper managerial control over a project, all persons involved must clearly understand what is expected of them and what constitutes acceptable performance.

You may not be an expert at everything, but you should have a clear vision of how all the parts of your operation are integrated. For example, you should be able to follow an animal order from an investigator's request to the point when the animal is entered into a study. You should also be able to do this from an investigator's (your client's) point of view. If a particular strain of a mouse is not available, how long did it take for that information to get back to the investigator? What is being done to help? What happens if only part of an order arrives? Do you tell the investigator right away, call the vendor, or wait another day to see if the remainder comes in?

There is an important corollary to your ability to understand how all parts of your operation come together. You also must work to have everybody in your animal facility — and, in particular, the managers who report to you — clearly understand all of the animal facility's goals. That helps everybody, not just you, understand how all the operations come together. You are implementing the organizing role of a manager. As a laboratory animal facility grows, there comes a point where no one person can (or should) exert managerial control over all systems. But if everyone understands the values, vision, and objectives of the facility, they can measure their own performance against those objectives. They can fix problems on the spot rather than send reports to you and wait for you to make a decision [10]. Consider what can happen if there is an unexpected increase in the cost of hardwood chip bedding from ABC Distributors. Must the person who purchases bedding pay ABC the new price? Will he or she then have to wait for you to see the monthly budget report, integrate it in your own mind with all other operational control systems, and then make a decision about what to do? Or does that person routinely receive the animal facility's budget sheets and have the authority to bargain with ABC, change distributors, or take other actions (such as locking in a price at the beginning of the fiscal year) as long as there is no detriment to ongoing studies?

You are the captain of the team. You get the best people you can to do the job and then, like the manager of a baseball team, you make things mesh. Don't become a tyrant. Have managerial controls over those functions that you believe to be most important to the proper performance of the project or area in which you work, but have everybody understand the facility's goals so everyone feels a responsibility to the team. Your objective is to have everybody understand his or her job well enough that the task itself, not the manager, has built-in controls on acceptable performance.

Organizational Mission: The Big Picture

Goals

Let's briefly talk about the word goal. A goal can be defined as a desired endpoint. Thus, having three cages properly cleaned in three minutes might be your goal. This

is a short-range goal. Other goals might be developing space to house guinea pigs, having greater control over divisional spending, developing an employee training program, consolidating food purchasing on a large university campus, improving your utilization of time, learning how to prepare a budget, reading this book, getting money for a security system, improving relations with a union, or developing an automated animal census system.

A goal is a desired endpoint.

Your goals are often developed in response to the needs of animals or researchers, the two primary customers in most animal facilities. Providing more or improved fee-for-service procedures is an example of a goal that is typically focused on the needs of researchers. If your goal is to build a new centralized animal facility within 10 years, that is a long-range goal focused on the needs of both researchers and animals. To a certain extent, goals are what you want them to be, although common business sense says that there should be a reasonable chance that they can be achieved. Keep in mind that as a manager you are always developing new goals and devising plans to reach those goals. You are going to use the various resources discussed above while developing your plans, organizing activities, making decisions, directing people, and setting up control systems. All of this is done to reach your goal. More will be said about goals later in this chapter.

The Mission Statement

Let me back up a little bit. Goals are what you want them to be, but as I noted, you do have to use a little common sense. You cannot do whatever you want to do or try something you want to try just for the fun of it. Our business goals should be related to what our organization is trying to accomplish in the long run, or what is commonly known as the *organizational mission*. Most organizations, whether they are private research laboratories, universities, or pharmaceutical firms, have what is known as a mission statement. This is a written document defining the overall reason for an organization's existence.

A mission statement is a written document defining the overall reason for an organization's existence.

Mission statements are actually quite beneficial because they are always there to help us remember the big picture. They help us focus our goals. They inspire us. They keep us honest. They give employees a rallying point. I used to think that mission statements were just another piece of academic fluff that had no place in the real world. I was wrong. Sometimes, when I have a problem deciding what information should be included in a lecture or demonstration, I think about the mission of my school or even the smaller mission of the course I'm teaching. It helps keep me focused. Presumably, your organization will take its mission to heart and practice what it preaches. If it does, it helps motivate and retain employees. A lofty mission statement is obviously meaningless if the parent organization pays it no heed.

Here is a true story that illustrates how the leadership of an organization kept a focus on its mission. I have only changed the name of the institution and its people.

> *As with many institutions in the late 1990s, Eastern General Hospital, a not-for-profit hospital, was undergoing rapid growth. It had a mission to serve people in its community irrespective of their ability to pay for services. Nevertheless, within a period of 3 years, its fortunes turned. Although the ship was not sinking, it was beginning to list. Peter Ferrar, the chief executive officer (CEO) of Western Hospitals, Inc., a profit-making hospital conglomerate, was seen having lunch with Stan Reilly, the CEO of Eastern General Hospital. Soon afterward, rumors began to fly about a possible buyout of Eastern General by Western Hospitals.*
>
> *When Reilly heard of the rumors, he acted quickly, sending all employees a strongly worded memo reminding them of Eastern General's not-for-profit charitable mission, and assuring them that they would never merge or be purchased by a profit-making organization.*

An interesting side effect of Reilly's memo was that concern for a merger or buyout by another *not-for-profit* organization actually increased. Reilly might have been honest with his employees and true to the mission statement, but he did little to stem people's fears about the loss of their jobs. Eventually, Eastern General Hospital was purchased by, and then merged into, another not-for-profit organization, with a resultant loss of many jobs. The mission remained intact, the hospital's basic service function continued, but there was no escape from the realities of business.

Mission statements should be brief and to the point. They should state what the organization is in business to do and for whom it does it. Those mission statements that go on for paragraphs or pages are unnecessary and probably reflect a lack of understanding as to what the organizational mission really is or should be.

Mission statements should be brief and to the point, stating what the organization does and for whom it does it.

The other side of the coin is that mission statements can be brief but not tell you very much. Can you imagine a mission statement from a pharmaceutical company that says, "The mission of XYZ, Inc. is to make sufficient profits so that shareholders will continue to invest in the company's future."

Certainly, there is nothing wrong with XYZ, Inc. wanting to make a profit. It had better do so if it wants to stay in business very long. But is that their entire philosophy? Is robbing banks okay? Can they go into whatever business they want to? What do they do? Who are their customers? At the very least, the mission statement of XYZ, Inc. might read, "The mission of XYZ, Inc. is to use its resources to develop, test, and market prescription drugs that help prevent, alleviate, and cure human diseases."

That's a reasonable start. With that statement, if there was an opportunity to purchase a detergent manufacturing plant, XYZ management might say, "It is a good buy and it will be profitable, but how does it relate to our mission?" Here is another example. The mission of Great Eastern University may be stated as

> The mission of Great Eastern University is to accumulate knowledge in a wide variety of arts and sciences, and disseminate this knowledge to its students and the public.

It says nothing of teaching, research, sports, or any of the many other activities of a large university. It doesn't have to. All forms of teaching, whether it involves students in chemistry, medicine, theater, football, or agricultural extension services, are part of the dissemination of knowledge. Likewise, informal discussions and guest lecturers also fall under the heading of the dissemination of knowledge. The accumulation of knowledge can include all forms of research, formal and informal meetings, and even providing "real-life" learning experiences for students, such as student teaching or dramatic presentations.

Nevertheless, the mission statement of Great Eastern might also be written as follows:

> The mission of Great Eastern University is to accumulate and disseminate knowledge in a wide variety of arts and sciences; to instill in its students, faculty, and staff a desire to understand and better the world they live in; and to encourage and support excellence in scholarship and research for its students and faculty.

In many ways this mission statement is a substantial improvement over the first, as it gives us more of the university's philosophy. It tells us who its customers are (students, faculty, staff, and even the rest of the world). The university is not just an information warehouse or a glorified library. It is a vibrant institution that wants to use its resources to make a better world for all people. To do that, its resources will be directed toward the encouragement and support of excellence in teaching and research. It will share its knowledge with everyone. Now you have a good "feel" for why this university exists. You know something of its values. Indeed, there are some organizations that have separate mission and value statements.

Here are four hypothetical mission statements. Do you think they are adequate as written, or would you expand on them? Try adding one or two sentences about values to these mission statements.

Hypothetical Mission Statements: Are They Adequate?

1. *The College of Veterinary Medicine of Great Eastern University*: To accumulate and disseminate knowledge about animal health and well-being.
2. *The Department of Veterinary Preventive Medicine, College of Veterinary Medicine at Great Eastern University*: To accumulate and disseminate knowledge about the prevention of diseases of animals.
3. *An organization owning a football team*: To provide for the entertainment of sports enthusiasts.
4. *A laboratory animal facility*: To provide for the physical and psychological well-being of animals used in biomedical research and teaching.

In all of the above examples, the mission statements do not go into great detail. Indeed, the organization that owns a football team never even mentions football in its mission statement although it does define its customers (sports enthusiasts). Perhaps it is because the concept of entertaining sports enthusiasts includes putting on football games, selling souvenirs, owning a hockey team, selling sports videos, and other sports entertainment-related items. The animal facility mission statement includes animals as a customer, but it doesn't say a word about another prime customer — the researchers who use the animals. Writing a mission statement is not as easy as you might think. Give it a try. What is the overall mission of the organization that you work for? What is the mission of your animal facility? If you don't already know it, write one.

Before moving on, let's reexamine the mission statement of the laboratory animal facility. It stated that it should "provide for the physical and psychological well-being of animals used in biomedical research and teaching." But does it really tell us who our customers are? To a certain extent it does, since animals are definitely the recipients of the services we provide. Nevertheless, as I previously noted, we have to recognize that a laboratory animal facility is a service-oriented enterprise that has at least two customers: animals and investigators. Perhaps a better mission

statement for a university laboratory animal facility is the one in use at the Department of Animal Medicine of the University of Massachusetts Medical School.

> To provide for the physical and psychological well-being of animals used in biomedical research and teaching. To aid investigators in obtaining and properly using laboratory animals.

Compare this statement to the mission statement of the laboratory animal facility at the Kansas State University College of Veterinary Medicine.

> The mission of the Animal Resource Facility is to facilitate animal use in research and teaching at the College of Veterinary Medicine at Kansas State University by providing high-quality animal care in accordance with both federal and state regulations and AAALAC guidelines. [11]

Which of the above two mission statements do you prefer, or do you think that they both are satisfactory? Here are other actual mission statements. Evaluate them for yourself.

Actual Mission Statements of Various Organizations

University of Guelph Animal Facility:

> It is our desire to provide leadership, service and support in the field of laboratory animal science through education, diligence and co-operative involvement, while aspiring to provide the highest standards of animal care and welfare. [12]

The American Association for Laboratory Animal Science:

> AALAS advances responsible laboratory animal care and use to benefit people and animals. [13]

The University of Massachusetts Medical School:

> The mission of the University of Massachusetts Medical School is to serve the people of the Commonwealth through programs of national distinction in health sciences education, research and public service. [14]

Cornell Center for Animal Care and Education (CARE):

> The mission of CARE is to ensure animal welfare and facilitate research and teaching. CARE provides high-quality animal care and veterinary services. [15]

The Laboratory Animal Management Association:

> This Association is dedicated to enhancing the quality of management and care of laboratory animals throughout the world.
>
> The Laboratory Animal Management Association advances the laboratory animal management profession through education, knowledge exchange and professional development. [16]

The Massachusetts Society for Medical Research:

> We promote and enhance biomedical and biological research, including the humane care and use of animals, for the improved health and well-being of people, animals, and the environment. [17]

American College of Laboratory Animal Medicine (ACLAM):

> The American College of Laboratory Animal Medicine advances the humane care and responsible use of laboratory animals through certification of veterinary specialists, professional development, education and research. [18]

Once you have a mission statement that defines your overall philosophy, you can develop and focus your goals. These goals must be in line with the mission of both your laboratory animal facility and your organization as a whole. Subsequently, using the resources you have, you can develop strategies to reach short- and long-range goals.

Your goals must be related to the mission of your organization.

Fulfilling Your Organization's Mission

Let's assume that the mission of your animal facility is "to provide for the physical and psychological well-being of animals used in research." That's fine, but how are

you going to do that? What day-in and day-out general methods will you take to accomplish your mission? Every organization needs to establish a basic operational framework for accomplishing its mission [19]. The Red Cross is a relief agency and, like other organizations, it needs a daily operational framework to accomplish its mission. Should its work include providing temporary housing for people? Permanent housing? No housing at all? Should it obtain blood from donors once an emergency occurs or should it bank blood in anticipation of an emergency? If you are a book publisher, your mission may be to publish scholarly books in the life sciences for adult readers, but does that include scientific journals? Will your animal facility be strictly a service department or will you incorporate research into your activities? Will it be basic research, clinical research, or both? In other words, how will you fulfill your mission of providing for the physical and psychological well-being of animals? This is the operational picture you need to establish to fulfill your mission, not the Standard Operating Procedures that tell you how or how often to change a cage. Every animal facility, and every member of that animal facility, should have a clear understanding of how their facility actually accomplishes its mission statement.

Although the mission statement of an organization is typically difficult to change (and it should be hard to change), the broad operational activities that are used to fulfill the mission should be somewhat more flexible to give you the ability to meet changing conditions.

> *The Great Eastern University laboratory animal facility operated successfully for many years by having technicians who performed both animal husbandry and veterinary care. However, as its research endeavors grew in size and experimental complexity, the leadership of the facility began to question if they should continue to have generalist technicians who did both animal husbandry and veterinary services, or if they should have one group of technicians providing animal husbandry and another providing veterinary services. On the one hand, having generalists would allow the technicians to have better familiarity with individual animals and decrease the potential boredom of performing the same functions day after day. On the other hand, having specialists for each function might facilitate a higher quality of animal care.*

The key point in the situation given above is that the mission of the animal facility will not be changed whether there are one or two groups of technicians. The means used to accomplish the mission may change, but not the mission itself. In other words, an animal facility should have flexibility in how to accomplish its mission.

Often, even though an organization doesn't change its mission statement or the overall methods used to accomplish its mission, it may have a certain major

long-range goal (such as becoming accredited by AAALAC, the Association for Assessment and Accreditation of Laboratory Animal Care International). This major goal is directly related to the mission statement and usually requires many people to work together, using many available resources. This major goal is called an organizational vision and is the subject of the next section.

The Vision Statement

Your mission statement is your overall business philosophy. But in order to chart a course for the next few years, many organizations want to state a major direction or action that the organization (such as your animal facility) will take. This is sometimes called a vision statement, a strategic vision, or strategic intent. Not every animal facility (or even every large research organization) has a vision statement because some managers are content doing tomorrow what they are doing today. They will buy new equipment or even plan for a new animal facility if told to do so, but there is really no leadership to initiate a significant change (such as AAALAC accreditation) and to lead the facility in accomplishing that change. These managers are perfectly happy to figure out the best way to accomplish their mission in a very general way, as was discussed in the previous section, and that's about it. If there is no vision, they don't have to worry about accomplishing it. They may be good managers — but not good leaders. *Leadership implies moving an organization forward* and usually requires a clear vision statement to be disseminated throughout the organization. Management, however, often entails improving on what we are doing today. Therefore, if you want to move forward, you need a vision. Employees want a rallying point and the vision statement provides that. We will discuss some of the differences between management and leadership in Chapter 7 (Leadership), but there is nothing to say that a good manager cannot also be a good leader, develop a vision, and lead the animal facility toward accomplishing that vision.

A vision statement describes the major direction or action that an organization will take over the next few years. It helps all employees set goals to accomplish the vision.

Let's return to the vision statement. A vision statement has to have an impact on most of the people working in and with the animal facility in a forceful manner because it is not unusual to have naysayers question its achievability. Therefore, vision statements are typically developed by one or more people at higher levels of management, such as the chief executive officer (CEO) or the dean of a school.

Nevertheless, it should not be written in a vacuum. Even the CEO should get input from senior staff members, and it's not unusual for senior staff members to get some of their ideas from the people who report to them, and so on. The vision statement helps managers and other employees set specific goals that can be used to accomplish the vision. It should be clear and to the point. It should also be repeated, time after time, at meetings, in newsletters, on bulletin boards, and certainly to new employees when they are hired. This constant repetition reminds everybody in the organization that there are specific goals that have to be reached and it is not just "come to work, do the job, and go home." All of us want to be proud of our organization and want to be part of accomplishing its vision, but that's hard to do if the vision statement is casually mentioned one day and we never hear of it again. In Chapter 7 (Leadership), we will provide some suggestions on how to actually implement an organization's vision.

Some people talk of long-range visions (i.e., the overall direction for the next 20 years) and others talk of shorter visions, such as the vision for the coming three or 5 years. I prefer the shorter vision because it is apt to be more practical for a laboratory animal facility. As a matter of fact, I have just about reached the point of believing that planning for more than 2 years into the future can be problematic. I also think that a vision statement has to be based on reality. For example, the University of Massachusetts Medical School is routinely rated as one of the nation's best medical schools for primary care education. Therefore, there is a reasonable chance that with specific plans it might be able to become number one in a few years. On the other hand, had the school been rated as number 50, a vision to become number 1 within 3 years would have been foolhardy.

How might a vision statement's operational guidance work in a real-world setting? Take a look at the 1992 vision of the former Hahnemann University (Hahnemann merged with Drexel University in 2002). The vision was that the school would become one of the nation's 40 best medical universities by the year 2000. To my way of thinking, that would have been a reasonable vision statement. However, the board of trustees went much further and defined certain goals that were to be accomplished in order for the vision to be fulfilled (there is nothing wrong with doing that because goals will have to be set either as part of, or separate from, the written vision statement). The university's trustees developed goals such as having the colleges of the university act as a unit, defining standards for excellence, revitalizing its facilities, improving public relations, reevaluating programs, creating an atmosphere of trust for its faculty, staff, and students, and so forth. The vision statement went on to describe the economic and operating issues necessary to consider when implementing this vision. In other words, the vision statement also included some specific goals. The Hahnemann vision was consistent with the university's mission.

In stark contrast to the detail provided by the Hahnemann vision statement is the vision that the president of a health care organization presented to its board of trustees. He said, "My vision for [this organization] is to become one of the best

places in the world to receive health care, to get an education, to conduct research, and to work."

What about your research animal facility? Does it have a vision statement? If it does, does it complement your organization's vision? Does your organization have a vision?

The vision statement of the Department of Animal Medicine at the University of Massachusetts Medical School is a little different in that it includes two statements. They are:

1. To integrate the department into the academic framework of the medical school through basic research, clinical publications, presentations, and teaching employees about humane animal use.
2. To have the department's managers and supervisors become as competent as possible in the art and science of management.

Most, but not all, vision statements have a time line. For example, the first of the two vision statements from the Department of Animal Medicine might have indicated that it intended to achieve its vision within 5 years.

The vision statement is the starting point for developing the specific goals that must be reached to fulfill the vision. Within the context of asking where we are now, where do we want to be at some point in the future, and how we will get there, the vision statement focuses on the last two, that is, where we want to be and the means of getting there. This requires goals and specific strategies to reach those goals. I will elaborate a little more on this in just a moment, but for now I want to emphasize that while establishing these goals, don't lose sight of your customers (animals and investigators). It's very easy to get caught up in organizational bureaucracy to the point where fulfilling your goals becomes more important than your mission. The large majority of our laboratory animal facilities are owned and operated by the parent organization. In other words, we have minimal competition. More often than not, within our organization we are a monopoly. When we start to believe that we are indispensable, we are asking for trouble. Nobody is indispensable. In fact, we are all replaceable. Be careful. Remember your customers.

Never allow the fulfillment of your goals to become more important than your mission and customers.

Whether the vision statement comes from the president of a university or the manager of a laboratory animal facility, it is that person who must lead the way. "Whether managers express their vision of the future in numbers or metaphors, they must use it to mobilize the talents and energies of people in the company, as well as suppliers and vendors" [20].

As a person who has spent most of his professional career in academe, there is no doubt in my mind that vision statements are at least as important as mission statements. If you dissect the mission statement of almost any university, you will find that they are similar. There's usually a reference to teaching, research, and service. It is the vision statement, though, that differentiates one university from the other and one animal facility from the other. It is not the only step in reaching goals, but I believe it to be one of the most important. Let me give you an example of how a vision statement can be used in a real-world situation:

> *The laboratory animal facility at Great Eastern University operated like many others. That is, it has some basic goals (such as hiring an additional animal care supervisor and getting additional rabbit cages to meet immediate needs) but there was no unifying vision for the facility. The new director of the facility recognized that there was a significant difference between putting out the day-to-day fires that every animal facility has to deal with and establishing an overall direction for the facility. [The overall direction is what we have been calling the vision of the animal facility.]*
>
> *The new director met twice with other employees of the animal facility and collaboratively developed a vision that they believed they could reach with some hard work, that was important to the animal care mission of their facility, and that required a few years to accomplish. Specifically, the vision statement was "to achieve full AAALAC accreditation within 5 years."*

Why would Great Eastern University choose this vision? Well, to begin with, research at Great Eastern might be growing rapidly and it would be to the school's benefit to have AAALAC accreditation. Additionally, the committee developing the vision might have wanted their coworkers to share in the recognition enjoyed by institutions having AAALAC accreditation. Finally, the new director might have wanted to pull everybody together and create a spirit of cooperation by working toward fulfilling a vision that affected all aspects of the animal facility's operations; AAALAC accreditation would meet that need.

Strategic Planning and Long-Range Goals

How might the animal facility at Great Eastern University fulfill its vision to become AAALAC accredited within 5 years? The animal facility managers will have to develop specific goals and plans to reach those goals. You might recall that

planning is one of the roles of all managers. Once the short- and long-range goals are in place (and setting goals is a part of planning), they will develop specific methods (strategies) to reach those goals. For example, one goal might be to replace all cracked and discolored polycarbonate cages with polysulfone cages, and one of the strategies might be to have people on the clean side of the cage washer remove and discard all of those cracked and discolored cages as they exit the cage washer. The overall process of developing goals and specific strategies for activities that require a relatively long time to complete has been called either long-range planning or strategic planning. Some people use those terms interchangeably; it probably doesn't make that much of a difference. The important thing to remember is that you have to develop one or more strategic plans to reach your goals. Reaching those goals just does not happen magically. If you do reach your goals without any planning, consider yourself lucky, not smart.

Establishing long-range goals and developing strategic plans to accomplish those goals is often thought of as a somewhat exotic upper-management function that doesn't involve middle- or first-level managers. That's not necessarily true. As often occurs, upper management has final decision-making responsibilities (although even that is changing in some organizations), but middle- and first-level managers are often asked for their opinions. Middle- and first-level managers certainly have responsibilities that require both long- and short-term planning. Even as middle- and first-level managers, we have to look forward and decide what strategies we have to initiate now to reach a future goal. I will reemphasize this point a little later on.

An organization must have one or more long-range goals in order to remain competitive. In industry or in academia, you can't live for today only. You must look to the future. You must be prepared for what might happen or what will probably happen. You try to prepare for, and take advantage of, the future. If you don't devote time to setting and accomplishing goals, your competition will eat you up or you may find that your service is no longer needed.

All of us should set short-range and future (long-range) goals, whether it's in our personal or business lives. In business, these goals should be important to our organization, consistent with the organization's mission and vision, measurable, and attainable in a reasonable time span (perhaps 2 to 5 years for a laboratory animal facility). Sometimes what appears to be astute strategic planning is nothing but pure luck or a desirable result that came through trial and error. In many successful companies, this might happen far more often than we realize [21].

Goals Should Be:

- **Important to your organization.**

- **Consistent with your organization's mission and vision.**
- **Attainable in a reasonable time span.**
- **Understood by everybody.**
- **Measurable.**

Once you have determined what your long-range goals are, then, and only then, should you devise strategies (specific plans) to reach those goals. As I said earlier, goals and their strategies, when taken together, are your *strategic plan*. At this point I have to put in a clarification: Just because we use the term *long-range planning*, it does not mean that we can procrastinate and do nothing for a couple of years and then, at the last moment, go into high gear to fulfill our goals. In business, some parts of a long-range plan are fulfilled as soon as possible, some parts are fulfilled a little later, and maybe some toward the end of the time period. However, the total plan should be completed within the time that you specified. In the example I used earlier, obtaining AAALAC accreditation is certainly not something that can be accomplished at the last minute. One goal was to discard some cages and that could probably be accomplished very quickly. Another goal within the long-range plan might include resurfacing all the floors with poured epoxy and that might take somewhat longer. Finally, a third goal might include fixing the building's humidification system and that might take still longer. Each of those individual goals requires planning and the use of resources. When all of the goals and all of the strategies needed to reach the goals are taken together, we can call it our long-range plan.

One of the keys to developing successful strategies is to keep them simple. As a manager in an animal facility, one goal may be to have poured epoxy floors in the cage wash area (or perhaps the entire facility). Your strategies should focus on how to get the resources (usually money) to get the job done, who the lead person from the animal facility will be, how you will coordinate the needs of the flooring contractor with the need for clean cages, and so on. You don't have to worry about the details of tearing up the old floor and laying the new floor; that's somebody else's problem. You will also have to lay out your priorities. For example, is it more important to have the floor renovated as soon as possible or is it more important to coordinate the process to ease the research-based concerns of investigators? All through this process you are performing the key roles of a manager: planning, organizing, directing, making decisions, and controlling. Controlling? Yes, somebody has to make sure things are being done as planned, a crucial role of a manager. Chapter 2 (The Organizational Environment) will elaborate on some of the factors that can affect your organization or laboratory animal facility and influence your choice of strategies. These factors are usually known as environmental factors, and they include influences from inside and outside your organization.

Don't be confused if you see phrases that do not precisely fit the definitions I've given you. Also, don't worry if you read an article that draws fine distinctions between strategies, strategic goals, tactics, objectives, and strategic objectives. As long as you understand the overall concept of what is happening, you will do just fine.

Long-range goals are specific endpoints your organization wishes to reach in the future. They are often part of a vision statement.

Strategic plans are the specific actions your organization will take to accomplish the long-range goals.

The entire process is often called "strategic planning."

Long-range goals may include obtaining AAALAC accreditation, building a state-of-the-art laboratory animal facility, establishing an animal disease diagnostic laboratory, creating a Division of Comparative Medicine, or replacing scores of primate cages. Clearly, these are not simple budget items that can be accomplished overnight or even in a year. They are long-range in nature.

We can visualize the planning process by diagramming the relationship between our mission and goals (Figure 1.2). Remember: not all goals must be fulfilled a few years in the future. We have many short-range goals (such as buying a small number of cages) that we may be able to accomplish in a few days. Plans to accomplish short-range goals are often called *operational plans* and they can be components of a long-range plan or just stand by themselves as short-range plans.

Some of you may remember a series of television commercials with Dan O'Brien and Dave Johnson. They were promoting athletic shoes. Both were shoo-ins for the

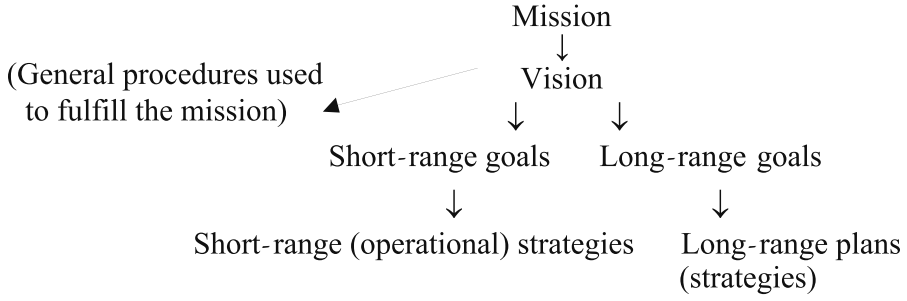

Figure 1.2 The relationship between an organization's mission, vision, and strategies.

1992 Summer Olympics decathlon. The question was, which one of them would be the Olympic champion?

Unfortunately, Dan O'Brien did not even make the 1992 U.S. Olympic team. It was a shock to everybody. But in February 1993, about six months after the games had ended, I heard O'Brien being interviewed on television. He said that what had happened, happened; he couldn't change that, but he was not giving up. He had a long-range goal to become the 1996 Olympic decathlon champion. His strategy involved a specific training timetable, entering certain track meets along the way, and lecturing to youngsters about not throwing in the towel because of one setback. A positive attitude, he said, was what it took to succeed in life. The footnote to the story is that he became the 1996 Summer Olympic decathlon gold medal winner.

O'Brien's planning was classic. He had a long-range goal and long-range strategies to reach that goal. In other words, he knew exactly where he was, where he wanted to be in 1996, and he had a plan on how to get there. More important, he began to follow his plan. It should be obvious that if you do not actually follow your plan, all the planning you have done becomes meaningless.

Strategic planning is not always as easy as O'Brien's plan makes it seem, but the essentials are always there. In laboratory animal facilities, as I indicated earlier, strategic planning should probably not be for more than 5 years into the future. I base this on the fact that most research grants are rarely for more than 5 years. However, given the erratic nature of academic grant funding, faculty turnover, and changing research objectives, planning ahead for no more than 2 or 3 years seems reasonable. In industry, the rule of thumb is 3 years. Of course, product development, as occurs in pharmaceutical companies, usually extends for more than 5 years, but more often than not the laboratory animal facility manager will have adequate notice if modifications or other significant changes are needed in the facility's strategic plan.

Before proceeding, let me note that I'm making certain assumptions. I assume that your long-range goals are part of your mission and vision, that they are truly necessary, and that there is a reasonable probability of achieving them. I'm also assuming that they are approved by your superiors. This is not always the case. Look at this actual example, in which I have only changed the name of the organization.

> *The vice president for research for Great Eastern University went to a meeting in the mid-1980s. At that meeting he became convinced that transgenic animals were the wave of the future, and his faculty could not afford to be left behind. He told the director of the laboratory animal facility to conduct a survey to determine the perceived need among the faculty to build a transgenic animal facility.*

The facility director went to the deans of those colleges that had potential use of the facility and told them that the vice president looked favorably on building a transgenic animal facility if the need was there. He then asked the deans if they believed such a facility would be helpful. All the deans said yes, and the facility director reported this to the vice president. With the subsequent concurrence of the deans, the vice president had this construction project placed near the top of the list of the university's capital improvement projects.

There was only one problem. In the rush to jump into the 21st century, nobody bothered asking the faculty if their long-range research plans involved, or might ever involve, transgenic animals. The deans were simply asked if such a facility would be helpful. They said yes, but that was a gut reaction and it really wasn't unexpected since it wasn't coming out of their budget. They did not ask the faculty either.

As it turned out, the faculty had minimal needs at that time for such a facility. That did not mean that there never would be a need for such a facility, but at the time it did not belong near the top of the capital improvement list for the current strategic planning session. Even today, with the explosive use of genetically modified animals, not every institution uses them. Obviously, long-range planning requires accurate information about long-range needs.

But what if the faculty *had* wanted and needed a transgenic animal facility? The university would then have had to think about where to build (capital resources), how to get the money to build it (fiscal resources), the needs of researchers and laboratory animal care personnel (human resources), what goes into a state-of-the-art transgenic facility (information resources), and whether it could be completed in 5 years (time resources). That is, the university knew where it was, it knew where it wanted to be, and it was thinking about the resources it needed to accomplish this long-range goal.

Let's assume that the single most important factor in building a transgenic animal facility is obtaining the money to build. That's not an unusual occurrence and therefore raising the needed money will become a goal for the planning team. If we can solve that problem, the rest may fall into place. We will establish a planning team that cuts across job categories. There will undoubtedly be representation from upper management, research, laboratory animal facility management, and many other parts of the university. This team may begin by brainstorming. That is, they

may sit around the table and suggest a variety of ways to raise money. These are the initial stages of developing strategies. Examples include floating a bond, having a fund-raising drive, using the interest from an endowment, using the principal on an endowment, increasing student tuition, increasing animal care charges, writing a government grant, or a combination of these. I think brainstorming is a fine way to encourage thinking, but it does need some direction from the manager or leader; otherwise, it can get so out of hand that it wastes time.

Once the team agrees on the best way to raise the money (i.e., once strategies are agreed upon), the next step must be even more specific. We will assume that the methods chosen will be to apply for a government grant and also to use some of the organization's own fiscal resources (this type of an approach is most appropriate for not-for-profit organizations). Now we have to decide which grant to apply for, who the principal investigator will be, what deadlines have to be met, whether we can develop a preliminary floor plan in time, and so on. We might even have to develop secondary plans to raise money if the grant application is unsuccessful. In other words, there is a good amount of detail involved.

You cannot set long-range goals without including the strategies necessary to implement them. Without having the needed strategies to fulfill a goal, there is no real plan. It is the old story of the devil being in the details; and for all practical purposes, the details are incorporated into the strategies. The strategies can be phased in over the entire life of the plan, but they have to be there.

Like most of us, I know of more than one organization where the concept of setting long-range goals means very little. In one not-for-profit organization, when asked to present a 5-year strategic plan (I am using the phrase *strategic planning* as incorporating long-range goals and the associated strategies), each department head simply stated the direction that they thought their research would take over the next 5 years. That is not a strategic plan or even a goal. At best, it forms part of a plan. It does not say what their goals are, it simply states what they think they will be doing. Is that really a goal? It does not state how they will reach their goal (whatever it may be), it simply assumes that a way will be found. It is unfortunate that in many organizations this is more the norm than the exception.

The Need to Balance Long-Range and Short-Range Goals

Strategic plans are the blueprints for accomplishing long-range goals. But as I wrote earlier, not all goals are long range. A good part of your work, perhaps most of it, will involve short-range goals and their associated strategies. I called those operational goals and strategies. In management, you are always balancing long-range and short-range goals. We have all heard stories about executives who considered only short-range profits or goals, and left the company just before it became obvious to everybody that the business was in significant trouble. I have no idea how often this actually happens, but when it does, it is a tragedy. You need short-range

operational goals and their associated strategies because without them you may not have an organization in the long run. It often takes a lot of managerial experience to learn how to balance both needs.

Reevaluating Goals and Plans

Long-range goal setting and developing strategic plans to achieve those goals are not static processes. Both must be periodically reevaluated to see if they are pertinent to your organization's mission and vision. It has been argued that CEOs should be more concerned about building strategic options [22]. That is, those in more senior management and leadership positions should be developing different strategies, based on organizational needs and environmental realities. That way, there is a contingency plan if the primary plan has to be changed. But for now, we will focus on the needs of middle managers and first-level managers. You may have heard of "strategic planning retreats," which are often used by organizations to reevaluate their mission, vision, goals, and strategies. If the mission is changing, which can happen, the vision, goals, and strategies must change as well.

If an organization's mission changes, then its goals and strategies must also change.

It makes sense that you have to change your goals and plans if the mission changes, but let me bring up two caveats. First, missions and visions need a certain amount of stability. You simply cannot change your mission every few years and run a successful pharmaceutical company or laboratory animal facility. Likewise, you should not willy-nilly change your vision because in the first 3 months of the fiscal year you have fewer animals than anticipated. Have a little patience.

Second, don't try to accomplish all of your major goals at the same time. There is a good chance you will not do a good job on any of them. Stick with one or two major goals at a time. If animal handling needs to be improved, stick with that goal; it's an important one. Do not concurrently push people to change cages faster, become AALAS certified, and have everybody get to work before 8:00 A.M. Once you are satisfied with animal handling, move on to the next major goal.

Keep in mind that *it is the vision statement, not the mission or goals, that guides strategic planning*. Although I just said that it is nice to have stability in the vision, it is far more important to be flexible if necessary. If new opportunities appear, you may have to do your homework and see if they will be of any importance to you. You may just have to change your vision. The good news is that even if your

institution's vision changes, there is a strong possibility that the vision of the laboratory animal facility will remain the same.

Finally, and as I mentioned earlier, do not believe anybody who tells you that strategic planning is for upper-level management only. That is nonsense and reflects a total lack of understanding of managerial processes. There are differences in the extent of planning and some of the details when we compare upper-managerial versus lower-managerial strategic planning, but the concepts are the same. Every part of an organization, and most certainly the laboratory animal facility, must have long-range goals and plans that complement those of the parent organization. Without that forethought and direction, we could not be a vibrant and contributing part of our organizations.

Developing and Measuring Productivity Goals and Strategies

So far in this chapter there has been a lot of discussion about goals, goal setting, resource usage, and being both efficient and effective. But all the visions, goals, and strategies in the world don't mean a thing if they're left on paper or go no further than talk around the water cooler. An effective organization has to accomplish its mission, vision, and goals. Therefore, we now have to ask, How do we know that we are actually accomplishing our mission and vision? How do we know if we are really making progress toward our goals? Is there some way to measure our progress? The answer is yes, but a little work is needed to understand the process because measures of effectiveness are usually harder to develop than are efficiency measures, and in animal facilities we often want to put effectiveness just a little ahead of efficiency.

Appendix 1 presents a fairly detailed description of the procedures used to develop productivity goals and strategies and how to measure progress toward those goals. At this time it behooves us to at least outline the process in order to complete the discussion on the fundamental concepts of management. Simply put, we use the word *productivity* to indicate the degree of efficiency *and* effectiveness an organization has. Therefore, an animal facility that is both very efficient and effective has high productivity. Because the goals that we set should lead to better productivity for our animal facility, we want to measure our progress toward those goals. To do this, the goals that we set should have certain characteristics whenever possible. These characteristics are:

- The goals to be measured should be aligned with our mission statement (and vision, if appropriate) and should bring value to our customers.
- The goals to be measured should be specific, not vague.
- There should be a limited number of financial and nonfinancial goals if we are trying to achieve a vision that requires many individual goals be achieved.

- Each goal should be associated with clearly defined strategies.
- We should use numerical measurements to track our progress toward our goals.
- The number of items to be measured should be limited to those that are central to enhancing productivity.

If we can meet these basic criteria, we will be well on our way to being able to measure the progress toward our goals. As shown in the second bullet above, all the goals should have to have a specific numerical endpoint (for example, decreasing overtime by 10%, increasing the number of cages washed/hour by 15%, or increasing customer satisfaction by 20%). Then we develop measurement systems. If we want to decrease overtime by 10%, we can measure progress through payroll or other work records. If our goal is to increase customer satisfaction by 20%, we can measure our progress by having surveys sent to our customers (e.g., investigators) and ask them to numerically rate their satisfaction with various items. We also have to meet regularly to review our progress (where we are now) and make any necessary adjustments to get to where we want to be.

Now might be a good time to read Appendix 1. See if you can implement the goal measurement process into the functioning of your animal facility.

Final Thoughts and a Summary of This Chapter

This has been a long chapter so let's see if we can tie it all together. Management is the efficient and effective use of resources in order to accomplish goals. Managers are those people who have the authority to use those resources in a manner that can significantly affect their organization's functions. By organization, we mean an animal facility, an academic department, a department in a pharmaceutical company, or even the company as a whole. The resources that managers use to help them reach their goals include people, money, capital equipment, information, and time. In order to use these resources effectively, managers have to make plans, make decisions, organize activities, direct people, and check to make sure that everything is moving ahead as expected.

Most companies have a mission statement that informs its employees and the public what the company does and for whom it does it. Almost anything a manager does should have relevance to the company's mission. Each department within a company (or school) may have its own mission statement, but it has to be related to the mission of its parent company. Every organization also has to determine the general methods it will use to fulfill its mission on a day-to-day basis. Furthermore, many companies have a vision statement that informs its employees and the public of the main goals the company wants to accomplish over the next few years. Here again, managers must be sure that their department's vision is aligned with the company's vision. Managers set their department's or work area's goals to help

fulfill the mission and vision statements. They also set goals to help accomplish the daily operational challenges that always accompany the management of a large or small organization.

When trying to develop a broad vision (or even individual goals), managers ask three key questions: Where are we now? Where do we want to be in the future? How are we going to get there? The answers to those questions typically require the development of specific goals using the input of many people (human resources) and the potential use of all our other resources. Some goals that are developed are short range and can be fulfilled fairly quickly. At other times, there are long-range goals that take a few years to accomplish fully. All goals, whether long or short range, require specific strategies (plans) to fulfill them. A strategic plan is a combination of the goals and the strategies needed to fulfill the goals.

All goals should be routinely monitored and their progress measured to help ensure that they are actually progressing as intended. To measure progress, we first have to decide for ourselves what measurements are truly critical. The measurements we eventually decide to use should be limited in number, include financial and nonfinancial parameters, be very specific, include clear strategies, and be numerical so that they are easier to understand.

Managers set goals because they try to plan for the future even if there are no obvious problems to resolve. They are thinking about new opportunities that might allow them to provide a better service, capture a certain share of a market, or be more efficient and effective in general. In laboratory animal facilities we rarely worry about market shares, but we do concern ourselves with providing better service, better animal care, or new services, even if we believe we are doing a good job.

In practice, managers spend only a small percentage of their time developing new goals. Most managers do routine work. Some of this work is directed toward accomplishing previously defined goals and some of it is the daily work necessary to accomplish their mission (such as general animal care). I will emphasize again that you should not set your goals only in response to problems. You should always be on the lookout to find ways of having work accomplished in a more effective and efficient manner, even if things are going fairly smoothly now. Look for those opportunities and act on them.

Even if your daily operations are proceeding smoothly, they should be routinely reevaluated to determine if they can become more efficient and effective.

When you think that a change may be needed, the change should be made only after you have analyzed the situation and you feel that the change would be

beneficial. Never be afraid to try out a new idea if you have given it due deliberation. There are very few decisions that you will make that are so earth-shattering that you cannot reverse them.

If you do identify specific problems in your facility you should ask yourself if the problem is just a symptom of a larger problem. Try to look at the big picture. What if you have an investigator who wants to start a large primate study as soon as possible, but you don't have any cages and any more money in your budget for caging? How will you get the money? Is that really the problem you have to solve? Is there a bigger problem, such as an organization that does not want to do primate research or a staff who has never worked with primates? Whatever the problem or opportunity, look at the big picture before you set your goals.

Look at the big picture. Is your problem just a symptom of a larger problem?

Some new managers have not had the opportunity to evaluate the operations and managerial concepts used in other animal facilities. This is particularly true of managers who have only worked in one animal facility and are not aware of more productive ways of running a facility. It is particularly difficult to think of new ways to do things if you have never seen it done in any other way. As noted by Kenneth Kinnamon, "We usually handle the new item with reasoning, which consists in finding justifications for keeping on believing and doing things the way we always have" [23].

So how do managers reevaluate and use their resources if they have limited experience? There is no simple answer for this. Your job is to get information, ask for feedback, and set and fulfill goals. You must use all the resources at your command to learn what is right for your facility and for you. Information resources such as this book, professional management associations, visiting other facilities, and going to meetings may help you understand how to use your resources, but you still must use them. It is not enough to read a book or go to a management seminar, then forget about what you read or heard. Remember, you have your job because someone believes in your ability. Don't disappoint them. I can assure you that you are not alone if you are a new manager with cold feet. Many others have been in your shoes, and most have survived.

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Chapter 2

The Organizational Environment

Organizational Culture

Think back to the first day of any job you ever had, or even to your first day in a new school. Along with anticipation, there undoubtedly was a degree of fear. You wanted to know how things were done, how much you were expected to do, what the policy about coffee breaks was, where you could find out about preparing a budget for your division, and so on. Can you imagine how you would have felt had you showed up at your first staff meeting dressed in jeans and a turtleneck, only to find everybody else in suits or dresses? If you had known about your organization's culture, you would have been spared that embarrassment.

It's obvious that the organization's culture is important to any manager. By "culture," I am referring to those written and unwritten policies and procedures that tell you how your organization does things and how your boss and other members of the organization may react to any given situation. Culture covers phrases such as "It's a friendly place," "It's very regimented," or "Make sure you get it in writing." As you read through this chapter, it is important to recognize that your animal facility has a culture of its own. For the people who work with you, the animal facility culture is as important, and probably more important, than the overall organizational culture.

Organizational "culture" is the set of written and unwritten policies that inform you about how things are done where you work.

An organization's culture is very strongly influenced by its senior managers. They set the tone and give the verbal and nonverbal cues to everyone else. By referring to employees as coworkers rather than subordinates or a similar term, a senior manager is sending a clear signal about the organization's culture and how people are expected to treat each other. If the vice president for research cares about the quality of laboratory animal care and emphasizes its importance to the company, then you can be reasonably sure that the general culture of the organization will reflect that concern. If the vice president doesn't care, the opposite happens and the animal facility personnel may have an uphill climb. Yesterday evening I was watching television and listening to David Gergen, a former presidential advisor, describe his impressions of President Gerald Ford and his administration. Gergen was quite eloquent and positive in characterizing how Ford's basic method of operation was to be truthful and open. He described Ford as being "congenitally honest" and commented that Ford's own leadership style, which was one of honesty, caring, and a deep desire to do what was right for the nation, filtered downward throughout his administration. What a wonderful way to emphasize that an organization's culture begins with its leadership and then spreads to everybody else.

An organization's leadership has a powerful impact on its culture.

As you might expect, culture has an impact on the efficiency and effectiveness of an organization. The truth of the matter is that the people you hire, taken as a whole, probably aren't any better or any worse than people hired by any other animal facility. However, over time (and we all know this) some animal facilities function better than others. A good part of these functional differences emanates from the corporate culture — how people interact, how they are trained, and how they are treated. Most people want to succeed; therefore, as managers, our job is to evaluate and improve on the culture in the *animal facility*, while doing what we can to improve the overall *organizational* culture. Although every part of an organization may have its own special subculture, as a general statement, the animal facility culture is often an extension of the larger organizational culture.

But what type of culture is typically found in successful organizations? Pennington [1] has identified certain cultural traits shared by successful organizations, and as you will see, they can readily be applied to laboratory animal facilities.

1. *The culture of successful organizations includes telling the truth and valuing candor and honesty.* This is done within and outside the organization. Chapter 3 will talk more about communications and trust, but at this junction I simply want to emphasize that honesty with our own staff and researchers is only part of the equation for establishing a positive corporate culture. The other part is being introspective and not sugarcoating any weaknesses. A positive organizational culture faces up to reality. If we have multiple complaints from investigators about understanding our monthly invoices, we cannot simply assume that all researchers are mathematically challenged. The honest answer may be that our bills are too complex for most people to understand.
2. *The culture of successful organizations includes pursuing the best path rather than the easiest path.* Here is an obvious example: It is easier to intentionally skip a 3:00 A.M. analgesic injection than it is to give it. Skipping the treatment is the easiest path, but not the right path. A positive culture emphasizes doing the right thing and doing it correctly. Let everybody know that your animal facility is not one to take inappropriate shortcuts.
3. *The culture of successful organizations includes leveraging the power of partnerships with employees.* People can be our single greatest asset or our single greatest detriment. Part of our job is to work with our employees, not against them. Can we envision their future and provide the training and other opportunities for them to reach that future? Do our own employees trust us? Do we fight with unions or work with unions? Is there any shared decision making with employees (as there should be) or is it top-down management?
4. *The culture of successful organizations includes continually focusing on its core values.* We are very fortunate that animal facilities across the nation almost invariably have a stated core value of providing high-quality animal care. Nevertheless, the implementation of that statement can vary. Think about what you really do, not what you wish you were doing. For example, when you develop your budget, do you ask what can be included that might make your animals more comfortable? When you have a general staff meeting, do you reiterate your mission and vision so that everybody clearly understands them? Are short-range goals understood by all those affected? Does everybody receive adequate feedback on your progression toward your facility's goals? Basically, do you really do what your mission, vision, and goals say that you are going to do?
5. *The culture of successful organizations includes having the courage to be accountable.* At the level of individual accountability, we have to understand that people will make mistakes, but the culture must allow for people to own up to their errors without the constant threat of reprisal. Repeated poor

performance is another story. At the organizational level, leaders must ensure that tasks are completed properly, not just completed any old way. This is the concept of management control that was discussed in Chapter 1. Managers simply cannot sit back and accept below-average performance as being "good enough." There are all kinds of excuses that we can develop for accepting poor performance, but few will ever withstand legitimate scrutiny. An animal facility that expects high-level performance, supports high-level performance, and constantly emphasizes high-level performance by rejecting low-level performance is establishing a positive organizational culture. We all like to play on a winning team.

You can get some insight into an organization's culture by simply looking around, by speaking with employees, by reading formal organizational literature, and by reading memos or similar documents. As a practical matter, when you first consider a new managerial position, the more you know about an organization's culture, the better off you are. If you don't think you will fit in, don't take the job. If you do accept the position, by knowing the culture you can avoid making statements or establishing policies that are contrary to it, thereby saving you potential problems in the future. Knowing the organization's culture helps you to fit into it in a relatively easy manner. Equally important, it gives you some of the unwritten corporate guidelines on how to use your resources.

Not only does a new employee have to take some initiative to understand the corporate culture, as a manager you have a responsibility to ensure that a newly hired person — and, in particular, a newly hired manager — can gain any needed exposure to your company and its people in order to succeed. This may mean that you will have to set up meetings for the newly hired person with key people, and in particular, those people who control the resources that the new person requires [2]. A good part of your job is to help people succeed, so get to it. Did you let the appropriate people know ahead of time about the new person's pending arrival? Did you distribute basic information about the new person? Does your animal facility have a fact sheet that tells a new person about how to dress, what the department stands for, what its mission and vision are, and so forth? Understanding the corporate culture and how to get things done is critical to the success of any new hire; as existing managers, we can make a significant difference in that person's success or failure.

The External Environment of Your Company

It's easy to fall into the trap of thinking that the most important relationships are those that are among people or divisions of the same company. This is particularly true when you are managing an animal facility where you may not even have a window to look out at the rest of the world. Considering things outside your

building — or even outside your organization — may be the last thing on your mind, yet you should be aware of many external considerations that can affect your day-to-day operations. Let's take a look at some of these outside forces, the so-called forces of the *external* environment. The *internal* environment (organizational culture, budget information, personnel policies, and many related items) are discussed elsewhere.

The external environment consists of those factors outside your organization that can affect your operations, yet you have little or no control over them.

To be successful, you must function as an integral part of your organization, not in an isolated world that consists only of rats, rabbits, mice, and monkeys in the basement of a research building. Some of these interactions are obvious. For instance, you might meet with vendors to obtain the best price for a needed item. Other interactions may not be quite as obvious. Changes in tax laws could cause a private corporation to decrease its charitable support of some biomedical research organizations; your organization may be one of those that lost some of this support. If some of this lost money had been earmarked for your animal facility, you can readily appreciate how forces outside of your control can directly affect you.

It therefore becomes important for you to try to be aware of the many factors outside your area of immediate responsibility that can affect the way you manage your resources. You should constantly attempt to incorporate your knowledge about your organization and its environment into your daily operations and your short- and long-range goals. Even though you may not be able to control these outside factors, simply knowing that they *may* influence your operation gives you an edge.

At this point, I'm going to address some of the key factors in your organization's external environment and try to show you how they might affect your goals and plans. You can never know everything about the external environment (or the internal environment for that matter), but if you want to be a better manager or move up the corporate ladder, the more you know, the better off you will be.

The Social Environment

I think of the external social environment that we work in as composed, for the most part, of the general public, people we meet socially and at professional gatherings, and the vendors we deal with. Not only are vendors excellent sources of information about their own products, they are also fine suppliers of information

about other institutions and competitive products. Good working relationships are needed on both sides. If you are thinking of purchasing a new style of primate cage, perhaps you would like to know who else is using it. Ask the cage vendor. This may be a simple example, but you have just defined two goals (purchasing cages and finding out who is using them) and used two resources (human and information) in the external environment to help you make a managerial decision.

In other parts of this book (for example, Chapter 7), I spend a little time talking about the importance of social networks, but let me just say a few words here as well. The personal contacts that a manager makes within and outside the animal facility can have a major impact on short- and long-range planning. From these contacts you learn about new products, new trends, new management techniques, new threats, new opportunities, and so on. It helps your career by allowing you to call on people when needed, to get placed on committees, and so forth. You can always take the high road and argue that good management, like good science, speaks for itself; however, that is simply not true in many instances. You will probably find that you have to do a good deal of socializing to make the jump from being an acceptable manager to becoming a good manager. But personal perks aside, being a good manager is what your job is all about.

One aspect of the social environment that substantially affects laboratory animal facilities is the continuing controversy over the use of animals in research, education, and product testing. This battle has been raging since biblical times, but the issue of animal experimentation gained momentum in Victorian England, and subsequently has become an emotional issue in many parts of the world. In recent years, many animal facilities, particularly in the United States and England, have been vandalized and have had animals stolen, all in the name of their humane treatment and liberation.

How do you, as an animal facility manager, contend with this external environmental factor? What are you supposed to do, since you are only one person? The answer has nothing to do with your changing the world, because no matter how hard you try, you will not be very successful. But you do have personal contacts, journals, meetings, newspapers, and other ways of finding out about the "pulse" of that world. You should look at your own facility and evaluate its activities in terms of societal standards and research needs.

From a practical perspective, certain areas must be addressed. To begin with, you must be aware of all pertinent federal and state laws, policies, and regulations that are applicable to the care and use of laboratory animals. The Animal Welfare Act, its regulations, and the Public Health Service policy on animal care and use should be prime considerations. Both you and nonmanagerial employees must be aware of the recommendations of the *Guide for the Care and Use of Laboratory Animals* [3], the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching* [4], and any other pertinent documents. More important, there must be continuing efforts at educating all animal facility employees, all individuals coming in contact with animals, and all institutional administrators

outside the animal facility that animals are to be treated as humanely as possible. I cannot emphasize this strongly enough, for there are still some individuals who look upon animals as if they were test tubes.

Taking this example a step further, if there is a reasonable chance that changes might be proposed to the Animal Welfare Act or its regulations, you might suggest holding off buying replacement cages because new size requirements may be in effect in the near future. If this is the case, you have been influenced by the external social environment. You have not changed it, but you have used information about it to influence a purchasing decision.

How does the Institutional Animal Care and Use Committee (IACUC) fit into this discussion of the external environment? If your committee is similar to many, only the attending veterinarian and the committee chairperson have more than a cursory knowledge of the external environment. Still, the committee must be kept aware of factors that can affect the operations of your animal facility. This can include new and upcoming legislation, community sentiments, notices from regulatory agencies, and if appropriate, the sentiments of your organization. In addition, the committee must have a member of the local community as part of its required composition. By having this member, you have incorporated a portion of the external environment into your organization.

The Politico-Economic Environment

When speaking of groups who oppose or favor the use of animals in research, education, and testing, it becomes apparent that there is an overlap between the social and political external environments that laboratory animal facility managers must relate to. Similarly, the political and economic environments are frequently so closely intermingled that it is convenient to discuss them together.

Some states have passed laws prohibiting the sale of dogs from shelters or pounds to laboratory animal facilities. Animals from these sources cost considerably less than dogs purchased from private vendors. Thus, the cost of doing certain types of research, teaching, or product testing is often increased when pound dogs are not used. What does this mean to you? What should you do as a manager? Truthfully, there is probably very little that you can personally do about this type of legislation once it is in place. Nevertheless, as a manager, you can and should do a number of things. You have to make plans for getting dogs from other sources. To this end, you have to use information and human resources, and plan on using fiscal resources. You may need different types of quarantine facilities (or even eliminate quarantine); thus, you must consider the use of your capital resources. And you'd better do it soon, because research grants don't wait. Therefore, you have to consider your limiting resource — time. Finally, you must discuss it with your staff and your organization's investigators. By taking all these steps, you have used all your resources, and, while using them, you have planned, organized, and managed efficiently and effectively.

Political priorities can affect entire research programs. For example, beginning in approximately 2005, federal funding for most biomedical research grants was greatly diminished. Many of the larger federal grants that funded laboratory animal facility construction in universities and other not-for-profit organizations had also dried up. However, during that same period, federal funding increased somewhat for research focused on bioterrorism, which had become a national priority. The astute animal facility manager would not have been planning grand expansions of the animal facility unless it was abundantly clear that the institution would be able to develop the needed construction funds in a manner that was different from typical past practices.

Politics can even influence specific diseases. Between 2003 and 2008, the estimated National Institutes of Health budget for funding spinal cord injury research decreased by nearly 30% whereas funding for West Nile Virus research (a potential bioterrorism threat) increased by about 70% and general funding for bioterrorism research increased by about 10% [5]. If your institution is putting an emphasis on various diseases related to bioterrorism, you probably should not plan to construct an entire new wing for your building, but you do have to ensure that biocontainment space and equipment is and will be available. Now, you may ask me to return to reality because you don't believe that a laboratory animal facility manager should have to investigate funding trends between West Nile Virus and spinal cord injuries. In reality, you may not have to if you are a first-level manager, but you should stay on top of those changes if you are directing the entire facility. As a first-level manager, you may simply be told that a new program will begin soon to study West Nile Virus, plague, or some other disease related to bioterrorism. That's when you have to act. Ask investigators about West Nile, read about West Nile, and go to seminars about West Nile. Investigators want their study to start on time and go smoothly; they don't worry about the things you worry about. I believe good managers are not simply reactive, they are proactive. They plan for the future by finding out about the future.

Good managers are proactive. They plan for the future by finding out as much as they can about what the future may bring.

The Physical Environment

When one university campus has a large number of animal facilities, the managers of each may be able to decrease the cost of purchasing supplies by ordering large

quantities at a discount and then distributing them to their respective facilities. From this simple example, we see that the physical environment of an organization refers to its location relative to all the other resources it has and the type of work it does.

Laboratory animal facility managers and directors who are located in the same geographical area may encourage their animal care staffs to meet on a regular basis to discuss management or other areas of mutual interest. This is another example of how the external physical environment has an impact on the use of resources.

The physical environment can also affect the operations of an isolated animal facility. The manager may have to order supplies far in advance because there may be no local suppliers. Also, in the isolated facility, the manager may have to initiate some innovative recruiting programs, as there may not be many skilled (or unskilled) people who can be hired.

As with most aspects of management, the experienced manager usually knows how to adapt to the physical environment. If you are a new manager, you should think about the impact of the external physical environment on your resource utilization and determine how to deal with it both efficiently and effectively.

The Information and Technical Environment

Finally, you must consider the information and technical environments that surround your laboratory animal facility as well as your organization. Your organization's abilities to acquire and use needed equipment, have library resources, and be able to send members to continuing education meetings are but some examples of the information and technical environments that impinge upon your work as a manager.

Even if you cannot change these factors in the external environment, you must work hard to manage despite them. If, for example, you can afford to send only one person to a meeting, you can ask that person to report to your entire group on what was covered. By doing this, you will have many people benefit from a meeting that only one person could attend. You will be using your resources as best you can, and, therefore, you will be managing as best you can. Pat yourself on the back.

Relating Your Goals to Your Organization's Goals

Throughout this discussion, I have attempted to show you how the external environment has an impact on your organization as a whole as well as your laboratory animal facility. I want to remind you once again not to lose sight of the fact that the responses you make to situations should be consistent with your organization's mission and goals.

The responses you make as a manager should be consistent with your organization's mission and goals.

Below is an example of what I mean:

> *Kathy Morrison was the supervisor of surgical nursing for Great Eastern University's laboratory animal facility. A nurse left for another position and Kathy wanted to hire someone to replace her. One of her goals was to hire individuals who had been trained in an accredited academic program of laboratory animal science and who also had experience in surgical nursing. Such individuals would have to be paid a salary that was commensurate with their training and experience.*
>
> *Unfortunately for Kathy, John Ross, the vice president for research, reminded her that the university was going through a difficult economic period and she had to be frugal and delay hiring a new nurse. Kathy was a realist and knew that she would have to wait a bit longer, assuming animal care was not compromised. This decision did not mean that she did nothing about the nursing position. First, she reevaluated the current situation to see if she could get by without filling it. She then questioned the doctors who used the facility as to what their short-range usage plans were.*
>
> *She found out that because of the widespread budget cuts her surgery facility users would also be cutting back on their research, and Kathy would not need to replace the nurse who left until research activities resumed on a larger scale.*

The important point here goes beyond the fact that Kathy Morrison's actions were consistent with short-term corporate needs. After speaking with John Ross, she developed a goal (reevaluating whether she needed a nurse) and a plan (speaking to the doctors). There was not too much organizing, controlling, or directing to do with the resources she used (essentially human and time), but not everything managers do is earthshaking. There was a simple problem, a simple goal, and a simple plan to reach the goal. It was her responsible management that evaluated the animal facility's goals relative to the university's goals.

What about long-range corporate goals and plans to reach those goals (the process we call strategic planning)? How does the environment and, in particular, the external environment affect the strategic planning of your entire organization as well as the laboratory animal facility? As a convenience, let's concentrate on the animal facility, although these comments are pertinent to the entire organization.

In Chapter 1, a good deal of time was spent discussing strategic planning. It indicated that your animal facility's mission and goals must be in accord with those of your organization. From your mission you derive a vision, which is a broad summary of specifically where you want your goals to place you at some specified future time. The vision then demands that you establish specific goals and strategies to accomplish it. This entire process as stated earlier is often called strategic planning.

In my earlier discussion, I intentionally avoided including environmental forces that can influence the development of specific strategies. My intent was to help you understand the overall process, but, as you have seen in this chapter, the external environment can influence your long-range goals in a multitude of ways. As an example, let's look at Great Eastern University's vision for its laboratory animal facility: it wanted to become a model for animal facility efficiency and effectiveness by the year 2010. This was to be accomplished by defining standards of excellence, revitalizing facilities, improving public relations, reevaluating programs, and so on. That's fine, but what are the environmental issues that will influence the choice of strategies used to accomplish these goals? Let's look at just one such issue.

Assume that I am the animal facility manager at Great Eastern University. In the past year, Great Eastern reevaluated its programs and concluded that, in the future, a large portion of its research effort will focus on neurobiology. A substantial part of that research will require the use of rats, cats, and primates. At this time, Great Eastern is lacking space for cats and primates. Therefore, as part of my plan to revitalize, should I request funds to expand or renovate the animal facility? Animal holding and procedural space is needed. But are there environmental factors that must be considered? Yes, there are.

As the individual responsible for long-range animal facility planning, I always try to determine which external factors, if any, will affect my operations. Here is a possible interpretation of why facility expansion, although desirable, would not be a realistic goal in the next few years at Great Eastern University.

> *In past years, Great Eastern University, like many other hospital-associated universities, depended heavily on income from Great Eastern University Hospital. The hospital produced the majority of the operating income for the entire university. As far back as 1995 the Clinton administration chose to emphasize primary health care over the typical tertiary and quaternary health care provided by university hospitals, and hospitals began getting less money and had to reevaluate their financial projections. The decrease in*

> *government reimbursements for treatments and diagnostic studies has extended into the 21st century, and Great Eastern, like many other hospital-affiliated universities, found itself in a financial pinch. Future financial prospects did not look good.*

The timing, then, would not be right for animal facility expansion. The politico-economic environment says otherwise. If anything, it tells us that, to provide the service of neurobiology for research, we must be fiscally conservative, and perhaps set our goals and strategies toward remodeling and reallocating the space we have.

I'm sure that you can think of your own examples of how the external or internal environments can shape the way you approach your strategic planning. I "survived" a university going bankrupt, faculty leaving in droves, salary increases that never came, and understandably, a staff that was very depressed. My long-range plans for renovating the laboratory animal facility and expanding services had to be completely dropped. My short-range planning focused on how to consolidate our six animal facilities down to four, then down to two, and, during this time, how to retain as many of my coworkers as was reasonably possible.

With the understanding you now have about the importance of the internal and external environments, let me redraw the flow chart on strategic planning to factor in these influences (Figure 2.1).

We must always consider the opportunities and threats engendered by the environments surrounding our laboratory animal facilities. Wherever possible, we should take advantage of the opportunities and turn away from the threats. By doing so, we can respond to the environment in a manner that is optimal for our needs.

Figure 2.1 Influences on strategic planning.

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Chapter 3

The Management of Human Resources

Consider, for a moment, the title of this chapter. Instead, of "The Management of Human Resources," I could have called it "Personnel Management," since it pretty much means the same thing. There is a difference, though. The former term gives more credence to the importance of people as a resource. The latter is just a cold administrative concept. Just how important are people? It is obvious that we cannot run an animal facility without people and right now about 70% of my operating budget goes to staff salaries and benefits. Consequently, give or take a little, human resources represent about $3.5 million of my budget. If that amount of money were capital equipment, I would be very careful about its use, so if we think in a somewhat unorthodox manner, people are probably the most important pieces of capital equipment we have in our animal facilities. This analogy between people and equipment would have intrigued the philosopher René Descartes, who many years ago characterized animals as machines of nature. Today's enlightened manager recognizes that human resources and the animals we care for are anything but machines. The people with whom we interact, whether inside or outside our organization, are critical resources who want and should receive the same respect and consideration that you and I want. As managers we must recognize that these are our colleagues, not pawns to be sacrificed as needed.

Chapter 2 noted that human resources include the employees who work with us, other managers, vendors, friends, acquaintances, and many other people. I also stated that a single resource is rarely, if ever, used by itself. Rather, resources are used together, and you should never put so much emphasis on any one resource that

the others are obscured. This point is particularly important to remember relative to human resources, as it is easy to convince yourself that managing people is your first and only responsibility.

It is not unusual for an animal facility to be directed by an individual with a professional degree, such as a veterinarian or a Ph.D. Working alongside this person may be other college graduates, people who have no training beyond high school, and at times, people with even less formal education than that. Because of this educational (and sometimes social) stratification, cliques may form, particularly in larger facilities. These cliques can easily hinder productivity. What can we do then, to help ensure that everyone knows what our short- and long-range goals are and that we have to work together to reach those goals? Even more important, what can we do to make sure everyone we interact with feels like a significant contributor? Remember what I wrote earlier: A pyramid will not long stand, with a top of gold but a base of sand.

Communications

In my opinion, the two considerations that are the most crucial for the efficient and effective use of human resources are the need for clear communications and for mutual trust between yourself and all the people with whom you interact. To me, these are the keys to successful management of human resources. They are concepts that are pervasive throughout human resource management. Communicating is not a special skill you use when directing or planning or performing any of your other managerial roles. It is a continuous process. If a manager cannot or will not communicate, he or she is going to have a hard time succeeding. A manager has to communicate and explain the reason behind the mission statement along with the importance of a person's job to the overall operations of the animal facility [1]. Unfortunately, there are people who are very talented in many ways but communicating is not one of them. Perhaps they are shy; perhaps there is a language deficit or a speech defect. There are also a small number of managers who feel that they don't have to communicate; you are supposed to be able to read their minds. All of these people may have their areas of expertise, they may even remain managers, but without effective communication skills we have to question if they will ever be highly successful managers. Now let's take a look at some aspects of communicating with people.

Clear communication and mutual trust are the keys to the successful management of human resources.

Verbal Communication

Communicating clearly is not always easy. In fact, I'm willing to say that it's out-and-out hard to do it right if you don't think about it. You must consider that the perceptions of the person you are talking to can differ from your own. People may interpret words in different ways, based upon their life's experiences. Therefore, try to adjust your communication style to fit the person with whom you are talking. It doesn't matter if that person is your superior, your subordinate, or your mother; your job is to communicate successfully. To quote Henry Spira, an animal rights activist, "People's perceptions are the political reality." In other words, what *you* think you mean is not as important as what other people think you mean. There is no sense in pounding people with the facts as you see them, because if that's not what they believe, they are just going to dig their heels in deeper, reject your beliefs, and amplify their own. As an example, think about what might happen if you were listening to a conversation between somebody who fervently believed in using animals in research and someone who fervently opposed their use. What you perceive to be a reasonable argument for using animals might well be perceived as a reason not to use animals by your counterpart. If you want to get along with this person, begin by finding areas of commonality, such as the affection for animals that you both have.

Some barriers to clear communications (whether verbal, written, or "body language") include a person's personality, past work experience, the way in which he learns, his cultural background, the corporate culture of your organization, academic training, emotional state, fatigue, accents, and hearing impairment. You may not be able to compensate for each barrier, but you can often focus on the major ones to facilitate communication and understanding.

Adjust your communication style to fit the person to whom you are talking.

Let's look at some examples. What is actually meant when a veterinarian says that a dog that was severely injured when hit by a car has to be "put to sleep"? The veterinarian probably means that euthanasia is necessary. The owner may think that the dog is going to be anesthetized for surgery. A misinterpretation such as that can be disastrous. Should a pet owner be expected to know what "put to sleep" means to a veterinarian? If the pet owner is from Mexico or Japan, will that make clear communication even more difficult?

If you are interviewing people who have never worked in a laboratory animal facility, do you really think they understand what you are talking about when you mention cage washers, monolithic floors, or transgenic animals? If it's important

that people know what a cage washer does, show them the washer and show them how it works. By doing that, you have created an image in the person's mind, and she can be listening to you rather than trying to figure out what a cage washer is. It's nothing more than a picture being worth a thousand words.

Over the years there has been an influx of people from differing nationalities into laboratory animal science. When communicating with people who are not fully acclimated to the American way of doing things, we not only have to be tolerant of their cultural differences but, as managers, it helps us to try to learn about those differences ahead of time. For example, if we take a prospective French-background employee to lunch at a fine restaurant and she dawdles over her food, it may have nothing to do with the quality of the food. We Americans like a lot of food and we gobble it down quickly. Quality takes a back seat. The French are more content with smaller portions, fine presentation, and fine taste. They take their time.

You probably experienced the need for clear communications when you were a student taking a test. Were you ever absolutely frustrated because you knew the subject matter but you couldn't figure out what a question really meant? This is an example of poor communication. As long as I'm on the subject of tests, let me bring up the concept of learning styles. It's no secret that different people learn in different ways. For example, some people are visual learners. That is, they either have to see something being done or picture it being done in their mind. I'm one of those people. I'm bad at statistics because it's too conceptual for me; I can't visualize the process in my mind. On the other hand, I understand anatomy quite well because I can see it, even if it's a mental picture. I can even do well in physiology because I can conceptualize in my mind where all the cellular processes are occurring and how they affect the entire organism.

So I'm a visual learner. Some visual learners do better if they are told a little story about the issue you're discussing with them. Throughout this book little stories are used to help put a concept into a real-world perspective. Maybe you are a learner who has to read something over and over again. Or perhaps you're a hands-on person. You actually have to try something for yourself before it really sinks in. What does all this have to do with management of an animal facility? I'm hoping the answer is obvious. An excellent manager is excellent at knowing the people around him. This isn't a party trick or magic; you have to be observant and look at and listen to people. Once you start to get an idea how a particular person learns, then you have an idea about the best way to communicate with that person.

Sometimes people hear what they expect to hear or what they want to hear. If there is an employee who likes to do most of his work in the afternoon, a supervisor's request to "clean the mouse cages now and then clean the rat cages" may result in the rat cages being done in the afternoon, long after the mouse cages were cleaned. Another employee, one who wants to get his work done as soon as possible, may interpret your statement as meaning you wanted the rat cages cleaned immediately after the mouse cages were cleaned. What did you mean? If you wanted the rat cages cleaned immediately after the mouse cages, you should have said that

clearly. If you need a project done before noon, say that. If you want your child to clean up the basement, don't say "We have to get this basement cleaned up" because if your kid is like my kid, it's never going to happen. There's nobody in my house named "We." Be specific and say that he or she has to clean up the basement before Saturday. (Then sit back and pray that it will actually happen.)

No matter what your goal is, if you cannot clearly communicate your wishes to your staff and superiors, you will have trouble fulfilling that goal. Think about how frustrated you become when you are not sure of what is expected of you. Communication not only means that you should speak your sentence clearly, you must also consider how individuals and groups will respond to that sentence. Choose your words carefully, don't make snide remarks, remember to whom you are speaking, and try to be as sure as possible that you will be understood. I learned that lesson the hard way when I gave a lecture that contained biblical quotes about animals. I received three notes from students who were upset that I quoted the Bible out of context. They were right; I did quote the Bible out of context, but I never communicated that was my intent. I just sort of assumed that it was quite obvious and everybody would have known that. My wife does the same thing. She will start a conversation about something I have little chance of knowing anything about, and then, when I ask her what she is talking about, she realizes what has happened and always says (with a smile), "How come you don't know what I meant? I know what I meant." If there is any doubt in your mind that a person did not understood you, it is often helpful to politely ask that person to restate what you said. It's just asking for feedback. If the circumstances are not conducive to feedback (as in a lecture hall), consider clarifying your intent to the audience before wading into sensitive waters. You should not be hesitant to sit down with your staff while they are taking a short break, talk casually with them, and try to get a feel if they truly understand whatever it is that you feel is important, such as the mission and vision of your animal facility.

Much of the above discussion is telling you that you have to be a flexible communicator. You are communicating with a real human being who is different than you are, not a little MiniMe out of an Austin Powers movie. Don't even think of trying to make employees look, work, and act like you do. You have to accommodate your actions and speech to the person you are communicating with, and that person has to make some accommodations for you.

Let me make some additional comments about communicating with people. First, you will generally find that if a request to a person is made as a question or a polite statement, it will be accomplished quicker and with fewer problems than if an order is given. Simply consider the difference between "Clean the cage now," "Please clean the cage now," and "I would appreciate it if you would clean the cage now." Along similar lines, I learned a long time ago that it helps quite a bit to ask a person to help you rather than to demand something. As an example, try calling your financial department and ask someone to help you understand how a strange charge arose on your monthly budget report, rather than telling them that you need

an explanation of a charge. In the former instance, you are asking for help, while in the latter instance, you are demanding it. A little bit of sugar can go a long way.

Second, be careful about casual remarks and things said in jest. People, and your staff in particular, listen to your words more carefully than you might imagine and often take you quite literally. You will be amazed to find that some people take seriously what you believe they never would or could. I know of a supervisor who had quite a problem undoing the damage he did when he jokingly told a researcher that a small rat is the same as a big mouse! You can most certainly joke or fool around, but there is a time and place for everything. Know your audience.

Words said in jest are often taken more seriously than you would imagine. Be careful about what you say.

Written Communication

Most managerial communications are still verbal. Although some people equate communicating with speaking, a large amount of communication is written (such as memos or this book), electronic (such as e-mail or fax), or even through body language. Those of us who have worked in clinical veterinary medicine and laboratory animal facilities know how crucial written communications are. No research supervisor or laboratory animal veterinarian would ever consider not having written records. There are, of course, legal reasons to keep written records. For example, many animal facilities work under the Good Laboratory Practices Act, which requires records to be kept in a specified manner. Likewise, the Animal Welfare Act regulations and the Public Health Service Policy on Humane Care and Use of Laboratory Animals all have various sections on record keeping. Almost every animal facility has Standard Operating Procedures (SOPs) that spell out in some detail how the facility will operate. These and other written communications are part of the information resources you are expected to manage.

Written communications require the same care as do oral communications. You must consider the person or group of people who will be receiving your messages. If you are leaving weekend instructions for a technician on how to care for an animal, don't forget to consider that person's background. Does he know that you mean "twice a day" when you write "b.i.d.?" How about "asap?" If you want to be called if problems arise, be sure it is clear to others what constitutes a problem. If an animal should die, there is obviously nothing that can be done to help it. Should you be called? Is a dead animal a problem?

Leave written instructions when necessary (most animal facility managers routinely do this). You might consider leaving specific instructions to call you if an animal does not eat all of its food within 2 hours, if there is reddish fluid seeping

from a surgical wound, or any other criteria you believe are important. And please, try to be brief when leaving written instructions or memos. People don't like to be confused, and long memos are confusing. If a memo must be detailed, break it down into numbered paragraphs. It's simply easier for people to read that way.

Equally important, stay away from jargon that just you and a few associates understand. Not only can *you* forget what it means, but a new person will have no idea at all as to what you mean. A colleague of mine always wrote "chloro" on his medical records when he wanted to abbreviate the antibiotic chloramphenicol. This worked well until a new employee dosed a dog with Clorox. That's not likely to happen again because chloramphenicol is infrequently used nowadays, but other inappropriate shorthand communications for new drugs or procedures could lead to long-term problems.

To go a step further, whenever possible leave written, not verbal, instructions for the animal care staff. Use your Standard Operating Procedures, formal memos, or whatever you believe is appropriate. Similarly, ask all investigators to give you instructions, in writing, if they want to modify an animal care procedure (e-mail makes this fairly easy). If you don't get it in writing, don't be surprised if what you are doing is not what an investigator really wanted done. It will come back to haunt you.

> *I vividly remember the time an investigator stopped me in a hallway and asked to have the animal facility technicians begin treating his animals every other day, not every day as we had been doing. This was before there were Institutional Animal Care and Use Committees. I dutifully told the supervisors what had to be done, and they in turn told the technicians. Two months later, the investigator finally looked at the experimental records and became infuriated. He ran into my office and called me and the animal facility staff every foul name known to humankind. The problem was that he wanted his animals treated three times a week, not every other day. He swore that he said treatments were to be on "Monday, Wednesday, and Friday."*

Since that time, I have insisted that any changes to research protocols be made in writing and signed by the principal investigator or a person previously designated as having authority to make changes. If there is a problem with an investigator who doesn't want to take the time to put a change in writing, then don't be afraid to write a memo that begins, "As per our discussion of July 19, 2007, the following changes are being made in study number 12345 …"

Having expounded on the importance of written communications, I would not want you to spend the better part of your day writing out everything imaginable, just to protect yourself. There is a time and place for everything, and common sense has

to come into play. One administrator I knew (actually, I think bureaucrat is more accurate) would send me the most preposterous memos you can imagine. I once received a two-page memo from her asking for the number and species of nonhuman primates in our facility. It's beyond me how she managed to take two pages to ask that question, but she did. Most of it was a detailed rationale explaining why she needed the information. Along with the memo, she had her secretary prepare a chart to enter the information, which was placed on a computer disk that was sent along with the memo. All this happened one day after she had toured our primate holding areas. It took me longer to read the memo than to respond to it. I left a message on her voice mail: "Cheryl. We have twelve rhesus monkeys, six pigtailed macaques, and eight squirrel monkeys. Call me if you need any more information."

Key Points for Written Communication

- **Know and understand the background of the people who will be reading your communication. Write so they can understand it.**
- **Do not use jargon. Be clear.**
- **Be brief. Say what you have to say and no more.**
- **Always write out changes in animal care or related procedures. Verbal messages often get lost. Institutional Animal Care and Use Committee (IACUC) approval may be needed.**
- **Ask investigators to put requested changes in animal care or other procedures in writing, or follow up their verbal request with a written confirmation.**
- **Not everything must be in writing. Use common sense.**

Keep Communications as Open as Is Practical

Whether you communicate verbally, in writing, electronically, by body language, or by any other means you can think of, one guiding principle is that communications should not be restricted. Most modern organizations want and encourage communications at all corporate levels. Not every university president or corporate chief executive officer has an open-door policy where you can come in whenever you please and say whatever you please. Nevertheless, there is usually a mechanism by which you or any other employee can make your thoughts known to that person in a relatively easy manner. With open communications, you will rarely have to go over anybody's head to reach the president or chief executive officer with either

your suggestions or complaints. You, and everyone else in the organization, should be confident that your thoughts will, at the very least, be given consideration at the appropriate levels of the corporate structure.

One simple but effective way of fostering open communications is to hold a weekly meeting with the immediate staff who work with you. Keep them abreast of what is happening. Let them know about problems as you see them, and ask for their comments. Get your supervisory staff involved in goal setting. They are not there solely to carry out your plans and directives. Encourage them to disagree with you. If you have a small and congenial staff, discuss work matters during or just after lunch (which you should occasionally have with your staff).

Similarly, supervisors who work for you should routinely meet with their staff. The nonmanagerial staff should know which studies will be starting and what problems have been encountered with ongoing studies. These problems don't have to be "things that are being done wrong." If, for example, the research itself is not being productive, let your staff know this. Ask for their opinions. Pull them into the research. They should not be uninformed bystanders.

Along these lines, before a study begins, you might consider arranging a meeting between your staff and the investigator, so your staff knows the objective of the study and what type of special care (if any) is needed. Again, the main purpose is to involve your staff in the study and therein increase morale and enhance the overall research effort. There is also a secondary purpose, and that is to break down some of the usual aloofness that occurs between groups, particularly when there are differences in educational levels. As one investigator said to me (referring to researchers), "We're all kings in our own little kingdoms and we don't like to have anybody tell us what to do." Face-to-face meetings help dissipate this attitude. It brings us into their kingdom in a positive manner. Similarly, some organizations have learned that one truly likeable person who knows everybody and gets along with everybody can be an invaluable asset by helping to bridge the gap between different groups within an organization, such as animal care and researchers or even between animal care and veterinary services. They are the troubadours who go from village to village, making people happy with news and song. They can facilitate getting people together, making people feel good about each other and, in general, they can help keep communications open when everybody else is hitting a stone wall. Sometimes we have to have this type of a person on board, even if he or she is not a superstar, because of his or her importance in greasing the wheels of our operations [2]. But do we always have to bend over backwards to have meetings when everybody already knows what has to be done? Some research or testing techniques are redundant. They are the same ones that have been used for many years. The only change may be that a different chemical or drug is being used. Is it necessary to meet *again* with the same investigator? There is no pat answer to this. You might first find out the significance of the new chemical or drug, and then you can determine if it is worth another meeting or if, perhaps, you can do the explaining yourself.

Most modern organizations want and encourage communication at all levels. This type of open communication is to be supported.

Here's a reality check. Some organizations are still run like military bases. Subordinates speak to supervisors only when asked and supervisors speak to subordinates only when necessary. People from one division rarely speak to people in another. And heaven help you if you go over your supervisor's head — that's the same as high treason. This attitude is all part of a sick corporate culture — not the kind to which most organizations should strive. The implied message is that you are a number, not a thinking and capable human being. It tears at the heart of communication and trust. In my opinion, it is a morally bankrupt tactic for anybody managing a laboratory animal facility. Just as communications within a division should be as free as it is practical to be, communications between divisions of the same company should also be reasonably open.

By this point, I hope you can appreciate that open communications enhance morale by giving people a sense of worth and security. Few things are as detrimental to organizational morale as rumors and the feeling that management doesn't care about employees. If you want to stop rumors, tell people the truth. Answer their questions. We all have an inherent fear of the unknown and most of us fear change, even if the change is to our benefit. So if there is going to be a change, for better or worse, let people know as soon as it is reasonable to do so. For example, if your animal population is reduced and has been low for the past year, don't you think that your employees know this? Don't you think they are worried about their job security? Why not talk about it? Let them know what you know. It will rarely cause a problem and, more often than not, it will elevate your status as a manager.

We probably all know supervisors who withhold a certain amount of information to maintain some degree of "power" over their subordinates. They tell you only as much as they think you need to know. They think that there is no need to keep you informed about anything that does not directly affect you or, in some instances, they feel that keeping this information to themselves makes them appear valuable to the organization [3]. This approach is what I call national security thinking. It is a "need-to-know" philosophy that has little place in most biomedical organizations. We all know that not everything can be made public to all employees, but most information can be. Everybody should know the organizational mission and its current goals, certain financial information about the animal facility and the entire organization, studies that will be beginning or ending, and so on. Yet, not everybody has to know, or should know, the details about a new antihypertensive agent being studied.

Try to keep communications as open and informal as possible with both your staff and the investigators with whom you work. It gives people a sense of worth and security and enhances your status as a manager.

Even a little newsletter with animal care guidelines, facility management problems, or anything else you deem to be important is worth its weight in gold.

The Sounds of Silence

Sometimes people are afraid to speak up because they don't want to look foolish, be the sole voice of dissent, or offend a person who is higher up on the corporate hierarchy. This is certainly understandable — but nevertheless unfortunate — because a lack of communication about possible problems or solutions forces these issues to remain hidden and unaddressed. Much of the solution to this problem has to do with the corporate culture as well as managerial style. Let me give you an example: If I belittle every suggestion made to me that goes against the way I like to do things, people will quickly learn to keep quiet. If they continue to speak up, will I block their promotion? Can I lower their salary increase? Even if I want people to speak their minds, how can this happen if I continually (and perhaps unknowingly) create a blockage to open communication? Managers and leaders have to be careful about their reaction to communications that are not what they might have wanted to hear, lest this lead to organizational silence.

Is there another way of communicating if the culture of your organization or if an individual manager tends to inhibit communication? Yes. Consider communicating as a group. Here's an extreme but true example, with changed names and details.

> *Rob Gray was the manager of animal care at Great Eastern University. He was a congenial man, well liked by his boss because of his personality and "can do" attitude. His boss frequently and publicly praised Gray for the fine job he was doing. Gray's power within the university continued to increase.*
>
> *The only problem was that Rob Gray had been receiving a kickback from American Cleaning Supplies, the primary cleaning supply company for the animal facility. Any supervisor who tried to use another vendor was clearly and firmly*

told by Gray to use only American Cleaning Supplies. After a little while it became known to some of the supervisors that Gray was being bribed, but at first nobody had the nerve to confront him or his boss. After some time, one of the supervisors did tell Gray that they should not be locked into one vendor for no good reason. He was told to mind his business and do his work. The supervisors felt used, betrayed, and powerless. At first they were even afraid to talk to each other about the problem. Still, as the financial wrongdoing continued, they did begin to talk more to each other and then, as a group, they wrote a letter to Gray's boss documenting their concerns. They scheduled a meeting with the boss, walked in as a group, handed him the letter, told him that a copy had been sent to the vice president for research, and demanded that Gray be fired. By the end of the week Gray was out of a job.

The moral: When silence is enforced, the power of a group may be able to overcome a problem that no individual person can resolve.

Listening and Feedback

Good communication includes good listening. It is very, very important that you take the time to listen carefully to your employees. Few things are as frustrating to people as the feeling that you are not listening to them. It may be necessary for you to sit down and take notes when an employee or other person is talking to you. This also indicates interest on your part. Don't be afraid to occasionally interject a summary statement such as, "You said that the maintenance department hasn't responded to any of your requests?" It shows that you have been listening and that you're interested. Ask questions if you have to, but the important thing is to get feedback from your employees and give them feedback as needed.

Good communication includes good listening.

If this sounds like textbook rhetoric again, it is. Not that I've read all of them, but I cannot imagine any instructional guide in communications suggesting that attentive listening isn't an important managerial function. But attentive listening is

only part of the equation. What do you do when you are finished listening? Do you pat yourself on the back for being a good listener and then walk away? Of course not. You have to do something. I was involved once in a situation where somebody routinely did nothing. The executive director of a health research organization diligently took notes whenever I spoke with him. At first I was very impressed, but when I realized it meant absolutely nothing, deep disdain set in. I felt used. Don't let this person be you. Trust is important. If you go through the motions of listening and then take no action or make no decision, you will lose whatever trust you may have built up.

When we interact with investigators, listening is paramount. Let's be honest: if it were not for investigators, we would not have jobs. Our function in laboratory animal science extends beyond taking care of animals. We also have to take care of investigators. We have to elicit from them what they want, not what we are willing to give them. The reality may be that we cannot always provide what they want, but if we don't ask and listen, how can we plan for the future? How can we correct existing problems if we don't know what they are? Imagine the bad feelings you would generate if you did a service-satisfaction survey of investigators using the laboratory animal facility and then did nothing to correct their perceived concerns. Laboratory animal science is a business. Just as many other businesses are driven by what the consumer wants or needs, consumer desires are also part of our business.

Laboratory animal science is a business. As other businesses do, we must listen to our customers and try to provide them with the services they want.

There is another benefit to listening: you might learn something. You may become empathetic enough to see the other side of the coin. How many of us in laboratory animal science have listened carefully to what animal rights advocates have to say? Are they just so many crazies that we have to live with? Not at all. Listen carefully and you may find you have more beliefs in common with them than you thought. At the very least, begin to understand their feelings.

People must feel that they are part of an organization, not just 9-to-5 employees. Give them the chance to speak up. Sometimes this requires that you stop speaking and start listening to what they are saying. This may not be easy since it implies giving up a little of your own authority, particularly if a person has a valid criticism or suggestion. But it is precisely this ability to accept suggestions from those you work with that can increase your stature as a manager and pull people into the organization. It increases people's trust in you.

If you encourage feedback and open communications, it must be more than a textbook exercise. To repeat what I said earlier, you must follow through in some way. If you want to continue to get feedback, you have to give feedback. This does not mean that you must accept everybody's problems as your own or take actions that you believe to be detrimental. It does mean that some form of response must be forthcoming. This response can range from "I see your point but I think if you try …" to "This is something you should handle as you see fit." It might also be, "This is a serious problem and I'll get back to you within the week" or "I appreciate your suggestion. Why don't you try it out and let me know how it works?" Communication is a two-way street. If you expect people to communicate with you, you have to communicate with them.

If you expect people to communicate with you, you have to communicate with them.

Selective Listening

Over the years, I've noticed an interesting problem with some managers, myself included. It is called selective listening or, to be more specific, listening to what is said but not rooting out the cause of a problem. An analogy is the doctor who puts a pressure bandage over a bleeding arteriole rather than tying it off. There is a chance that you might solve the problem, but there is also a good chance that it will recur as soon as the pressure is released. Here's an example.

> *John W. is in charge of the cage wash area in your facility. You try to be a good manager with open communications, so you routinely meet, individually, with each of your supervisors. On this day, you ask John if there is anything that would help his operations. He responds that he knows everybody else is busy, but if they could get the cages to him by 3:00 P.M. he would not have to pay overtime and have some employees become disgruntled because they are often asked to work late.*
>
> *Soon after, at a managerial meeting, John's problem is discussed and a mutually agreeable solution is found. You pat yourself on the back for being a good manager and continue on your winning ways.*

It is always a good feeling to be able to solve a problem. But did you go far enough? Did you dig deep to find out why the cages were not in the wash area by 3:00 P.M.? Would John have actually told you if it meant revealing that another supervisor took 2-hour lunches? And why did it take so long to find out that there was a problem? Why didn't John come to you without prompting? Is he afraid that you are always so positive and cheerful that he is unsure if it is "safe" to talk to you about these matters? Whatever the reasons, look below the surface if you find a problem. Truly open communications include not being afraid to speak the whole truth.

Here's another example. It involves an employee who is not carrying his own weight. You all know what happens: your better employees initially pick up the slack but after some time they start complaining. First it's behind-your-back complaints, then it's in-your-face complaints. What are you going to do?

> *A friend asked me to meet with him as soon as I could to discuss the issue of pain recognition in laboratory animals. He seemed a little uncomfortable, but I disregarded that at first. Over lunch he made it clear that his goal was to make DVDs of animals in pain, side by side on the same screen with pictures of animals that were not in pain.*
>
> *I gave him my initial thoughts on his idea (including the fact that others had already done this) but then I asked him why he wanted to do that project, since he had limited expertise in pain recognition. He told me that he just thought it would be helpful to laboratory animal medicine and it was something he was interested in. Then I asked him what was actually going on, since his body language and attitude just didn't reflect his usual easygoing self and he had hardly touched his food. At first he was inhibited, but then he began to talk. He actually seemed relieved to be able to tell me that his boss told him that the other veterinarians in the animal facility were annoyed at him because they felt he was spending too much time on insignificant paperwork. Therefore, he was going to develop a project to prove his worth. I asked him if he thought the veterinarians were right. Again he hesitated, but eventually related to me that his life was being torn apart by marital problems.*

There's no need to go into the rest of the story. The important point is that there was a problem behind the problem. Many personnel problems at work have a nonworkplace root cause that eventually manifests itself as a workplace problem. In the above example, we know that marital problems were the root cause because I told

you that, but if you were the boss who had to listen to the complaint of the other veterinarians, what would you have seen as being the real gripe? If you said that the veterinarians were annoyed that a colleague was doing too much paperwork, you have missed the underlying reality. The veterinarians' actual complaint was that they had to pick up another person's slack. They probably would not have given the matter a second thought if it had been an animal care technician who was doing the paperwork because it would not have affected them in any real way. And they probably would have been much more understanding and accommodating if they knew that their fellow veterinarian was under tremendous emotional duress.

Getting to the root cause of a problem is not easy because we're not trained as clinical psychologists. However, we can train ourselves to be better listeners and ask pertinent business-related (not personal) questions. Sometimes we have to ask for the assistance of other professionals for help, and most organizations can do this through their offices of Human Resources, Equal Employment Opportunity, Employee Assistance, and so on. There's no shame in asking for assistance; it's actually to your credit that you do so.

Difficult Conversations

Most of us want the trust of other people as long as it doesn't cost us anything. One cost is giving up a little bit of authority when we listen to a criticism. Another cost is our fear (or at least dislike) of criticism. Sometimes we become so entrenched in our position that we think we are immune to criticism, or we are so used to being told how good our work is that we can't believe a person actually has the audacity to criticize us. The best advice I can give is that you should not sit on your laurels, because you may be in for a very negative surprise some day. I've been in laboratory animal medicine for over 30 years and I've been slammed around enough that you might think my skin is so thick that I can't feel any criticism. That's not true. I fully understand the need for constructive criticism, I actually go out of my way to encourage that kind of feedback, but when it happens, I still don't like to hear it. Nevertheless, I've learned not only to accept it but to evaluate it and take action as needed.

Let's generalize and subdivide difficult conversations into two simple categories. The first is when you are the recipient of criticism that crosses the boundary of a civil discussion. The second is when you are the manager and have to talk to a person about his or her performance or a related problem. We will briefly consider noncivil criticism first.

Feedback from employees or your own boss can be considered a form of constructive criticism. Sometimes constructive criticism doesn't occur and the feedback is better characterized as destructive criticism. There is a core of people who have trouble being civil in their communications to others and they can be offensive, inaccurate, irrelevant, or one-sided with their feedback. My own way of dealing

with this has always been to hold my annoyance in check, speak calmly, listen a lot, and do what it takes to turn lemons in lemonade. Others have researched this problem and have provided additional information on how to turn toxic feedback into useful information [4]. The key suggestion is to maintain your temper and not start an argument with the person talking to you. We have to train ourselves to stay composed, maintain a neutral tone of voice, try to determine the person's perceptions that led to the negative feedback, and then use what we have learned to calmly deal with the problem without turning the conversation into a "me versus you" dialogue. It's a matter of concentrating on the accurate information and postponing any action on inaccurate information. The accurate relevant information can help us deal with the immediate issue. None of this comes easy to most people because not too many of us are fully adept at accepting criticism, even though we may try to be. This problem can be reflected in our responsibility to provide feedback, particularly if that feedback may have a negative tinge to it. Nobody really likes to have difficult conversations with colleagues or employees, and many people shy away from negative comments during performance discussions. However, we have to face up to the need for giving and receiving feedback; if we don't, any existing problems will continue.

When dealing with a person giving abrasive feedback, stay composed, use a neutral tone of voice, listen carefully, and try to determine what led to the person's perceptions. Focus on the accurate information provided.

The more common form of feedback that you will encounter is when you are placed in the position of evaluating and commenting on another person's work or actions, particularly when that feedback may incorporate some issues potentially requiring improvement. There is a nice little book called *Difficult Conversations* [5] that you should consider reading because it provides helpful "how to" suggestions to use when providing this type of difficult feedback. The basic thesis of the book is that we have to be attuned to our own feelings and the feelings of the person we are talking to when we are discussing anything that makes us feel uncomfortable. However, we cannot just blurt out something such as "Your handling of animals makes me sick." Yes, in that phrase you certainly put your feelings on the line, but you have also set the stage for a "me against you" scenario as I just described. In other words, if I push you, you're going to push me back; if I accuse you of a bad trait, your first reaction is going to be to push back by denying that accusation. Take a look at the following conversation. It's a good example of a typical, but not an ideal, feedback session.

Peter: Good morning, Pat. Thanks for coming by. How is everything going?
Pat: Fine, thanks. You said you wanted to talk to me.
Peter: Yes. I wanted to talk to you about how you handle animals while cage changing. I saw your technique this morning and it was rough on the hamsters. I'd like you to tell me what you can do to avoid that in the future.
Pat: I wasn't rough and it was the way I was taught to do it so I could get everything done by the end of the day.
Peter: Okay, but in the future try to be easier on the animals. You're stressing them out and may hurt them.

In this scenario, Peter has accused Pat of rough handling and, as expected, Pat denies the accusation. In other words, Peter pushed Pat and Pat pushed him back. Peter wasn't particularly clear about what constituted rough handling. The meeting has quickly moved from conversation to confrontation. Peter then tells Pat what to do, avoiding any discussion that Pat might have been poorly trained, which is a potentially serious problem. Rather than building a bridge, Peter has built a wall between himself and Pat. Look how different it is when the tone of the conversation is changed:

Peter: Good morning, Pat. Thanks for coming by. How is everything going?
Pat: Fine, thanks. You said you wanted to talk to me.
Peter: Yes. I wanted to talk to you about handling animals while cage changing. I saw your technique this morning and in most cases it was fine. But it seemed to be a little rough on the hamsters because they all squealed when you lifted them by the scruff to change the cages. I wanted to get your opinion about this.
Pat: It was the way I was taught to do it so I could get everything done by the end of the day.
Peter: I see. I was wondering if you felt the animals were getting stressed out or might get hurt when the work has to be done so quickly. Hamsters usually only squeal when they're very upset and cage changing shouldn't cause that much of a problem. Do you think we should do things differently? Should we reevaluate our training procedure?

In this conversation, which is a good way of initially approaching most difficult conversations, Peter was not at all accusatory even though Pat gave the exact same responses as in the first scenario. In the second conversation, Peter was explicit with his concern (i.e., that the handling seemed rough because the hamsters squealed when lifted) but rather than actually accusing Pat of roughness, he asked for Pat's perspective. Peter was also quite clear in his communication. Pat did not have to try to read between the lines to try to figure out what Peter meant. Peter also asked Pat for his opinion about the animals' stress level or potential for injury, again not

telling Pat that the animals are getting stressed out, but asking Pat for his feedback. Then Peter acknowledged Pat's comment about his training by once again asking for feedback on how things might be done differently. Finally, and perhaps most importantly, Peter told Pat the expectation was that animals had to be handled gently (that is, they should not be squealing when handled for cage changing).

By approaching this issue as an unbiased observer, not as a biased accuser, Peter is helping to put Pat at ease and get discussion and feedback. Approaching feedback within a difficult conversation from an unbiased point of view, expressing your feelings in a clear manner, and listening to and understanding the other person's feelings takes time and practice, but it is well worth the effort because so many of us shy away from these situations. Even before you enter into the conversation, take a step backwards and ask yourself what your goal is. If it's only to correct a person's behavior, you have a tough road ahead because your mind is already made up. It's wiser to hold off on assigning any blame, think about what the other person's perceptions might be, and think about questions and statements that are going to elicit clarifications, not arguments. Toward the end of this chapter you will learn that the same nonaccusatory, civil approach to conflict can also be used when there is a group problem.

Provide feedback as if you were an unbiased observer, not a biased accuser.

Now let's put the discussion about listening and feedback into another context. As we learned earlier, when we have a difficult conversation it is important to try to focus the discussion on the core issue, not the superficial issue. If you were the boss who had to talk with the veterinarian who was doing the excessive paperwork, you should be discussing the fact that the other veterinarians are becoming unhappy because they feel they are being penalized for somebody else's transgression. The extra workload on the other veterinarians, not the paperwork, becomes the core issue of the discussion. Focusing on the extra work is appropriate the first time a discussion is required.

How do you approach this discussion without becoming confrontational? First, make sure you are using the basic communication techniques that are appropriate to the situation. This is something that was discussed earlier in this chapter. For example, if you know a person is a "bottom liner," then get to the problem as soon as possible. If the person is always nervous and needs to calm down a little, spend a couple of minutes on small talk. If the person is an animal care technician, don't try to impress or intimidate him with advanced veterinary concepts. Then, get to the reason for the meeting. Just as Peter was nonaccusatory

with Pat in the second example of their conversations, we have to try to be non-accusatory and view the problem from the perspective of an outside observer, even if it has affected you directly. Clearly state the problem and what it means to you or others, and follow through with questions and suggestions rather than with accusations. That's what transpired between Peter and Pat in the second of their two hypothetical conversations. The goal, of course, is to resolve the issue in a collegial manner so there are no winners or losers. But what happens if that first discussion doesn't resolve the problem? In recent years, I have used — with reasonably good success — the approach suggested by Patterson and colleagues [6]. The basic process is to first do your homework (by listening, by observing, by talking to people) and try your best to understand the core problem, which may differ from the stated problem. In one of the examples I've been using, the core problem (from the viewpoint of the veterinarians) was the extra workload on the other veterinarians, not the time their colleague was spending on paperwork. I suggest that part of your preconversation homework includes knowing exactly the key points you want to make and even how you want to verbally express your thoughts. Unfortunately, sometimes I get tongue-tied and even though I know the general context of what I want to say, I mess it up. To help avoid that problem, I will sometimes practice out loud what I want to say before I say it. Once you know what you want to say and how you want to say it, you can move ahead in a three-tiered process [6].

Before entering into a difficult conversation, have clear goals about the key points to be discussed.

1. *The first time a problem occurs, talk about what happened.* In our example, you might say, "There's a potential problem I'd like to discuss and get your input. Your colleagues have said that you are doing an extraordinary amount of paperwork lately, and it's really taxing on them because they feel they have to cover your work. I was wondering if you had the same perception?"

   Generally, I will make a few seconds of small talk before getting down to business. Usually, I don't believe in dancing around the issue or by first talking about everything that is happening in the building before getting to the main issue. More often than not, if the person you are talking to doesn't already know why he is meeting with you, he is going to be suspicious and possibly nervous about the meeting, so you may as well just get to the point without being accusatory. The exception is when the person I'm talking to needs some "calm down" time or prefers a little small talk. Notice that, as in the example of the conversation between Pat and Peter, Peter was not

confrontational but he was very clear about the reason for the meeting. It was his perception that the animal handling was somewhat rough.

Although some people suggest that after this initial discussion it is advisable to document, in writing, the problem that occurred and the plan for preventing its occurrence in the future, in my opinion this has to be approached on a case-by-case basis. In certain circumstances documentation can be humiliating and punitive whereas in other circumstances it may be appropriate. Nevertheless, whether made verbally or in writing, the conversation should not end until both persons concur on the actions that will be taken to prevent future concerns. Invariably, if I don't make formal documentation of the details of the discussion, at the very least I will make a brief personal written notation that the discussion occurred on a certain date and, of course, the main points of the conversation.

2. *The next time the same problem arises, discuss the pattern that is occurring.* For example, "John, we had a discussion last week about the amount of paperwork you've been doing and the effect it had on your colleagues. You said you had been overwhelmed for a while, but things were back on track. But from what I'm being told, very little has changed. What's happening?"

   In this conversation you have reminded John about the promise he made to you. The burden is on his shoulders, but again, you are not out-and-out accusing him of slacking or not keeping his word. However, you are putting him on notice that all is not well.

3. *The third time the same problem happens, discuss your relationship with the person.* For example, "John, we've had two discussions now about the other veterinarians having to cover your areas, and twice you promised to resolve the issue, but to date there appears to be no resolution. The clinical logs show that your colleagues are covering for you. I'm wondering if I can really trust you."

   Your tone is becoming firmer and your conversation is now focused on trust. Can you trust John in the future? Give John a little pep talk and remind him how important it is for you to be able to trust him to complete a job that he is capable of doing. If this doesn't work, John may still be a talented person, but those talents may have a better fit elsewhere and you can remain on good terms with him by helping him find another position.

   When I first read Patterson's description of the three steps I just described, it sounded reasonable to me. The first time I used it, it actually worked well because I didn't have a continuing problem with the same person. The next time I used it, it involved a repeated problem, and although I kind of fumbled a little, it went fairly well. By the third time I used it, I was getting reasonably good at remembering not to go backwards from Step 2 to Step 1 (that is, not to discuss the immediate problem when I should be focused on the pattern of what was happening). I'm fortunate in that I have not had any really major personnel problems to deal with, but I feel confident in recommending the

method. For me, the approach I follow when I have a difficult conversation is to try to combine the methods I just outlined above with the clear and short statements advocated in *The One Minute Manager,* which is that you should be able to clearly and effectively say what you have to say in one minute or less [7]. The combined approach allows a manager to clearly and quickly express his concerns and feelings, and also focus on the actual problem, not spin-offs of the problem.

Approaching a Difficult Conversation

- **Focus on the core (root) of the problem.**
- **Approach the problem as an unbiased observer.**
- **Do not be accusatory; rather, use questions and suggestions.**
- **Clearly express your concerns and how they affect you.**
- **If a single meeting does not resolve the issue, next discuss the pattern of activity that is occurring.**
- **If that still does not resolve the issue, discuss your relationship with the individual.**

Communicating with Your Own Supervisor

It's important for you to keep your supervisor apprised of significant events or trends that could affect his or her work. That's good politics on your part and good information for your boss. You also have to provide your boss with whatever accurate information is necessary. That is, *you* may know the entire story and it may be very clear to *you*, but if your boss hasn't heard it before, he or she needs to hear it clearly and concisely. Putting sugar on a problem or twisting words around usually results in more harm than good. While this may seem like common sense, some managers try to handle everything by themselves, without letting their boss know what is happening. Taking the initiative is fine, but you still have to let your boss know about things that can affect her. In practice, you may find that your boss may want to know everything, very little, or something in between. You will just have to learn your supervisor's management style and work with her. I will discuss this some more in just a moment. No matter what management "style" your supervisor may have, you will find that one thing is the same with all supervisors: they don't like surprises (being blindsided) any more than you do. Don't wait until a situation is out of hand before talking to your supervisor. If a problem is starting to build and

you have not been able to handle it yourself, it's almost always a good idea to converse with your supervisor before the problem gets out of hand. Otherwise, giving your boss aggravation is going to cause aggravation for you, and your value to your boss is going to diminish. My suggestion is, if possible, try to develop one or more solutions to your problem and discuss them with your boss. That demonstrates your initiative and insight into the situation.

If blindsiding your boss is not enough of a mistake, here are some more foolish moves you might want to make in front of your boss. Try coming unprepared for a meeting and stumble over his questions. Not enough? Here's a related one. When your supervisor asks you for facts you don't have, make up a story and hope she buys it. On a more serious note, you have to appreciate that you are working with intelligent people who are most often scientists trained to ask significant questions about significant problems. So, if you tell your supervisor there is a desperate need to come up with $10,000 for rat cages, you'd better be ready to justify the need and the cost. If you tell your boss that rabbits and guinea pigs should not be housed in the same room, you should be prepared to explain why.

The suggestions I just made above about providing accurate information, not blindsiding your boss, and being prepared to defend your statements are generic and should be considered as baseline actions every manager should take with every boss. There are additional communication and other interactions with your supervisor that may well be considered as generic. Here's just a few of them [8].

1. *Get involved.* This was discussed above. It's a matter of taking the initiative when you see a problem, rather than waiting for your boss to handle it, waiting to be assigned to it, or waiting for it to escalate before you speak up. You can also take the initiative for the larger organization where you work, not just the animal facility. As I note below, there are some bosses who might want to use you as a pawn and expect you to take action only when you are ordered to do so, but most supervisors are more realistic and will appreciate your initiative.
2. *Come up with ideas.* Part of your job as a manager (as it is for every employee) is to move the animal facility forward by providing suggestions, not waiting until your boss gets an idea and asks for your input. This goes hand-in-hand with the concept of getting involved. The worst that can happen is that your idea is rejected, but at least you have demonstrated an effort to contribute.
3. *Collaborate with others.* It's not unusual for animal facilities, particularly larger ones, to be divided into sections such as animal care and veterinary services. These are not mutually exclusive kingdoms and your supervisor has a right to expect that the interactions between two or more groups within the animal facility will facilitate, not hinder, the facility's operations. Wherever you find yourself, be a facilitator for the entire animal facility or your entire organization, not a recluse within your own immediate area of concern.

4. *Stay current.* In Chapter 2 there was a discussion about the various environments that have an impact on an animal facility (e.g., economic, information). Your boss has every right to expect you to know what's happening in the field of laboratory animal science. For example, I expect the associate director for animal care to know more about animal care issues than I do. When I have an animal care question, he should either know the answer or be able to get an answer faster than I can. I invariably tell new veterinarians that part of their job is to be current with the laboratory animal veterinary literature. This is written into their job descriptions. The need to stay current is reinforced at our weekly veterinary meeting where we often discuss how recent literature findings might be incorporated into our daily activities.

Cardinal Rules for Communicating with and Enhancing Your Value to Your Supervisor

- **Provide accurate information.**
- **Never blindside your supervisor.**
- **Do not let a problem get out of hand before discussing it.**
- **Be knowledgeable about the subject matter.**
- **Do not make up answers when you don't know an answer.**
- **Be prepared to document your comments if you are challenged.**
- **Take the initiative when it is reasonable to do so.**
- **Collaborate whenever possible with others in your organization.**
- **Stay current with the management and laboratory animal science literature, new products, and so forth.**
- **Adjust your communication style to fit your boss's management style.**

Management Styles

Communicating with Your Supervisor

In the big picture, I would like to believe that all bosses, myself included, look at our subordinates as coworkers, not as "subordinates," "direct reports," or any other such term that suggests rank. (Sometimes in this book I use the word subordinate simply to clarify my intent.) But, in the real world, this just isn't what happens all of

the time. Some supervisors, for example, demand that their status be noticed, so we have to deal with it. This may not be easy, but we have to try. Some supervisors want you to do the job by whatever means will get the job done, while others don't want you to act until you are told to do so. I'm one of the former; a "bottom-line, get-the-job-done" person. Within reason, I'm more concerned about end results than the methods you used. My attitude is that I don't want to be bothered by knowing every detail about everything that is going on, but I do want to know the general situation. You get paid to do a job, and you have the training and experience to do it, so do it. I'll help you set goals, keep you informed, run interference, and support you, but if you have a problem, try to solve it yourself. If you can't, I'll try to help, but you can be sure I'll ask what steps you have already taken and why they didn't work. If you are the kind of person who needs all kinds of emotional support and managerial direction, you and I will have to strike some compromises.

Usually, a subordinate learns fairly quickly about a boss's communication style. Since different bosses may have different styles, the shrewd subordinate will not use a communication style that worked well in a previous position if it doesn't mesh with the communication style of his new boss. Here's an example of what can happen when conflicting management and communication styles come together:

> *Bill Williamson considered himself a no-nonsense type of manager. If you came to him with a problem, you had better be able to summarize the situation in a few sentences and tell him what you already did or wanted to do to solve it. His working philosophy was that you should do what you get paid to do. He would help you if you hit an absolute roadblock or if you needed his permission to proceed.*
>
> *On the other hand, Kenny Roberts, who worked for Bill as the manager of his microbiology laboratory, hated to make decisions. He had many strengths as a manager, but being decisive was not one of them. Williamson knew this, and he gave Kenny a little more leeway than he gave other people.*
>
> *Kenny had to meet with Bill to discuss buying a new microscope. Before he walked into Bill's office, he knew that he had to have everything ready for Bill's bottom-line questions. He spent five minutes telling Bill why he needed a new microscope, and proceeded to give him a detailed breakdown of the comparative costs and features of different models. He then began describing the accessories that he could add. Kenny believed that this was the bottom-line information Bill would want. In reality, it was his standard approach to everything, and he probably wished that it were Bill's.*

> *Bill was becoming somewhat agitated with what he considered to be superfluous detail, but he let Kenny go on. Finally, he stopped Kenny in midsentence and asked him which microscope he wanted. Kenny once again started speaking about cost versus value, but he would not commit himself. Williamson reached his limit. He told Kenny that he had no interest in making decisions for him, but, because some sort of decision was required, he should consider repairing the old microscope rather than buying a new one. With that, the meeting ended.*

Both Kenny and Bill knew the other's management style. Bill was a little more tolerant of Kenny than he would have been of some other people, but Kenny just used the time to give facts and figures that Bill was not interested in. Bill was right in not wanting to make the decision for Kenny. Whether he should have been so curt with Kenny is another issue. Kenny, on the other hand, should have known that eventually he would have to make a decision and, therefore, he should have considered all his options before going in to speak to Bill. Now he had two problems — he had to consider fixing the old microscope in addition to buying a new one. Nothing was accomplished at this meeting.

This example highlights Bill's bottom-line management and communication style. Other supervisors want you to keep them informed every step along the way, and they want direct involvement in every aspect of everything. This approach is often followed by new managers who have been promoted from the ranks. They want everything to be done their way, because whatever technical tasks they did before becoming a manager seemed to have worked. Now, they don't want anybody doing anything that might not be as good as their way or that might cast a shadow of doubt on their managerial ability. They will tell you what to do and how to do it. The word "trust" does not fit their managerial vocabulary. They waste valuable time constantly checking up on you [9]. This is what many people call *micromanagement*. Given my own prejudices, I don't like this management style. Still, you cannot dismiss it.

Some people want to speak about the weather or their family before they talk business. There are even some supervisors who would prefer that you talk very little; they want almost everything in writing. You will simply have to know your supervisor's style of management and communication. You either have to work within the system to change it, accept it, or move on. If you understand how your supervisor communicates, it will be substantially easier for you to communicate with him. In the long run, your own job will be much easier.

By this time, some of you must think that to communicate with everybody you work with, you have to be some sort of a chameleon. To a certain extent, that may be true.

Recognize that you may have certain strengths that your supervisor lacks, and vice versa. You may be excellent with financial details, a trait appreciated by your supervisor, who is not a detail-oriented person. Your supervisor may be a whiz at time management, an area that is anything but your strong point. In most situations, you and your supervisor can complement each other. Open communication and a consistent managerial style can strengthen both of you. Similarly, you can benefit from the strengths of the people who work for you. Perhaps they are adapting to you in the same way you are adapting to them. That's fine; let them. It's a mutually beneficial arrangement and it matters not one iota if everybody has to do a little adapting to everybody else.

Individual Management Styles

From the foregoing discussion, it should be apparent that everybody has his or her own management style. It's like people with different personalities. There are many published articles that expand on this subject and place management styles into classes, subclasses, and so on. I'm much more basic. The management styles that I have seen most often in laboratory animal facilities (and the workplace in general) are the *micromanager*, the *dictator*, the *mouse*, and the *compromiser*. I'm not about to do a psychoanalytical profile on each of these styles, nor could I, but I do want to describe them briefly so you are aware that they exist. These management styles describe how a manager interacts with people (primarily the manager's subordinates) on a daily basis. They are as much personality styles as they are management styles. Although different people have different managerial styles, they all perform the basic managerial functions of planning, decision making, directing, controlling, and organizing.

I described the micromanager earlier and said I did not like this style because it signals a lack of trust. This is probably the worst management style for interacting with most other managers and veterinarians because much of their work depends on their own expertise and experience [10]. The micromanager may be a perfectly lovely person otherwise. There was an interesting published interview with Teresa Amabile in which she noted that subordinates may not want to be micromanaged, but they do want a certain amount of monitoring and support. They want their boss to monitor a project without becoming too involved, yet ask for their opinions about issues for which the boss might be able to provide them with help [11].

There may be times when micromanagement is appropriate. For example, some people micromanage when they first take a new position or are training a new person. When I do that, I tell people up front that I am simply trying to learn (or teach) what has to be done, and pretty soon I will leave them alone.

If I don't care for the micromanager, I like the dictator even less. This person is the type who manages by raw power. This power can be derived from his position (e.g., a vice president or an animal care supervisor), his financial authority ("If

we can't do it this way, I don't think I'll be able to fund it."), his physical ability ("Do it, or I'll pound you."), a combination thereof, or other aspects of power. The dictator does not always tell you *how* to do things (like a micromanager); rather, he tells you what is going to be done. There is no discussion, no compromise, no anything. If this person is your boss and you object to this style, you will either have to work things out or move to another position. However, if this person reports to you, you're going to have to meet with him, tell him what others think of him, and describe how his behavior is (probably) affecting morale.

Once again, this type of person may not be inherently bad. He may truly care about the people he manages and he might even socialize with them after hours. But, during the workday, it's another story. He thinks that you have to bulldoze people to get the work done.

Interestingly, there may be times when the dictator's managerial style (like any other managerial style) has its place. Consider a laboratory animal facility that is in trouble. The investigators are unhappy, upper management is unhappy, the U.S. Department of Agriculture (USDA) just cited it for multiple violations of the Animal Welfare Act regulations, the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) just revoked its accreditation, and the National Institutes of Health (NIH) is hinting at a not-so-pleasant site visit. This may be where you need a person with a firm hand to get things back on line.

The next example is the mouse. In my experience, the mouse is often a manager who has been moved up the ranks because of technical excellence, yet has limited or no managerial experience. He is afraid to say almost anything to you or those he supervises, because he might be saying the wrong thing or getting people mad at him. He always needs your approval, and, in the process, can easily make his problems yours. When he does have to discuss a sensitive subject with those he supervises, he is prone to phrase it so that it seems he is little more than a messenger. This person may have excellent potential, but that potential should be cultivated with managerial training programs before the person is promoted into a managerial position. His staff will quickly learn that the mouse is not much of a leader.

The compromiser (or consensus builder) is commonly found in managerial positions. This is the person who tries to find a middle ground that keeps everybody happy yet can move work forward. This is not a bad way of doing things and is often the best way. Still, there are times when a manager has to take a firm, yet proper, stand on an issue. Some compromisers refuse to do this and lose the respect of their staff. Still, in most instances, building a consensus and compromising where necessary is a valuable management style. On the whole, I think it's the best one.

What is the worst management style? The answer is inconsistency. It's not even a style; it is a lack of style. Inconsistency characterizes the manager who wants to be involved in details one day, then tells you to do it your own way the next day. After you do it your way, you get reprimanded for not keeping her informed every step of the way. If there is one lesson to learn relative to your own style, it is to be consistent. Your staff and your own supervisor want to know how to communicate with

you and how you will likely react to a given situation. It's strongly complimentary to you if your staff says, "She's going to hate this," rather than, "She'll hate it or love it, depending on which way the wind is blowing."

Be consistent in your management style.

Trust

Whether a person has a Ph.D. or a high school education, it is crucial for us to learn to trust the people with whom we work and to have them trust us. I was distressed to read that about half of all managers don't trust their leaders [12] and so I have to question how many nonmanagers likewise distrust their managers. If it's also about half, that doesn't say much about the management of many organizations. One reason for engendering managerial trust is that without it we cannot perform one of our most important managerial functions, the delegation of responsibility. You become the micromanager I described earlier. You work 12-hour days. You lose the respect of your staff. You become inefficient and ineffective. People don't want to talk to you and communications break down. In his fine essay, Gordon Shea notes that "Trust is the 'miracle ingredient' in organizational life — a lubricant that reduces friction, a bonding agent that glues together disparate parts, a catalyst that facilitates action. No substitute — neither threat nor promise — will do the job as well" [13].

Shea suggests a number of guidelines for people to use to build trust with their staffs. They make good sense; I use them, and I would like to pass some of them on to you in a modified form:

1. *Analyze the work you have, try to match the person to the task, and set high but realistic expectations for the work to be done.*

   I will say more about realistic expectations (i.e., realistic goals) when we discuss employee motivation. At this time, though, I hope you can see the plain logic in matching the person to the task. Let people who enjoy working with primates work with primates. If they don't have the required skills, work with them to develop a timetable for getting those skills. Don't put people in positions where you know there is a strong probability that they will fail. If and when they do fail, they will totally lose their trust in you.
2. *Train your staff to do a job in one acceptable way, define what a satisfactory outcome will be, and, when they can perform the task in a competent manner, allow them to be innovative in performing the task.*

   This point is good general advice because, once you know what a satisfactory outcome is, you have the opportunity to be creative and find more

efficient or effective ways of getting a job done. But warning flags must be raised relative to the operation of laboratory animal facilities. Indeed, there may be more than one correct way to perform a task. Yet, in an effort to minimize any experimental variables, laboratory animal facilities frequently require that day after day, month after month, experiment after experiment, a particular task (such as blood sampling) be performed in the same way. And, as many of you know, we codify these ways into SOPs. Therefore, before becoming innovative, you should check with the investigator before changing the way in which a task is performed. In addition, if you cannot change the manner of performing a particular procedure, let your employee know why. Keep that communication line open. I strongly recommend that you don't discourage employees from suggesting new ways of doing things (just the opposite, in fact — encourage them), but they must understand that they cannot take it upon themselves to make changes without your concurrence. This is obviously a difficult concept because, on the one hand, we want to encourage employees to think for themselves and become creative team players, but at the same time, we are inhibiting flexibility. The key is communicating why we don't do things in a different manner even if the end result is the same.

In recent years, some schools of managerial thought have advocated giving employees a good deal of freedom in making their own managerial decisions and then implementing those decisions. There may be room for this concept in laboratory animal science, but it is not quite as easy to implement as in other professions because of our need for consistency in the procedures we perform. For the present, I suggest that discretion should be the better part of valor. I will get back to this subject in a little while.

3. *You should use your authority to help, to motivate, to train and to set good examples.*

   You should rarely use your authority to coerce people. Coercion is the hallmark of an authoritarian manager (the dictator I previously described). He orders you to do something rather than asks you. He makes it clear, directly or indirectly, that you are there to take orders, not to be a team player. Granted, there are times when coercion will be needed, but those times, I hope, will be few and far between.

   If you have helped train someone, you should not be afraid to delegate responsibility to that person. Delegation goes a long way toward building trust because you have essentially told the person that you trust his or her abilities. Of course, make sure that you are very clear about the limits of your delegation. You are delegating to someone a certain defined amount of responsibility, not your entire job. When you delegate, also delegate authority, and make sure others who work with you understand that you have given responsibility and authority to that other person. It can be hard to complete a task without the means to do it. This discussion on delegation will be expanded in Chapter 6, Time Management.

4. *Mistakes will be made, especially if you want your staff to be innovative. To punish every mistake will obviously discourage innovation and lead to a lack of trust. Most important, future mistakes will be covered up.*

   In laboratory animal facilities, years of research and untold amounts of money can be lost if there is an unreported mistake, such as when the wrong treatment is administered to an animal. Even worse, the wrong results may be obtained without the investigators even realizing it. Can you imagine the consequences of such a cover-up? Don't be overly concerned with punishment. Your goal is to correct the mistake and make sure it doesn't happen again.
5. *Along these same lines, you should not waste undue amounts of time finding out who the guilty party is.*

   Rather, you should point out what the consequences of the error are, illustrate the desired outcome, and point the way toward correcting it and seeing that it does not happen again. Here's an example of a situation with which I became involved. A good amount of time and effort was properly expended finding a solution to the problem rather than on finding a person to blame.

> *Many years ago, a whole rack of cages containing mice fell over. This was one of those narrow racks that you rarely see in use anymore. Anyway, a piece of string got caught in the wheels, and down it went. There were nearly 200 white mice running around the floor. Even though the five mice in each cage were numbered from one to five, there was no way of knowing which mouse came from which cage. As a result of this incident, we developed a system to identify not only the animal but also the cage it came from.*

Although at that time we were not able to purchase wider racks, we were all alert to the possibility of the problem's recurrence. We were, of course, more careful, and we responded in the way we felt would best solve the problem. Putting the blame on the person who was pushing the rack, the person who bought the rack, or the company that designed the rack would have been without value. It is more important to prevent a problem from recurring than to try to find a person to blame.

Preventing a mistake from happening a second time is far more important than trying to find a person to blame for it.

Somewhere along the line, though, reality has to be faced. No matter how well you foster communications and trust, not everybody is going to want to tell you

what's really on their mind or what's really happening. Suppose the rack that fell over had not led to any mix-up in animals. If you were the one who tipped it over, would you have told your supervisor? The answer is not that important. What is important is why you would or would not have said something. If you knew that your supervisor would raise all havoc, the chances are you would say nothing. Why risk that kind of wrath? If you believed that your supervisor would work with you to ensure that the problem did not recur, you would be more apt to speak up because you wanted to, not because you had to. There will be some people who will say nothing no matter how supportive you are, but, as managers, we try to build trust to limit the number of these people.

Supporting Your Staff

Assume that the rack you were pushing fell over. The animals were mixed up and the researcher was fuming. He went steaming down to Dr. Peters, the animal facility director, and demanded you be fired for incompetence. You have been a fine employee and this was your first accident. What should Dr. Peters do? Among a multitude of possible responses, the bottom line is that he must support you. He has to gain your trust and, through you, he has to gain the trust of all his other employees. Even if you were clearly at fault, in general, he has to stand by you. Not lie for you, but support your past work, note that it was an accident, and try to calm the waters. You should never be hung out as shark bait. Trust has to be built up over time, and every step helps.

Should Dr. Peters continue to support you if you have repeated problems and seem to fit in like a square peg in a round hole? No. There comes a time when enough is enough, but that is not the thrust of this discussion. As a manager, you must care about and support subordinates to the extent that you reasonably can.

Unfortunately, putting the blame on somebody seems to be a favorite pastime in some organizations. For some time now, I have facetiously told graduate students that the first rule of science is to "Blame somebody else." The second rule is, "Take the credit for yourself." I suppose the third rule should be to disregard the first and second ones.

There are times when you have to support your staff not because something went as obviously wrong as a cage rack falling over but rather because an employee tried her best to accomplish a goal yet it simply did not work out. That's something we have all experienced. In this context, and "assuming the failure is not attributable to something beyond her control," Marcus Buckingham suggests that you describe the failure as "a lack of effort, even if this is only partially accurate. This will put self-doubt in the background and give that person something to work on as she faces up to the next challenge" [14]. Although this may seem counterintuitive, Buckingham is simply suggesting that you *don't* say, "Look, Jean, I know you tried really hard and I'm sorry things didn't work out. I'm sure it will be better next

time." This may leave Jean with some doubts about her own ability, potentially demoralize her, and perhaps make her afraid of starting a new project with a new goal. Rather, it would help to say, "Look, Jean, I know you tried your best and I'm sorry things didn't work out. I really think that with a little more effort you'll make it work next time." By doing this, Jean's self-assurance is reinforced. And if Jean *does* reach her goal on the next project, the good manager praises her by telling her how well she used whatever special talents were needed on the project, not that she simply put in extra effort. We are focusing our praise on the specific areas of strength that Jean might have.

Just as a refresher about the use of resources by a manager, let's quickly review the actions of the manager in the fallen animal rack example. A problem was defined (poorly identified animals can get mixed up), a goal was set (creating a fail-safe animal identification system), and we worked hard to develop the system (a plan was made). In this case, we primarily used human resources to come up with a solution (a manager and his staff), although we did use information resources (reading the literature and asking others for their techniques) and we were somewhat limited by time to come up with an identification system in case the problem recurred. The system we devised was one of special ear notches to identify the cage an animal came from.

Motivation

As you know, part of your job as a manager is to do your best to ensure that your staff performs efficiently and effectively. Therefore, if an employee *wants* to perform efficiently and effectively, you can be somewhat assured that you and your company have taken some of the right steps toward successfully motivating that person. You have helped give that person the inner drive to reach a personal goal. You have provided him or her with a positive incentive to reach a goal. Let me put these thoughts together into a working definition of motivation in a business setting.

Motivation is any action taken by a manager (or an organization as a whole) that provides its employees with an incentive to accomplish a goal.

As you might guess, the incentives needed to accomplish a goal can be either tangible (e.g., money) or intangible (e.g., respect or trust). Hurley [12] reported that employees who worked in a low-trust environment described their work with words such as stressful, threatening, divisive, unproductive, and tense. In contrast, those

working in a high-trust environment used words such as fun, supportive, motivating, productive, and comfortable. From this we can draw an obvious conclusion: trust and motivation go hand-in-hand.

Your goal should be to keep motivation high. Since motivation is something the employee feels, not something that is forced upon him, the phrase "wants to perform" becomes that much more important.

Successful motivation of employees includes providing a work environment that engenders a desire to be efficient and effective.

Unlike people, money, or information, motivation is not a resource, nor is it something you do while using a resource. Motivation, like communication and trust, is a core management and leadership function and is something that should permeate the workplace. It is an integral part of everything you do, of every resource that you use. To be formal about it, you should establish employee motivation as a continuing goal of management. Constantly consider ways to improve it. Use whatever resources you must. Plan, organize, direct, and do whatever it takes to reach that goal.

Motivation is not something that you can easily measure. It may show up as improved productivity or fewer headaches at the end of the day. (Appendix 1 describes some ways of measuring productivity.) You will know motivation when you see it and what you may see are actions such as people giving more than their job description requires, delivering extra effort when it is needed, and becoming truly focused on priority items [15].

Basic Requirements for Keeping Your Staff Motivated

Some jobs, such as cleaning dog cages (especially with the dogs in them) are downright difficult, repetitious, and sometimes dangerous. Pep talks will not change that. To begin to motivate that technician (or any person, for that matter), you yourself have to be motivated. If you are not, I hope you can give some Academy Award performances, because it's going to be hard to motivate others.

If, in your opinion, your staff is completely unmotivated, you should be introspective and consider whether you are motivated. If you recognize that there may be factors that are limiting your own motivation, then you can develop personal goals and plans to possibly change those circumstances. You should not assume that you or your staff is incapable of change. That's simply not true.

You must be motivated in order to motivate others.

Laboratory animal facilities tend to be very hierarchal and do things in a set manner. Cages are changed the same way every day, we handle investigator complaints pretty much the same way every day, we prepare for inspections the same way, and so forth. These are the ways we accomplish our mission. In other words, even if we did not have written SOPs, we would function as if we did. Most of these procedures come from the top and filter down. "The top" can mean upper management or even middle management of the animal facility.

Think about where you work. How much input do people below you have in setting certain work guidelines? If you are a supervisor of animal care, do you ask employees who work for you how they think certain tasks should be done? Or are you a person who defines the performance standards and then, only then, asks for feedback? Yes, we do need standardization, but we also have to communicate honestly that we are enthusiastic about getting people's opinions and input *before* instituting a change. There's a good chance that animal technicians know more about how to do their job than the facility director does. Mundane work is mundane work, and whistles and bells will not change that too much. But when input has been seriously solicited from employees, discussed with them, and, when possible, incorporated into the daily work routine, motivation will follow. Your challenge is to minimize, not maximize, the mundane aspects of the job.

To keep our staffs motivated, we and our employers must be able to meet certain basic human needs.

Basic Needs for Motivating Employees

- **A reasonable salary and benefits.**
- **Reasonably good working conditions.**
- **Reasonably good supervision.**
- **Respect and trust.**

These are not interchangeable. A high salary cannot compensate for poor supervision and respect, and trust alone doesn't put bread on the table [1]. How come job security isn't up on the list of basic needs? Job security is important, as is the freedom to act independently and the opportunity for promotion. But those items are not absolutely basic needs. They are items that fuel job motivation. In particular, I would argue that even if a promotion is not a basic need, as manag-

ers we must make it very clear to everybody just what promotional opportunities are available and what the requirements are for promotions. I will talk about promotions as a reward in a little bit, but the *potential* for a promotion can be a significant motivator.

All employees should know about the opportunity for promotions and the requirements for promotions. The *potential* for a promotion can be a strong motivator.

Notice that I did not write that salaries must be very high for an employee to be motivated or that working conditions must be superior. It is implied, however, that underpaid, underbenefited, overworked, and unrespected employees will not be motivated. Some people might argue that what is reasonable to me may not be reasonable to you. That's probably correct in some cases, but the concept of what is "reasonable" rests with the perception of the employee, not with me, you, or our organizations.

If an employee feels exploited, then that person's basic needs are not being met at that point in time. If just one person feels exploited, perhaps that person can be helped on an individual basis, using some of the suggestions offered below. If all of your employees feel the same way, there is a real problem. As Michael O'Malley pointed out, people may say they leave a job because of money, but, in reality, they leave because of broken promises, abuses of power, and so on. People don't leave places where they love to work, not even for money [16]. Others have made the same point, noting that irrespective of what reasons people give for leaving a job, 88% actually leave because of workplace factors other than money, such as the job was not as expected, too few growth opportunities, stress from overwork, too little feedback, and so on [17]. It is not invariably true that a well-paid person in a good working environment who is given respect, trust, and good supervision will be a well-motivated employee. However, the odds favor that this is true.

Let me elaborate a little more about basic needs. A *reasonable salary* is self-explanatory. Without it, a person feels exploited, and an exploited person will not be motivated. In today's world, we might include reasonable fringe benefits as well, although that requirement is not always necessary.

By *reasonably good working conditions*, I am broadly referring to the physical environment provided to employees. Impossibly long hours, hard work without a letup, intolerable noise without ear protection, extreme heat or cold, and dangerous conditions without safety aids are all examples of a work environment that is not conducive to keeping employees motivated. Still, the employee's perception has the final say.

> *Some years ago, there was a fire in Thailand that killed a large number of employees of a doll factory. Many doors were locked and many people could not escape the fire. Yet the survivors wanted their jobs back, particularly if they could have safer working conditions. Their motivation came from economic necessity, not quality management, because there were very few other jobs available to them. By current American standards, we might argue that, although the situation before the fire was better than nothing at all, it was still wrong, and some governmental agency should have stepped in and closed the factory until changes were made. But by the standards of the people working in the factory, they had jobs, and that was good. In other words, "better than nothing" was important to them. There was no union or enforced laws. The workers had to live and the factory was their livelihood.*

Reasonably good supervision is a key item because it is so variable and open to interpretation. It is not only dependent upon the supervisor but also upon the expectations of the employee and the entire organizational culture. Some aspects of good supervision are clear-cut, and I have already discussed the most important ones (open communication and mutual trust). I have also discussed matching the person to the job and, in the pages that follow, I will review other aspects of good supervision, such as recognition of achievement through rewards and setting realistic goals.

It seems to me that no matter what topic is discussed, *communication*, *respect*, and *trust* are involved. They are things we can all relate to. Nobody wants to be treated poorly — nor should they be, and we all desire the secure feeling we have when we know people trust us.

I'm intrigued by an aspect of trust that is promoted by Libby Sartain and Mark Schumann [18]. They write that an excellent way of motivating our staff is to consider a business (such as operating an animal facility) as a consumer brand. The same way consumers identify with and trust a brand such as Kleenex®, employees can identify and trust their own employer. For example, if we internally promote our animal facility as truly caring about our employees and we deliver on that promise, we are establishing a culture of caring, which is one of those intangible rewards that keep motivation high. Sartain and Schumann point out that this can be a tremendous help in recruiting and retention. In practice, I have seen this work because some of our finest employees came to us through the recommendation of our other employees. Here are some thoughts on how a manager can demonstrate respect and trust.

How a Manager Can Demonstrate Respect and Trust

- **Keep people informed about matters that can affect their jobs.**
- **Delegate responsibility.**
- **Involve staff in decision making.**
- **Establish mutually agreeable goals.**
- **Recognize achievement.**
- **Be attentive to people's needs.**

You may have noticed that the above list does not include forming close personal friendships with employees. Sometimes, particularly in smaller animal facilities, it's hard for a manager *not* to form close friendships with the people she supervises. But friendships can lead to favoritism or, at least, give people that perception. And, of course, it can blind your judgment when difficult problems (such as layoffs) occur. That is why, for years, I have been advising colleagues to keep an arm's length relationship with people who report to them. There is a distinct difference between caring about your employees as compared to forming personal relationships with them. I fully believe that you should ask about an employee's children, how an elderly grandmother is feeling, and the like. I think it is important that you try to rearrange a person's work schedule if there is a pressing personal problem that he has to get resolved during the workday. That is not being a wimpy manager; it's being a caring manager. Nevertheless, I have yet to see an effective manager whose management style is, first and foremost, to be good friends with everybody. Similarly, don't get so involved with employees that you become the workplace psychologist. That's not what you are trained for [19].

Good managers care about people but focus on business.

Essentially, all employees must have their basic needs fulfilled, and that is the responsibility of management. If you and your organization cannot fulfill those needs, you are going to have an uphill battle trying to keep your staff motivated. Fortunately, most laboratory animal facilities are parts of organizations that adequately fulfill the basic needs of most of their employees.

Keeping Motivation High: Tangible and Intangible Rewards

Some years ago, I was talking to an employee about the marginal quality of his work. The conversation was not confrontational. After a while, the employee said that if he were paid more money, he would work harder. I countered that if he worked harder, I would pay him more money. This sort of a conversation is not an unusual occurrence between a supervisor and an employee, although using 20/20 hindsight, I should not have been so curt with that person. But was the employee's request and my counterrequest two sides of the same coin? Alfie Kohn has argued that there is no difference between punishing a person for doing the wrong thing or rewarding a person for doing the right thing [20]. Kohn believes that rewards, like punishment, lead to only temporary changes in behavior. Thus, not receiving an anticipated reward is like punishment. Kohn was focusing on incentive plans, and I personally experienced that feeling when a bonus I was promised did not materialize. I was depressed (as you might expect) and it actually had a negative effect on my performance. Kohn's viewpoint doesn't mean that people should never be rewarded. If that were the case, there would be no promotions and no salary increases. Kohn is simply saying that motivation comes from treating people well and meeting their basic needs — not from hanging carrots in front of them. Thus, *meeting the basic needs of people (reasonable salary, adequate supervision, adequate working conditions, respect, and trust) is the foundation of motivation*. If that foundation is not in place, all other means of motivating your staff probably will not have much impact. Once the basic needs of people are met, we can examine additional means of motivation.

Intangible Rewards

Earlier in this chapter it was stated that motivation is typically based on two types of incentives, tangible ones such as money and intangible ones such as respect and trust. You will quickly discover that most, if not all, people want some form of an intangible reward for performing their jobs. Three intangible rewards that are universal motivators are respect, trust, and feeling needed (recognition). They are far more important than any material reward and are just an extension of the basic needs previously discussed. These three rewards are items that every good manager wants to give to a coworker whenever possible. When you think of your employees and superiors as coworkers or colleagues, rather than people who work "for" you, you will begin to appreciate this concept.

Intangible rewards that are universal motivators are respect, trust, and making a person feel needed.

Positive reinforcement is another type of intangible reward. In his book *Other People's Habits* [21], Aubrey Daniels maintains that a key to keeping motivation high is to provide continual and strong positive reinforcement of desirable behaviors. He defines positive reinforcement as an action that follows a behavior and results in an increase of that behavior. (In fairness, there are those who believe intangible rewards are best given on an occasional basis [22], and even Daniels acknowledges that once a behavior begins to change for the better, it is appropriate to provide rewards less frequently [15]. Of course, you can reinforce undesired behaviors just as easily as wanted ones. If every time your child throws a tantrum, you jump up and do whatever it takes (short of mayhem on your part) to stop him from yelling and stomping, you can be quite sure that you have just positively reinforced an unwanted behavior. That kind of attention, which is what tantrums seek to attract, just leads to more tantrums. On the other hand, if, as soon as the tantrum stops, you caress him, speak tenderly, and sit him on your lap (assuming that sitting on your lap is a desirable reward for him), you have positively reinforced a desired behavior. We have to ask why reinforcing positive behavior is a reward. The answer is that it is just another form of recognition, and perhaps we should not even categorize it as a separate type of intangible reward. It gives people something they want for doing something right. When that happens, it is a reward. The keys to using positive behavior reinforcement is to know what type of a reward is important to the person and to implement that reward as soon as possible, preferably as soon as the positive behavior occurs. Most of us who work with animals know this, as it is a basic tenet in dog training. As soon as the dog properly responds to a command, we give her a biscuit, kiss, pat on the head, or do whatever it is she likes. If we give her the biscuit ten minutes later, she doesn't know why she got it, and it may even reinforce a bad behavior that she was doing at that moment.

Reinforcing a desired behavior is a form of motivation.

It's interesting, but not everyone wants money as a reward, including those who don't earn too much. To some people, having a champion to watch out for them is a reward, and they may adapt their behavior to be able to work with such a person. To another person, getting an office with a window is a desired reward, and one that person wants to maintain. You yourself can be a reward by managing in a manner that suits a person. Early on, when I discussed communication, I said that you have to adapt your communication style to the person you are talking to. That's an obvious part of management, and it helps allow people to feel comfortable with you as a manager. If being a little "chatty" with a person is a desired reward, you should do that, and do it reasonably often if it doesn't interfere with performance.

Whatever it is, you have to find out what is important to the individual. A simple but often overlooked way to do this is to ask the person directly or, if necessary, ask a friend of that person.

Now let me return to Alfie Kohn for a moment. Kohn observed that rewards, like punishment, lead to only temporary changes in behaviors. Aubrey Daniels agrees, and goes on to make a strong case that you have to reinforce a positive behavior constantly to have it remain. Both Kohn and Daniels are talking about behaviors, not job effectiveness. Somewhere along the line we all would like something a little more tangible, like a salary raise. I'll discuss tangible rewards next.

Tangible Rewards

Hooray for tangible rewards! We all like a little something extra, whether it is money, a gift, or almost anything else. We still have to pay attention to the basics — respect, trust, feeling needed, and being positively rewarded for desirable behavior — but there are times when material rewards can help motivate people. Nevertheless, from my personal experience and that of others, I can tell you that giving more money to a basically dissatisfied person does no good at all. Therefore, I want to be very clear that the tangible rewards I'll discuss have almost nothing to do with attempting to change a person's behavior. Rather, the rewards I'm referring to are for superior performances that add to the value of the service your animal facility is providing. Still, there are times when there is a fine line between tangible and intangible rewards. I think we can all agree that reinforcing a positive behavior is an intangible reward, but what about praise? If we publicly praise a person's contribution, is that a tangible or intangible reward? To me it would be intangible, to you it might be tangible. It really doesn't matter that much. What does matter is the effect on the person.

First, let me interject a word of caution. If you hand out tangible rewards too freely, they will soon lose their appeal. People begin to expect the reward, and soon more and larger rewards are desired. If every year, irrespective of productivity, punctuality, or other parameters, your employees get a 4% raise in salary, the raise is no longer a reward. Rather, it is an expected part of the job. As a slightly off-base second example, think of a supervisor who always yells at her staff. Pretty soon, the employees get used to the yelling and pay no attention to it, so she has to yell even louder. Then they get used to that. After a while, the yelling means nothing to the employees because it has lost its meaning. The moral of the story is that, rather than having rewards continually handed out for almost anything done, tangible rewards should become obtainable only through a special effort on the part of an employee. We see this in the business world in the form of commissions. The salesperson is rewarded for what he contributes to the company, not for coming to work on time. In the laboratory animal facility, rewards can be given for reaching certain agreed-upon goals that add value to the facility's mission. An example of

such a reward might be a trip to a meeting for an employee who initiated a program that cut costs and increased productivity.

Rewards that are given out too often lose effectiveness and are no longer special.

Although tangible rewards are important for motivation, we have to make the reward fit the action. That's because it can be demotivating to give someone a minor reward for a major accomplishment [23]. How do you think you would react if you just saved your animal facility $500,000 by negotiating a very favorable food and bedding contract, and in return you were given a $10 gift certificate as a thank you? Obviously, you would walk away scratching your head, trying to figure out the meaning of what just transpired. Maybe public praise and a personal thank-you note from the company's president would be more appropriate. The reverse is also true; we should not be giving a major reward for a minor accomplishment; that might even raise more questions than a minor reward for a major accomplishment.

But are there any practical limits to what can be expected of a person in order for that person to secure recognition or a tangible reward? If a person's extra effort is to lead to recognition, then the goal that spurs on that effort cannot be made too difficult. If it is, that person will probably not try to reach for an impossible goal. If we occasionally use a carrot for motivation toward a special reward, then the carrot must be obtainable. How obtainable? I don't know if anybody knows for sure, but the experience of many people suggests that there must be at least a 50–50 chance of success for a goal to act as a motivator.

Sometimes, an incentive system may work to everybody's benefit, as when bonuses are provided based on business income, cost savings, or meeting or exceeding other goals. At a practical level, this translates into giving people rewards, such as a salary bonus, for reaching a stated goal. But that goal has to change over time. For instance, you normally would not want to give a person with 10 years' experience a bonus for accomplishing the same goal as a person with one year's experience. As people progress in their careers, the bar has to be raised to obtain a bonus. You can think along the same lines for salary increases rather than bonuses.

Pete Smith received a 5% salary increase because his work was well above average, while an "average" employee in the animal facility received a 3% increase. Larry Lucas, his supervisor, thought, "Good for Pete; he deserved it." But Larry knew that he had to work with Pete to set new and more challenging goals for the following year. If the goals

> *were pretty much the same, and Pete was to meet those goals, then Larry knew Pete should get a 3% increase next year, not 5%. Larry kept raising the goal post as Pete built up more experience and skill, but he kept the goals at a level where Pete had a reasonable chance of reaching them.*

A similar kind of goal setting is giving a salary increase for passing an American Association for Laboratory Animal Science (AALAS) examination. This type of incentive pay has been successfully used in many laboratory animal facilities. Of course, if a person doesn't pass the AALAS examination, the loss of the financial reward can be construed as a *de facto* penalty. Clearly, we are walking a fine line. On the one hand, we want to reward outstanding people by promotions, salary increases, recognition, and the like. On the other hand, we cannot continually hang out a carrot for everything, lest the carrots become meaningless and detrimental to motivation. The balance between the two comes with experience. I do believe that managers have a right to demand hard work. At the same time, I also believe the people who work for you have a right to understand, without any ambiguity, what is expected of them (i.e., what defines satisfactory performance) and whether their goals can be reached with reasonable effort. The opposite is also true. People should understand what type of behavior and what type of output is considered to be unsatisfactory. A little later in this book I present some thoughts on the interplay between you and your employees in relation to goal setting.

All employees should understand, without ambiguity, what constitutes satisfactory performance for their job.

There is a related issue that managers must consider when using rewards as motivators. To begin with, we understand that the potential for getting a reward helps define to an employee what constitutes good performance. There is nothing wrong with that part of the story because we all want to know what is expected of us. But what might happen if the reward, not the job, becomes the goal of a person's behavior? I have seen this happen at the service end of an automobile dealership. I was unashamedly asked to give the dealership the highest possible rating on the quality of their service because it meant a bonus for their employees and probably some kudos from the car manufacturer. That is, since the customer wielded the financial power, the dealership's service manager decided to tell the customer what to say, irrespective of the quality of the service. Obviously, the reward was too much of a motivator. Now let's move away from service and instead assume you are selling cars. If your reward (maybe a bonus in addition to a commission) is based on the

number of high-priced automobiles that you sell, will you pay much attention to the customer who wants a basic model? If you get a financial bonus for making a presentation at an AALAS meeting, will you spend an inordinate amount of work time — perhaps too much time — planning your next AALAS project? We all like rewards, but like all managers we have to be on the alert to make sure that a person's value to our animal facility is not negatively influenced by the reward itself.

With the above caveat in mind, and assuming that an employee's basic needs are being met, what else can you do to reward especially efficient and effective performance? As I noted, you should be rewarding good performance that adds value to the animal facility's mission. You don't want to give a tangible reward, such as incentive pay, to a person who accomplishes the basic work that he or she is being paid to do. That's a bribe, and, in the long run, it will backfire.

> *I am reminded of a story I heard about Henry Kissinger, the former secretary of state. It emphasizes that employees are routinely expected to do the best that they can do. Dr. Kissinger had asked a young staff member to prepare a detailed report about a developing nation. After working hard for some time, the staffer placed the report in Kissinger's mailbox. An hour later it was returned, with a note from Kissinger asking for more detail. Again, the staffer worked on the report, adding more detail, and again Kissinger quickly returned it, asking for still more information. Finally, after exhausting all resources, the staff member personally delivered the report to Kissinger. "Dr. Kissinger," he said, "this is the best I can do. There is no more information on the subject." "Are you sure?" asked Kissinger. "Yes," he responded. "Good," said Kissinger, "now I'll look at it."*

We don't know if Kissinger had some past history with his aide and he was trying to make a point, whether this was his usual way of doing things, or if the story was embellished before it reached me. In a situation that is similar to the Kissinger story, we had a conversation in my department about what was meant on a performance review form by the phrase "meets performance expectations." The discussion arose in the context of merit-based salary increases. We did not want to give a higher salary increase for an employee's performance than the person deserved. On the surface, it would seem that no manager would want to give a higher salary increase than a person deserves, but we know it happens. Why? Because just as some teachers inflate grades to avoid arguments, be a nice guy, or make the school look better, some supervisors do the same (I discuss this a little more in the next section). They inflate performance ratings (which are often linked to salary increases) because it is easier for them to do that than to try to explain to a person why his work is good (i.e., meets performance expectations) but not

exceptionally good. On the other side of the coin, there are some employees who do good basic work, but believe that their work ethic is better than one or more of their coworkers. They figure that if they're better than somebody else, they're doing more than meeting their performance expectations. Therefore, they want a larger salary increase than would be expected for "meets performance expectations." In other words, they don't compare themselves to the expectations of the position; they compare themselves to other people. This can be a real problem because a salary increase is usually seen as a tangible reward, but an insufficient increase can be viewed as a punishment.

The astute manager doesn't fall into this trap. First, he will not use an annual or semiannual performance review as being the same as a salary review. Most people are waiting to hear about their salary and they are not paying any attention to anything else you're saying. Therefore, at the most, you should only have to summarize for a person what you have previously told them during the past year about their performance. Second, as I highlighted above, everybody must know what constitutes *satisfactory* performance because this provides a standard against which *superior* performance can be judged. In the example I used with Kissinger, he finally got the high level of performance he expected, not the superficial performance that the staff member thought was good enough. The last thing you want to do is to assume an average performer is superior, only because all of your other employees are not even up to satisfactory performance. If this scenario seems familiar to you, there are significant leadership and management problems in your organization that have to be corrected. Now let's look at some related issues.

Promotion as a Reward and Motivator

Promotions, another important form of a tangible reward and motivator, should be based upon past performance and your assessment of the person's future potential, not solely upon length of employment. What would you do if you had two employees, both equally skilled, applying for the same position, but one had been with the organization for 3 years and the other for 17 years? Wouldn't it be fair to give the job to the senior person who had worked so much longer for the company?

An animal facility supervisor asked me the above question. Her opinion was that the job should be given to the senior person if all other things (e.g., personality, job knowledge, leadership potential, punctuality) were essentially equal. Not knowing anything more about either person or the job details, I asked her how it was possible that it took one person 17 years to get to the same level of skill that the other person had reached in 3 years. I was essentially asking, who really is the better person for the job? Who has the greater potential for adding value to your service mission? Seniority is important, but it isn't everything.

Sometimes, particularly in unionized organizations, promotions based on performance and potential are not possible due to contractual obligations. Nevertheless,

and no matter what the criteria for promotion, there are still some managers who would rather give a promotion or a salary increase (or both) to an employee who really does not deserve it rather than face a potentially disgruntled person. This practice is, essentially, giving a reward for poor performance and it was discussed in some detail in the previous section. The rationale sounds something like this: "Why not? The money isn't coming out of my pocket" or "The promotion means nothing in terms of job responsibility." They argue that the change is just on paper. More often than not, this action creates rather than solves a problem.

To illustrate what problems can be created by giving an undeserved promotion, consider the following possibilities: Employees become agitated because they see an undeserving person being advanced, and now they want justice for themselves. Or, employees doing a job in one department of your university find out that they are at level A, but they do the same work as someone at level C in another department. The level C employee is paid more. Needless to say, the level A employees have a reasonable grievance. I hope that you will not be one of these managers, because when you are called on the line to justify your actions, all I can do is to wish you the best of luck.

In a worse situation, employees X and Y work side by side. Employee X is given a promotion but continues to perform the same work as employee Y. To justify the promotion, you give employee X the title of "supervisor" of employee Y. Employee Y isn't impressed. Why, he argues, should somebody who does the exact same work as I do be my supervisor? Employee Y is right, especially if employee X does not act as a supervisor. Never give one person authority over another unless there are legitimate differences in responsibility.

Never give one person authority over another unless there are legitimate differences in responsibility.

In my opinion, you give promotions and salary increases when they are deserved and they meet the needs of your organization, not as a convenience. If you are a poor manager, incentive pay and promotions will simply act as bandages on a cancer. You cannot substitute rewards for poor management.

After you gain some managerial experience you will find that some promotions have led to poor outcomes even though you thought the person had all the right qualifications. This may to due to emotional, not technical, incompetence [24]. Some newly promoted managers are so overeager to demonstrate their managerial talents that they become overbearing to the people with whom they work. We want to give people the opportunity to make mistakes and learn from those mistakes, but when it comes to interpersonal relationships with coworkers, we have to be careful

since good management is one of the key reasons that good people stay with good companies. With poor management, as you know, good people tend to leave. If you are a seasoned manager, you have to provide strong and rapid feedback to the new manager before the damage is out of control. If you have a new manager who pays little attention to his comanagers but tries to curry favor with you, you have to sit this person down and discuss the need to build relationships if he wants to be able to become a strong functioning manager in the future. Perhaps you can place him on a committee with managers from other departments so he can learn the importance of building relationships and compromising in order to accomplish a goal. As you advance in your career, you will become more adept at detecting people who are nearly ripe to be promoted but need a little more emotional seasoning before the promotion becomes a reality. We can help these people by giving them the feedback and the "clinical experience" they need before being rewarded with a promotion.

As I previously indicated, when it comes to rewards, not everybody is going to have the same priorities. One employee may want time-and-a-half pay for doing overtime work, another may want compensatory time off, while a third may not want either, but you are aware that that person is looking for a promotion. You should consider using the desires and ambitions of your employees to tailor their particular rewards for a job that was especially well done or when certain special goals are reached. Money is a very powerful motivator, especially when you are not making much to begin with. Nevertheless, for many people, it is not the only motivator. You must know your employee well enough to determine what reward or combination of rewards will be appropriate.

Promotions can certainly be useful to an individual and a company, but we must be careful about who is promoted, even if a person is deserving of the promotion. Similar to the problem of using money as a reward, you also should not assume that everybody wants to be promoted. I know of more than one instance where a promotion was refused because the individual did not want the responsibilities that went with it. They were happy with their position and lifestyle and did not want the change. People must understand the requirements of the position into which they will be promoted. It serves no useful purpose for them to be promoted into positions where they will be unhappy and possibly fail. This doesn't mean that these employees have no desire to succeed or no desire for recognition or tangible rewards. They may be very good in what they do, and "like any employees, no matter how secure and grounded, [they] need nurturing and recognition" [25].

Let's assume, however, that a supervisory position is open and you have one or more current employees who have applied for it. Superficially, all have the basic merit requirements for the position, but you still have to separate the wheat from the chaff. Whom do you choose? This is analogous to the situation I described earlier where a supervisor wanted to promote the more senior of two employees. Rather than providing detailed criteria, which is all but impossible to do, I would prefer to provide you with some general managerial considerations to help guide you through the process.

To begin, you should define the qualities needed for the position. If it's a managerial position, it may require a good personality, job knowledge, resourcefulness, tact, and so on. For a nonmanagerial position, there may be a greater emphasis on punctuality, manual dexterity, ability to make rapid decisions, or other criteria. *Just because a person is an excellent technician, there is no guarantee that he or she will be a good manager.* Therefore, defining the necessary traits for the job is imperative. I hasten to add that you should be looking for a person's potential to succeed in the new position over the long run, not a guarantee that a person will be an overnight superstar. That rarely happens.

Once you have identified the important traits for the position, fill it with the person who most closely matches those criteria. There is always some political pressure to do this or that, but use your best managerial judgment, be ready to defend your choice, and do what has to be done. Promoting a person has many similarities to hiring a new person, so you may want to skim through Appendix 3 (Hiring the Right Person) at this time.

If you are promoting from within your own organization (and, in particular, from within your own laboratory animal facility), I suggest that you don't simply say "I'm sorry" to those candidates who were not selected. That's a sure way to break their morale and motivation. It's far better to talk with them, let them know the positive aspects of their applications, and that they are still highly valued members of the team. And although it may be somewhat controversial, I have had no problems telling an unsuccessful candidate who was chosen and why the chosen person had stronger qualifications. If you can't defend your choice, how *did* you make the decision?

Promoting Employees When Promotion Opportunities Are Limited

One problem many managers face relative to supervisory-level promotions is that there may be no more room at the top. This can be a problem because some people, usually fine employees, may leave you if they have no room to grow. Their motivation declines, then they leave. Unfortunately, we can only have so many supervisors before everybody becomes a captain and nobody is a sailor. You could, of course, create a completely new position, but this is not always easy, particularly in laboratory animal facilities where there frequently are rigid job categories. There is no easy answer to this problem, but here are some suggestions.

- Make sure that new employees understand what opportunities for promotion are available before they are hired. Don't tell a new technician that if she works out well she can become a research supervisor, when you know that the current supervisor has held the position for the past 10 years and is still going strong.

- Consider using a "level" system for similar jobs. For example, there can be an animal technician level 1, level 2, and level 3, based upon quality of service, education, experience, examinations passed, or any other criterion you feel is appropriate. Both authority and responsibility should be added to a new grade level. If a level 1 animal technician is responsible for changing cages, feeding, and observing animals, perhaps level 2 may do the same and also be responsible for monitoring and ordering certain supplies. A level 3 animal technician may also be responsible for overseeing the work of level 1 and 2 technicians.

The significant concept is that you don't want the promoted employee to be responsible for doing the same things he or she did before, just more of them. Thus, if a level 1 technician changed cages most of the day, it is not much of a promotion if, as a level 2 technician, he or she is just expected to change more cages. If you add monitoring and ordering as responsibilities, the monitoring and the ordering should be significant responsibilities, not just counting bags of food and calling in the next order. Consider giving the person the authority to evaluate the current supply ordering procedures and suggesting means for improvement. By doing this, you are giving people the freedom to do something on their own without your dictating the way it is to be done. You have everything to gain and nothing to lose.

- Similar to the above, ask yourself, "Do we have a career path?" If a person wants to progress into a supervisory position, is there a way to do this or does the pathway end at a high-level technical position? Not everybody wants to progress into management, but for those who do, there should be a clearly defined way to obtain a managerial position. If you currently require new supervisors or other managers to have supervisory experience, is there any reasonable way that current nonsupervisory employees can get that experience? Perhaps you can require a certain number of hours of formal managerial training, but if you do so, have you developed any in-house opportunities to obtain that training (e.g., lectures, hands-on training, working alongside a manager)? If not, maybe you should rethink the entire way people can get promoted in your animal facility.
- On occasion, promotions can be made "honorary," as long as it is a recognized procedure in your organization. A senior research biologist may not be paid more or have greater responsibilities than a research biologist. Nevertheless, the title "senior" is given to recognize superior performance in lieu of other possible rewards. If you consider using this approach, also consider your organization's culture and how such a reward is commonly viewed. Some people appreciate honorary titles, as they can be used on résumés when they are seeking another position. I'll tell you something else about honorary titles that may not be obvious at first. That is, we live in a relatively classless society in America, and those little honorary titles mean a lot to some people because to them they actually symbolize a higher status level. I know of one Ph.D.

who received an honorary M.D. degree and now he won't even sign a birthday card without writing M.D.(h.c.) after his name.

- Finally, recognize that people rarely stay in the same position for their entire working lives. If positions are available in other divisions of your organization, help your employees to make the change if they want to move. If need be, help your employees find work outside of your organization. Use one of the best information resources you have: your friends. An unhappy employee is an unmotivated employee and is a reflection on you, the manager. Some turnover in employees can breathe new life into stagnant organizations. You should try to keep a core of valued employees. Hire the best you can, with the understanding that some will leave. Even if you have a 20% or 25% turnover of noncore employees each year, you will probably not significantly impair your operations.

Keeping Motivation High: Setting Goals with Individuals

Let's return to the basics for a minute. You may recall that managers follow the mission of their organization, and if the organization has a specific vision, managers are expected to partake in fulfilling that vision. Even if the vision does not require elaborate long-range goals and strategies, there are always short-range (operational) goals for managers. The latter goals are needed to accomplish the operational issues that arise every day. Likewise, all nonmanagerial employees also have to have goals to help them advance the needs of the animal facility and to help propel their own careers. Part of the skill of keeping employees motivated is to work with them to set realistic goals. Don't simply give a person a goal. You have to work with your employees to make sure their goals are mutually agreeable and clearly understood. Afterwards, periodically review with them their progress toward the goal. Those of you who have a formal background in management theory will recognize that these suggestions are akin to the central theme of "Management by Objectives" or MBO. For the most part, I have only substituted the word "goal" for "objective."

MBO sounds easier than it really is, and perhaps that is why you don't hear about it as much as you did years ago. You have to find the time to speak with the employee, you have to have some method of evaluating whether progress is being made toward reaching the goal, and, most important, you have to make a commitment to be a good manager.

There are potential problems with this method, particularly for first- and middle-level managers. The one that is probably the most important, and occurs most often, is the question of who is actually setting the goals. Are you really communicating with the person or are you dictating what *you* think the goal should be? If you think the employee should be changing at least 125 mouse cages per hour, and you tell that to the employee, whose goal is it? Is the employee afraid to speak up?

Does he or she say "okay," but you know that it is a meaningless statement? Sometimes there is a real communications problem when goals are being set.

In general, you should meet annually with each employee who reports directly to you to set goals for the coming year. Then, during that year, you should consider meeting periodically with each person (perhaps twice during the year) to assess the progress toward the goals and make any needed fine tuning. Needless to say, it also presents an opportunity for one-on-one communication that often cannot be fostered in hallways or lunch rooms.

Whatever the goal or goals, make sure they are clearly understood by both parties. I say this not to discourage you, rather, to encourage you to work even harder to cultivate open communication and mutual trust. I suggest that you put the agreed-upon goals in writing to eliminate any misunderstanding about what has been discussed.

Goals don't always have to be physical in nature, such as an increase in productivity. They can be behavioral as well, such as coming in on time or talking less to other employees. (I have been amazed how many employees have complained that other employees talk too much.) As a manager, your own goal might be to make sure that the talkative employee understands that constant talking is causing a problem, and why. That's common sense, but many employees who are creating a problem don't realize that one exists. You also have to make sure that this goal (less talking) does not have any obvious impediments that can inhibit the employee from reaching it. For instance, if it is mutually agreed to move the employee to a new area, it certainly would be counterproductive to place that person in an open office with a large number of other people.

It may be difficult to determine whether a behavioral goal has been achieved. Quantitative goals (such as an increase in production) are easier for you and an employee to judge. Quantifying goals at lower levels of management is often easier to do than at upper levels. In quantifying a behavioral goal, such as talking less to other employees, you might be able to set up some way of measuring if it is being reached, such as fewer complaints by employees that they are being distracted by the talker.

You really have to think about what you are attempting to do when you try to quantify a goal. Let's say that you and an employee agree there should be an increase in efficiency and effectiveness. Increased efficiency is relatively easy to quantify. You can count the number of cages cleaned in a unit of time, for instance. But what did you mean when the goal you set with a person was to increase effectiveness? For you to have even asked for an increase in effectiveness, there must have been something that concerned you. What was it? Did you look at the cages and see they were dirty? That's asking for a debate. So how do you measure effectiveness? Perhaps you will need a pH measurement of water left in the cage or bacterial cultures. As a manager of a laboratory animal facility, you should think about means of quantifying goals before you commit them to paper. In Chapter 1 there was a brief discussion about productivity (the ratio of efficiency to effectiveness)

and in Appendix 1 there is an expanded discussion about productivity and setting and measuring productivity goals.

Consider how you will measure the progress an employee has made toward fulfilling a goal.

You might also consider setting a time limit for reaching the goal. If you do, try to be sure that it is reasonable. You are asking for failure if you agree upon unreasonably short times to accomplish a difficult goal.

You should not feel inhibited about praising a person for making steps toward the goal, even if the goal is not yet fully accomplished. Praise, and in particular, praise that is personalized to the person's achievement, is a very real reward and a recognition that most of us seek. You may praise an employee publicly or privately, but you should always use praise to reinforce something positive. You will get much further by using praise as a reward than by using criticism as a deterrent. Although people remember criticism, they respond to praise [26].

People remember criticism but respond to praise.

Frequently, a sense of accomplishment and its recognition motivate people to reach a goal. Here's an example.

> *A laboratory animal facility had a policy, developed with the animal care staff, that stated that to be eligible for promotion, an employee, after a certain length of time, had to pass the appropriate examination given by the American Association for Laboratory Animal Science. Even if no higher position was open, the employee would receive a $500 bonus for passing the test. The supervisor placed an attractive awards cabinet in the main hallway of the facility, and everybody who passed the examination had his or her certificate displayed in that cabinet. It became a matter of pride for the staff to have their certificate displayed with the others. There was peer pressure to pass the exam and help was always offered in preparation for it.*

In this example, there were four motivating factors to reach the goal: a requirement for being promoted (which employees knew of before being hired), peer pressure, recognition of achievement, and a financial reward for an accomplishment that was beyond the basic responsibilities of their jobs. In addition, the organization itself demonstrated its desire to have its employees take and pass the examination by providing the display area and financial incentive. Most important, the employees themselves participated in establishing this policy.

Here is a summary of some key ideas that were discussed in this and earlier chapters that have an impact on setting goals with employees.

Summary of Goal-Setting Concepts

- **Set goals that are compatible with the mission and vision of your organization.**
- **Work with an employee to set a goal. Do not set your own goal and then force it upon another person.**
- **A goal should neither be too easy nor too hard to accomplish.**
- **A person must know what constitutes an acceptable completion of a goal.**
- **Try to set goals that can be measured and quantified.**
- **When possible, set a reasonable time limit for the completion of a goal.**
- **Put goals in writing.**

Influencing People to Accomplish Goals

Influence is a tactic that does have to be used on occasion because sometimes that is what it takes to get people motivated. About the only time it should be used is when you are up against some resistance (or potential resistance) from a person or a group. But why not just use your authority? Influence and authority are similar, but not the same. There is a short discussion on the types of authority that leaders have in Chapter 7 (Leadership) and, of course, managers have a reasonable amount of authority vested in their position. But true influence depends more on motivation than it does on authority because it centers on having people *want* to do something for you rather than *have* to do something for you. You may not have any real authority over a person you want to influence (for example, your boss), but you can still exert some influence on that person. It is basic horse trading with your direct reports or other people: you do something for me and I will do something for you. We do this all the

time with our children when we tell them to finish their homework before they can watch television (that is a combination of authority and influence).

The key to influence peddling is to be absolutely clear about what you want and what the other person wants in return. For example, you want your child's homework to be done; your child wants to watch television. You need someone to work late one night; that person wants to come in late the next day. You want to build up some political capital with your boss, so you tell him about some potential problem you heard in the hallway and he thinks well of you. Even when building that political capital with your boss, its purpose should be to benefit the animal facility. Your focus always has to be on doing what is right for the animal facility, not what is right for you.

How do you know what the other person might want from you in return? One way, of course, is to ask or be told, but a more subtle and effective way is to have a positive rapport with the person well before any negotiations are needed. That way, you know the person and how she thinks. You can build this rapport by all the ways just discussed in this chapter. That includes being honest, having open communications, making sure that pay and working conditions are satisfactory, showing respect for a person's work, standing up for a person when it is appropriate to do so, and even little things like stopping a person in the hallway and asking about her kid who got hurt last week when he fell off his bike. Perhaps one of the best ways is to think and even act a little like the person you are trying to influence. A little earlier in this chapter I alluded to the fact that managers sometimes have to be chameleons and adapt to the person they are working with. This certainly rings true when you are trying to influence people.

It may seem a little strange to have only a brief discussion about using influence to motivate people to accomplish a goal, since we can make a good argument that managerial leadership is all about influencing people. However, a basic intent of this book is focus on the basics of management so that the need for tactics is reduced. If you would like an easy-to-understand and thoughtful discussion on influence, you should read *Influence without Authority* [27] by Allan Cohen and David Bradford.

Motivation and Entitlement

Let's examine entitlement and how it affects motivation. What can you do when your organization meets the basic needs of its employees, but people on your staff are beginning to take things for granted? This is the so-called entitlement paradigm. I was quite interested in Judith Bardwick's book *Danger in the Comfort Zone* [28], in which she discusses the entitlement attitude that many employees have. We have all seen people who believe you should be honored to have them show up for work and do little more than accept their paycheck. These are often the employees who are the least motivated and cause you the most headaches. Are you willing to

accept this attitude or do you do something to motivate these people? Rather than jump in with a magic bag of managerial tricks, Bardwick first challenges us to be introspective. She tells us to look at the culture of our organization and our laboratory animal facility and see if we can get some understanding of why these attitudes may exist. If entitlement is a problem with one employee, we might address the problem one way; but if everyone feels entitled to a job for life and there is no need to be motivated, then the organization's entitlement system has to change concurrently with changes employees will be expected to make. I'm willing to guess that in some laboratory animal facilities entitlement is more the norm than the exception.

Don't make the error of trying to overcome this problem by becoming a tyrannical manager who attempts to motivate people through fear of being fired, transferred, and so on. Both efficiency and effectiveness will suffer, because under tyranny few people want to move forward by taking risks. Everybody wants to protect his or her own little bit of turf. People become polite, follow the rules, and look to you to tell them what to do. You really cannot blame them if a mistake will cost them their jobs.

What can we do if we look around and find that our staff is not motivated because of a feeling of entitlement?

Help Employees Out of a Feeling of Entitlement By

- **Challenging people to take risks, learn, and fulfill their potential.**
- **Empowering people to be free to be creative and take actions.**
- **Giving people a feeling that their work is significant. [28]**

None of these ideas is new or revolutionary. I have talked about them as part of goal setting and the need for recognition. The purpose of repeating them at this juncture is to emphasize their importance in many different managerial situations. Most people want to be challenged to succeed, but there must be a reasonable chance of success. Likewise, most people want to be free to do things their own way without being castigated. And, as important as anything else, if employees don't think their work is significant, they will never reach their full potential. I always go back to the example of the technicians who work in the cage-cleaning area. They are a vital link, perhaps the most vital link in the day-to-day operations of many animal facilities. Within the usual constraints of maintaining research consistency,

how much leeway do they have in determining how the cage-wash area should be managed? How often have you told those people how really significant their work is, and why?

Morale

General Comments

I don't remember how or why, but one day while working in New York I decided that it would be excellent for both morale and job performance if we had our animal care and animal research technicians meet with investigators before a study started. I know many of you routinely do that, but I was still a neophyte in laboratory animal science at that time. In any case, it worked wonders. The investigators briefly described their research, the laboratory animal facility technicians asked questions that were important to them, and everybody was happy. We continued this program, and instituted a second one in which we invited all the research technicians in the building to regularly scheduled seminars that the investigators presented. They discussed their research at a level that was understandable by technicians from the laboratory animal facility, chemistry, pathology, and the other departments of the institute. Once again, it was a success.

In both instances, the success was not only a result of the quality of the meetings and seminars but also because we provided a continuing education opportunity for the staff and showed how much we really cared about them. Their importance in understanding and contributing to the goals of our organization was recognized. A little earlier in this chapter it was noted that recognition was one of those intangible rewards that everybody seeks.

One of our functions as managers is to try to ensure that our employees have a high level of job satisfaction, that is, that their morale is high. This tenet is another broad concept in the management of human resources.

Motivation versus Morale

Motivation is providing people with the *incentive* to accomplish a goal. Morale is a person or group's *willingness and desire* to accomplish that goal.

We know that to keep motivation and morale high we must ensure that basic needs are being met (money, respect, good working conditions, and good supervision) and that a reward is available for unusually good performance. The reward

should be important to the person who is receiving it. If there is no appropriate motivation to do a good job, you are probably safe in assuming that morale is not going to be high.

When a coworker does a job well, give recognition for that achievement. It's a severe blow to morale to know that you have done a job (reached a goal) but someone else has taken the credit or you have received no recognition. Publicly (and gracefully) acknowledge the work of others who contributed to the success of a project. Give full credit to those who made it work. You will never lose respect doing this because everybody still knows who the boss is, and, indirectly, you will get your share of the credit. The only way you can lose face and break morale in this type of a situation is to steal the spotlight from someone else.

Likewise, you have to support your staff by taking or sharing the blame when something goes wrong. I wrote earlier: Do what you can to ensure that a mistake will not recur. Do not waste your time looking for a scapegoat. Your coworkers' morale and your own image will both suffer.

There will be times when an employee has to be reprimanded. Every manager knows that and just about every manager wishes it would not happen. But it does. There was a whole discussion earlier in this chapter on how to approach a difficult conversation. When a reprimand is appropriate, you should criticize the person's action, not the person. For example, it's better to say "Putting male mice together can lead to their fighting" than "You should have known better than to put male mice together." The former comment criticizes the action while the latter criticizes the person.

Never publicly criticize an employee. That is a sure way of injuring that person's morale and pride, and it leads to an antagonistic situation. It also sends a dangerous message to everybody else: Do things the boss's way or you're going to be publicly embarrassed. No company should ever want to have that kind of a reputation. Therefore, if you must criticize, do it in private and do it quickly. Reprimands should be short, clear, and leave the door open for future improvement. To the extent possible, use praise as a reward rather than criticism as a means of control.

Praise a person's accomplishments in public. Criticize a person's actions (not the person) in private.

If criticizing people in public is one fine way of diminishing morale, another is having somebody who does not pull his or her own weight. (You may recall that this was used as an example earlier in this chapter.) This problem is compounded when a manger does not have the courage to do anything about it [29]. All of us have probably seen this happen and all of us probably have been upset. As Wagner

and Harter note, when managers do nothing about freeloaders, then other employees start to loaf as well, and there are even other employees who spend a good deal of their own work time trying to figure out ways to get even with the loafer [29]. All in all, it's bad for morale and bad for business. The answer for managers, as you might have guessed, is twofold. First, we have to generate an organizational culture that doesn't tolerate employees who specialize in doing nothing. Second, when the problem rears its head, we have to do something and do it quick. You can make sure the person has enough work to do, you can make sure that the person has the needed tools to get his work done, and you can talk to him using some of the techniques described in this chapter (Difficult Conversations). But you have to do something.

> *In one very poorly handled situation there was a veterinarian who simply wasn't competent. To compound the problem, he was handing off much of his work to the veterinary technicians who, in turn, were becoming frustrated. The other two veterinarians who worked with him were getting livid, complained frequently, but their department chairwoman did nothing because she was the ultimate nonconfrontational person. She hoped that by closing her eyes and waiting long enough, the problem would resolve itself. Well, in a way it did. Two very fine veterinarians quit and the department chair was left with one ineffective veterinarian and one practical option: finding two new veterinarians to work with the slacker. It was a lose–lose situation for everybody but the slacker.*

Fitting the Person to the Job

One aspect of motivation and morale is to make sure you give the right job to the right person. Your goal is to increase morale by using people's strengths, not their weaknesses. In an earlier example, I referred to letting a person work with primates if he or she likes to work with primates. This assumes, of course, that the person has the qualifications to do the job. Sometimes it is not possible to match the person with the job. Many laboratory animal facilities are small and the animal technicians have to do almost everything. Under those circumstances, it becomes difficult to pick and choose the tasks that are to be assigned. There are also those times when we all have to compromise and perform certain tasks that we would prefer not to do. Grading essay exams used to be one of my responsibilities that I would gladly have passed on to someone else.

In a small number of instances, a person's expression of dissatisfaction about taking on a new responsibility is really a fear of the unknown or a fear of failure. To help that person, you must be reasonably sure that he knows what is expected of

him. You also must be reasonably confident that he has the technical and emotional capabilities to perform the new task. For example, decapitation is used to euthanize certain laboratory rodents. We all can readily understand why some employees may not desire to perform this procedure. You can give that responsibility to another person, do it yourself, or explain to employees why decapitation is performed. For the last option, you should concurrently discuss the humane considerations and note that all staff members are expected to learn the technique. This discussion can be difficult because it involves altering people's perceptions. Nevertheless, I have often heard laboratory animal technicians say that although they don't like to perform certain procedures, they do them because they understand the importance of the study. That's realistic, and it is complimentary to the communication, motivation, and morale in that animal facility.

There is a dark side to this. Some managers have intentionally given undesirable tasks to certain employees to encourage them to resign. Although this is a well-known management tactic, it must be used with great care, as an unhappy, unmotivated employee can spread this feeling to many other employees. Our job is to keep morale up, not find ways to pull it down.

One last thought about morale. The beginning of this chapter stated the importance of trust and communication. These factors are critically important for keeping morale high. Ask for feedback, and do everything in your power to get it. Find out what people think. Remember that perceptions, whether right or wrong, are what people react to. Be honest with your staff, give them advance notice of proposed changes or other significant events, ask for their opinions, care about them, and you will have gone a long way toward keeping morale high.

Morale and Organizational Conflict

There will be times when conflict arises in any organization. Most managers do everything possible to avoid conflict, and as a general statement I can say that much of this chapter is focused on communicating with people and establishing a culture of trust in order to avoid conflict. But, just as there are good stressors and bad stressors that can affect laboratory animals, there are good and bad conflicts that can affect an animal facility. To put this into some perspective, think about some business executive or politician who was surrounded by "yes men," meaning that the executive did not want to hear any bad news and his or her cronies were perfectly content not to challenge the boss. Common sense tells us that this type of an action can create far more problems than it cures. If you're losing a war and all of your advisors tell you that you're winning just to save their jobs, you're not going to be much of a leader. This same problem can affect an entire animal facility. Sometimes a reality check is needed, and this is where some conflict can be good. It provides an opportunity to develop solutions to problems. But to do this, there have to be some rules, the first of which is to act civilly and have a formal means of handling conflict.

Let me give you an example. Let's assume that your animal facility has a chronic problem with dirt embedded into the floor and walls of the locker room's shower stalls. It's been going on long enough that the technicians are hounding their supervisors to do "something" and eventually the problem reaches you, the facility's director. By this time, tempers are starting to flare. What do we do to defuse the situation and maintain morale?

Let's not discuss the actual solution to the problem because that's not as important as the process I would like to describe. I suspect that you would get on the phone or send an e-mail to the director of building maintenance and ask for that person to find a solution or come down for a meeting. Eventually, the problem would be resolved. In the interim, employees have learned that if they make enough of an issue with their supervisors, the problem will go up the ladder and they will get a response. If it's not the response they want, they will make more noise. This indirect employee-supervisor conflict is hardly a way to build morale. It helps establish walls rather than bridges, so let's look at another way to resolve intradepartmental conflict, a way that has been reasonably successful at the University of Massachusetts Medical School (UMMS) Department of Animal Medicine.

The Department of Animal Medicine, building on the experience of another UMMS department, found that the establishment of a focus group helped to resolve many conflicts in a positive manner. The group is comprised of about eight people, representing animal care technicians, veterinary service technicians, office personnel, and managerial personnel. One senior person, not a member of the group itself, serves as a facilitator. The facilitator is a person who has the respect of the group and functions to keep the discussion focused on the root causes of the problem (to see if it can be prevented in the future) and, of course, on seeking a resolution for the immediate problem.

The problem is embedded dirt in shower stalls. The discussion might go something like this:

Dave (the facilitator): We all know what the issue is, but can somebody tell me what was already tried to resolve it?

Angela (a veterinary technician): Well, before this was a real problem, Stacy (a technician not in the focus group) saw Kim cleaning the shower stalls and asked her if she could try to get the dirt out. Kim said she tried but she couldn't. I'm not sure she tried hard enough.

Heather (an animal care technician): Then Kim brought some sort of a scrubbing machine and that didn't work either. She said it was a stain, not dirt. She tried bleach and it didn't work. I think she's right; it's just badly stained. But it's really gross!

Dave: Did anybody tell Andy (Kim's boss) about this?

Heather: I don't know.

Angela: I don't know either.

Mike (a veterinary technician): If bleach and a scrubbing machine can't get rid of the stain, then what can Andy do?

Karen (a purchasing specialist): If he doesn't have any cleaning tricks up his sleeve, he can tell us if the tiles can be replaced or if we can put a shower enclosure over the existing tiles. I did that with my bathtub at home and it looks fine.

Dave: Is that OK with everybody? We'll get Andy down here, but we'll ask him to talk first to Kim or even bring Kim with him. Then we'll sit down with them and hear what they have to say. OK? Heather, will you report back to the department what happened and what's going to happen at next week's staff meeting?

Heather: Sure, no problem.

Dave: Karen, are you comfortable with calling Andy, explaining the situation, and see if we can get him to the meeting?

Karen: No problem.

Let's end the scenario. The main things that were accomplished were that people talked to each other in a civil manner, there was no animosity, no labor versus management issues, and everybody learned that the problem was not just that Kim was not cleaning well enough, but that she had actually tried to solve the problem. Perhaps Kim should have told her supervisor, Andy, that she could not get the stains out, but she didn't. That's not the issue for right now. The issue is that the focus group learned the full extent of the problem and Heather was able to report to everybody in the department the steps that the focus group was taking on behalf of the entire department. This approach may not be applicable to every conflict that might arise, but it does work with many situations.

There are three additional points to be made. First, it's important that there be a formal structure for resolving the conflict. The focus group was that structure. It was similar to a self-managing team that is described in the next section. Second, Dave asked specific people to do specific things for the next meeting. He wanted to make sure there was going to be some accountability by a person, not a generic "somebody." I think most of us already know that if you don't ask a specific person to do a specific thing, there is more than a good chance that nothing will get done. Last, and most important, Dave approached the problem as an outsider looking in. He did not approach it as the boss who was going to resolve the problem immediately and then go on with his business (had he done that, it might have led to lasting resentment from the "losing" party). Rather, he talked with an unbiased point of view and helped the focus group resolve the problem. Earlier in this chapter, when discussing how to have a difficult conversation between individuals, one of the points made was that you should approach a difficult conversation from an unbiased point of view, gathering information and listening, rather than accusing. You try to determine if there is an underlying problem. In this case, the real problem was that the stain grossed people out, even if it wasn't dirt. The similarities

between resolving intrapersonal problems and group problems are noteworthy and you might want to revisit the earlier part of this chapter. When handled properly, the resolution of conflict can lead to enhanced morale.

Allowing Employees to Solve Problems — Thoughts for a New Way of Managing Laboratory Animal Facilities

I had hoped that by the time this second edition was published the concept of self-managing teams would have started to infiltrate into laboratory animal facility management. This does not seem to have happened; therefore, I once again want to focus on the idea of empowering employees to do things their way, since I have previously made the point that there is a need for people to have the freedom to act independently but within the needed consistency in biomedical research. Self-managing teams take employees' opinions to a higher level but they don't change the need for consistency. The concept is to broadly define the parameters of a goal, then let your employees decide how to accomplish it. If the goal is reached, there should be tangible rewards whenever possible (for example, a bonus) for *all* members of that work group or team. This doesn't mean that we throw consistency in animal care out the window and let people do as they choose; to suggest that is research suicide. Rather, the need for consistency is simply a "given" in establishing a new model of managing laboratory animal facilities. There are certain key benefits to empowering employees [30].

Benefits of Empowering Employees

- **Employees are less afraid to take risks and may produce better solutions to problems.**
- **Employees are encouraged to be innovative and creative.**
- **There is teamwork among managers and employees. They work together as adults, not in an adult-to-child relationship.**
- **Managers have more time available to handle other tasks.**

The example that follows uses a crisis as the impetus to initiate the process of empowering employees. That is not at all necessary. Look around you. Is entitlement a problem? Could you be more efficient and effective than you are? If the

answer to either of these admittedly related questions is yes, then this is a good time to start thinking about a radically different management paradigm.

> *McGee Pharmaceuticals has just been purchased by a larger pharmaceutical company. Both companies have laboratory animal facilities. Knowing that the new owners will keep only the most financially efficient animal facility open, you must figure out how to become the surviving facility. In other words, the problem is, how can we decrease costs, eliminate errors, and give the same or a higher level of service to our two customers — the animals and the investigators?*

This is not an easy problem. If it were, you would have solved it long ago. One way of approaching the problem is to let one or more teams of front-line employees have nearly full say over how this should be done. Sometimes there will be a simple working group (similar to what we all know as a "committee") and at times there will be true teams (shared leadership, shared and individual accountability, and a shared desire to have the team succeed). Either way, your job is to be a facilitator and only make decisions when it is absolutely necessary to do so. Your job is also to be a cheerleader, to continually encourage the team members, and to remind them about the importance of their work. Indeed, without your support and the support of the other leadership of your animal facility, there is a good chance that the team will not be successful. At all other times, the team should have the authority and responsibility for achieving its goals. You will:

- *Define the problem to all your employees* (e.g., we are in competition with another laboratory animal facility to see which one remains open). We all may lose our jobs if we can't substantially cut back on our expenses and keep up at least the same level of service. All people involved in the change must clearly understand the need for change and what it means to them personally. Don't be afraid to share this type of information; it establishes the urgency and importance of the project.
- *Define the goals.* Employees may know what the problem is and why it is important, but everybody must understand the goals to be reached. Very often the employees themselves will define the goals, but you should be ready to help. In the McGee example, one goal may be to decrease overtime by 50% within a four-week period. Goals must be reasonably objective so that they can be readily evaluated and quantified (i.e., you must be able to easily determine if you are reaching your goals).
- *Guide the team into establishing specific responsibilities for different people on the team.* "Collaboration improves when the roles of individual team members are clearly defined and well understood" [31].

- *Define the limiting parameters for the team* (e.g., the amount of money available, the available time, who can hire, who can fire, who can promote people, and any other authority and responsibility that the team will have).
- *Define how success will be evaluated.* For instance, both animal facilities will house primarily rodents and rabbits. At the end of each month, our total expenses will be measured against the total number of animals in our facility. This process will go on for six months, during which time, investigators will be asked by management about their level of satisfaction with our work. Then a final decision will be made by management. If it is not clear how success will be evaluated, let the team make this decision. The bottom line is that there have to be results.
- *Give people the opportunity to succeed.* This is critical. Run interference for them when necessary. Let them consult with specialists. Let them consult with investigators. In the example given, there is no need to assume that all the team members have to be efficiency experts. It may be sufficient that, if necessary, they have the competency and ability to hire or consult with such a person. Nevertheless, you don't want to be such a protective mother that people on the team aren't given the opportunity to make readily correctable (noncritical) errors that might provide them with a learning experience about what not to do if a similar situation arises. In other words, in addition to giving people the opportunity to succeed, there are times when you have to give them the opportunity to fail.
- *Show your own leadership as a facilitator* by gently guiding the team into developing a plan of action, even if it is not the one you would choose. Don't let the team waste 90% of its time on theoretical considerations. You want to see action and results.
- *Make sure that all the players, not just the team members, know what is happening and are willing to accept change.* This includes you and your own boss. All of your actions, and your boss's actions, are being closely followed by your employees, whether you realize it or not. If you say one thing but do another, you just undermined your credibility. Communication is more than words. Body language and other actions count heavily. As always, provide feedback.
- *Use small, functional teams.* You are better off with small, functional teams that concentrate on one issue, rather than one large team concentrating on all issues. The smaller teams can report to the entire group. Even in small laboratory animal facilities, groups of employees can focus on a limited number of issues because the same person can be on more than one team. How small should a team be? I would suggest five to ten people. Others have suggested as many as 20 people. It helps if some of the team members know each other, as the establishment of trusting relationships will occur in less time [31].
- *Put words into action.* All the plans in the world mean nothing if you don't act upon them.

- *Measure the working group's or team's productivity.* The success or failure of a team or working group should be monitored on an ongoing basis, even if there is a single goal. I suggest going back to Chapter 1 and rereading the discussion on productivity evaluation and then turn to Appendix 1 for a much more detailed discussion on the subject.
- *Reward success.* Whether it is a small party, a bonus for all members, or something else, a little tangible reward is always appreciated when a group succeeds.

What I just described is your job as a facilitator for either a true team or a working group. Whether a team or simple working group is better for self-empowered employees is likely to be a function of the organizational culture and available leadership. In either instance, the single most critical aspect of group dynamics in an empowered group is to have trust among the group's members. Without the feeling that the group members are there to support each other and do what is best for the group, self-empowerment will fail because the members will think that others are looking out only for their own interests. Additionally, the group must be willing to accept all opinions brought forth, accept disagreements, and look at the benefit to the group, not any one individual within the group. Lastly, for a group to be truly empowered, it has to look to the group itself for accountability, not to any one person within or outside the group [32].

To sum things up, your managerial function with self-directed groups is to help direct, organize, facilitate, give support, untangle problems, reinforce, and promote the team's achievements. If this sounds suspiciously like the basic roles of a manager, you are right, of course. The employees decide upon work schedules, needs, discipline, and so forth. This is a difficult pill to swallow for most managers because it goes against traditional managerial thinking. Not only do you have to give up power, you have to bite the bullet if the team decides to do something you don't entirely agree with. Still, it fits the definition of management, which is to use resources efficiently and effectively to reach a goal. It does not interfere with the need for consistency in animal care or research because you, the manager, have set the limits of the group's authority. Research integrity is not being compromised. At some future time, once the team concept sinks in and is working, you may be able to expand the responsibility of your teams, and thereby further empower the teams and their members.

"That won't work in my facility," says the cynic, "we're unionized." So what? Unionization should make no difference in motivation or team empowerment. Does joining a union make a person's brain deteriorate into putty? Does your union representative routinely tell your staff not to be motivated or empowered and to walk around like zombies? Unions have a stake in the success of their members and the success of the entire organization. Unions want fairness, not aggravation. I have worked with unions and without unions, and I have been in a union myself. The presence of a union should have little to do with your daily interactions with

people. In most organizations (unfortunately, not all), you can almost invariably implement everything we are discussing with or without a union.

Two problems occasionally arise. First, although you may have willingly given up some of your power and counseled and trained your supervisors to do the same, the real world may not be following the textbook. There may be a supervisor who doesn't want to give up any power. When your back is turned, the supervisor is conducting business as usual. Now what? It's outside the intent of this book to delve into specific tactics for handling the recalcitrant supervisor, other than the communication needs discussed earlier in this chapter. Certainly, this person is not a team player and may have to leave if she doesn't make some rapid attitudinal changes. But as a manager, you have the basic tools to help prevent this problem from happening. These include knowing the personality of that supervisor (and therefore how to communicate with her), clearly defining why something is being done, providing training as necessary, and remembering to listen and get feedback from the supervisor before moving ahead. The majority of people are willing to change, and, if empowered, they are usually willing to help be the cheerleaders for change. Yet, try as you may, some people are simply resistant to change. It's not going to do you much good to insist upon doing things your way or trying to compromise, because it's easy for a person to sabotage your efforts. If you can, find out from the person why that behavior is occurring and try to address the underlying problem. This is often easier said than done, but you have nothing to lose by trying. If nothing works, somebody may have to move on to a new job.

Although the majority of employees are willing to work in a team, not all are so helpful. That is the second problem. You may come across a person (as I did) whose primary concern was, "What do we get out of it?" I asked him if he was speaking for himself or the rest of the team, but he dodged the question. He was implying he wanted more money for being on the team since he would be doing "supervisor's work." I told him about the benefits of self-determination in terms of the team being able to put its own ideas into action, that it would mean less rather than more supervision, that there is a feeling of accomplishment, that it will give him status among his coworkers, and so on. I pointed out that, within the confines of research needs, there is more than one way of getting the job done and that employee empowerment is meant to give people both self-determination and better use of the skills they have developed over the years. Those arguments didn't hold any water. In retrospect, I should have asked the team what they would want to get out of an employee empowerment program and what it would take for them to buy into it. Unfortunately, I didn't do that.

I think there may be good reasons to provide rewards to people working on teams if the teams have successfully accomplished their goals. Parker et al. [33], based on their real-world experience, actually suggest six different reward structures, focusing primarily on group, rather than individual, rewards. Nevertheless, rewards have to be handled carefully, lest those teams that don't get a reward simply throw in the towel and stop trying.

As I note below, the concept of teams didn't work for me at first, largely because of my own inability to describe and implement the basics of an employee empowerment program. It seems to me that before anybody wades into the waters of management teams, they should first learn a lot more than I did.

Is this idea of team empowerment realistic or simplistic? I really don't know yet because, to the best of my knowledge, the use of self-managed teams has not been tried on a large scale in laboratory animal science. Some organizations, particularly in the pharmaceutical industry, have used quality circles, Total Quality Management, and similar management tools, but I know of none that has taken the leap into totally self-managed teams.

Self-managed teams are being tried in many industries, at different levels, including production line workers [34]. Their efforts and successes are bolstered by financial and other rewards, as well as true recognition from managers throughout the organization. The only caveat I would add is that rewards should be for all, or for none. For this teamwork approach to be successful, there must be group, not individual, accountability.

For the teamwork approach to be successful, there must be group, not individual, accountability.

Interacting with Highly Educated People: Managing the Unmanageable?

Having read an entire chapter on how to interact with and manage most people with whom we work, it seems appropriate to talk about managing a unique group of people. These are investigators and other highly educated people. Some people claim they are unmanageable, but that's not so. Everything written earlier in this chapter holds true, but because many highly educated people are very analytical and driven in their work, some additional understanding is needed.

As you know, laboratory animal facilities are somewhat unique because of the diversity of people who work in and around them. There are talented people with little formal education working side-by-side with veterinarians, Ph.D.s, physicians, and other highly educated people. Working with or managing highly educated people can be a challenge for the unwary manager. Some years ago, Peter Drucker said that the best way to manage knowledge workers was to leave them alone. I'm not sure if those were his actual words, but it does drive home the fact that highly educated people may require management techniques that differ a little from the traditional ways of management. What's the reason for this? It was nicely condensed into one sentence by Goffee and Jones [35], who wrote, "If clever people have one

defining characteristic, it is that they don't want to be led." I can only agree. My coworkers have heard me say for many years now that I don't like authority. I don't like being bossed and I get mad at myself when I remember that I'm someone else's boss. (I don't think of myself as being particularly clever, but I do have to admit to having a lot of education.) After all is said and done, there is a basic truth that managing and interacting with highly educated people can be a challenge. When I wrote my final report for my master's degree, the topic was managing scientists. One point from that paper that has remained with me over the years is that if anybody has to lead a scientist, it should preferably be another scientist in the same discipline. That's why the chairperson of a pathology department is likely to be a pathologist and the head of a veterinary group is likely to be a veterinarian. How, then, does one manage (or at least interact with) the scientists we often encounter in laboratory animal science? The first thing we have to understand is that they are as passionate about their work as we are about ours. Scientists don't like to be bogged down in what they consider to be administrative nonsense. Many who work with animals consider the IACUC to be a prime example of administrative nonsense. The scientist wakes up in the morning with a "Eureka! moment" and doesn't want excuses about why she has to get approval from the IACUC to do an experiment. She expects you to drop everything you're doing to expedite her research. It's not as simple as saying scientists are self-centered; rather, it's part of their passion for science. Second, like all of us, scientists want, and often demand, respect. The only difference is that the scientist is often not shy about her demand. You may hear her say, "I'm Dr. Smith, not Joan." Don't get upset; just accept this as a typical personality trait of some, but certainly not all, scientists. Finally, don't expect too many thank-you statements; such "frivolities" are not a high-priority item for many scientists.

Of course, not all highly educated people are scientists or veterinarians. There are many different highly educated people with whom we interact (such as physicians, chief financial officers, chief operating officers, hospital administrators, etc.), but the fact remains that the scientist and nonscientist veterinarians are typically the ones with whom we most often work in animal facilities. Now that we know some key personality traits of highly educated people, let's return to answer my question about how we interact with and manage them. The answer is that we have to treat them somewhat differently than we do the others. This is usually not a big problem. For example, don't begin by addressing the scientist as Joan until she gives you permission (stated or implied) to do so. If she says, "Please call me Joan," then do just that. Otherwise, she is Dr. Smith. If she addresses you by your first name, there's no reason not to use her first name. Because most scientists are frustrated with bureaucracy and want quick access to you and quick results in general, then try to provide that access and service. Can you work with this person to find a solution to his problem? Are you going into the conversation with a "yes, I'm going to try to help" frame of mind? If not, you should be. These are people with whom we have to work, day in and day out. They are our customers. They help pay

our rent. Go back to Chapter 2 where it was emphasized that we usually have two customers, animals and researchers. We cannot view scientists as an inconvenience to be dealt with, because if we do, they're going to return the favor and make our lives miserable.

What are additional ways to work with scientists? From here I will draw on some of the key points made by Goffee and Jones [35]. We should understand that scientists are organizationally savvy and know how to work the system to get what they need. For us, as managers, that means they will go over our heads to our bosses to get supplies, money, or animal housing space. There is a good chance they know our bosses quite well because they are typically well connected within the organization. But if part of our job is to try to expedite science, then the best way to interact with the scientist is to become an ally, not a hurdle for her to traverse. Try your best to have a "can do" attitude if you want to become a person's ally. That doesn't mean flaunting federal regulations, becoming subservient, or doing something foolish; it just means that we have to try to be as helpful as possible within the context of good animal facility management. It's as important to approach the situation with a positive attitude as it is to be able to satisfy a scientist's needs.

There will be times when you, the manager, are a scientist who is leading other scientists, or a veterinarian leading other veterinarians. In this situation your job is not to prove that you're smarter than the others but to be able to converse on the same level as the others. In plain language, that means it will help you quite a bit if you are up on the literature and new trends in your field. You have to be a champion and do what you can to remove barriers to intellectual endeavors. You also have to make sure that there is intellectual stimulation available. For example, do you seize upon interesting clinical problems for veterinarians to work up in detail, even if they are not immediately pertinent to your daily operations? Do you suggest research projects when opportunities and time permit? Can you provide start-up funds for small research projects? Do you have regular clinical rounds or related meetings to discuss veterinary medicine? If the answer is no because you feel that they know their jobs and they're paid well to do them, then I would not be surprised if the best and brightest move on because of a lack of intellectual stimulation. If the answer is yes, then you're doing your job, but as I wrote earlier, don't expect a thank-you note. You're only doing what highly educated people expect of you.

Final Thoughts

Thanks for the Advice, But I Have Tried It All and Nothing Seems to Work

Throughout this chapter I have attempted to address the most important aspects of providing good management and a good working environment for our coworkers.

A good manager knows his coworkers' strengths and weaknesses and tries to work within those parameters. But sometimes, as I have noted elsewhere, a person just doesn't seem to fit in and your first thought is "How can I get rid of her?" That should be your last thought, not your first one. Let me provide a brief summary of thought processes before you lower the boom.

1. Make sure that all basic needs have been satisfied; don't just assume they are. Is this person being fairly paid? Is her supervision satisfactory? Is she recognized for her contributions, and so forth?
2. Does she clearly and unambiguously know what her job is? This is not a simple matter in some circumstances. When a manager comes to me complaining that so-and-so isn't doing her job, the first question I always ask is, "Have you clearly explained what is expected and what constitutes satisfactory performance?" If the answer is something like, "She's an adult and I should not have to hand-feed her," then I wonder if there's a communication problem between the manager and the employee. Let me repeat yet again: people have to know what is expected of them. This should have been made very clear during the interviewing and hiring process. If there is doubt in your mind, ask a person what he thinks his job is and compare the answer to your own perception. You may be surprised.
3. Does this person have to be retrained or given additional training? Almost every person who has worked in a laboratory animal facility has run across a technician or manager who doesn't seem as adept as his peers. However, if that person has potential (and that must be the case, otherwise why was he given the position?), see if you can provide supplemental training. You're helping to train yourself by reading this book. Perhaps you can take that person under your wing and mentor him, or pair him up for a while with a seasoned partner.
4. Use discipline only if you are near the end of your rope. Sometimes a little hard love helps a person, sometimes not. Before you reach this point, I hope you have reread the section on difficult conversations.
5. If nothing else works, and before terminating a person's employment, think about another position that might be a better fit for the person [14]. This assumes, of course, that another position is available within or outside the animal facility. A very friendly person who cannot stop chatting and socializing all day long may not be the best fit as a veterinary technician in a busy animal facility but may make a wonderful receptionist or recruiter. A person who cannot cut it as an animal care supervisor may have the skills and temperament to be a fine veterinary technician.
6. Only as a last resort should a person be let go; and even if that happens, it is in everybody's interest to do that without animosity.

People Are Our Most Important Resource

In essentially every laboratory animal facility, people are our most important financial and functional resource. Because of this importance, some managers may think that managing people is their only job. However, managers have to manage all of their resources (finances, people, information, capital equipment, and time) all of the time. Focusing on human resources management to the near exclusion of the management of other resources is a formula for failure. If you are interested in developing a scorecard to help gauge your animal facility's strengths and weaknesses in human resources management, a good deal of quality information can be found in a fine article by Laurie Bassi and Daniel McMurrer [36].

The day-to-day management of human resources revolves around good communication and trust. To that we add providing for basic human needs such as a fair salary, good working conditions, and good supervision. People want to feel their work is important and that they are respected for their contributions. Without these basic factors in place, rewards and other forms of motivation will have minimal benefit.

> People have to feel that their contribution is important — that they are taking on responsibility for a significant thing. Typically, in a structured environment, people don't feel that the responsibility they're assuming is really important, so they ask, why bother?
>
> We in leadership positions have to recognize and appreciate that when we ask other people to change from past practices, we at the top have got to change first. [37]

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Chapter 4

Managing Financial Resources

It sometimes appears that first-level managers spend an inordinate amount of time managing people. As the management ladder is climbed and you become a middle-level manager, you become progressively more concerned about the management of money. Once that happens, it seems that there is a black financial cloud constantly hanging over your head. College presidents have been called glorified fund-raisers. Deans calmly tell their faculty that new equipment cannot be purchased and that open positions will remain open. Animal facility managers get caught in the bind of balancing their budgets by decreasing service or increasing fees. And it's not much different in the corporate world. Somebody is always telling you that money is tight, that you have to cut back.

Although money is certainly a resource that managers may have at their disposal and must manage, on occasion we become so involved with the management of money that we make it the be-all and end-all of our job. My advice to you is to be very careful, especially if you work in the not-for-profit world, and make sure that you don't lose sight of your organization's mission. If you stay alive financially but are not fulfilling your mission, you should begin to question the purpose of your organization's existence. With that caveat, it still is the responsibility of the manager to make sound financial decisions. In larger animal facilities with an accounting or financial management division, it's all too easy to take the easy road and let the "bean counters" develop the budget or set financial goals. I suggest to you that this is not a good idea. We should be working together with our financial people to develop financial goals and to monitor them. However, there is something I do like to delegate to them: the interpretation of financial reports. In my opinion, that

is a critical function of any financial manager. If the best your financial team can do, or is expected to do, is give you raw data without any interpretation, then you might consider revising their job description. They should be more fully integrated into the leadership of the animal facility.

This chapter primarily discusses managing the funds that you have or potentially have available for your use. I think that it's fair to say that the basic purpose of financial management is to make sure that money is available when you need it, where you need it, and in the amount that you need. "When you need it" means that money must be available in a timely manner. If you need money today or tomorrow, it doesn't help if you can't get it until next year. "Where you need it" means it has to be accessible to you. Consider what can happen if you find out that John Johnson, whom you have been courting off-and-on for a year, is now ready to accept your job offer. Although your university has sufficient money to pay his salary, there isn't enough left in your budget to hire him this year. Two weeks from now he will have a new job and you will have the same budget without him. Sorry, Charlie. It's unfortunate that most laboratory animal facilities don't have the flexibility to grab at opportunities when they arise. Our budgets are often carved in granite and they remain like that for a year. I yearn for the day when at least some of the decisions about allocating money will be made in real time, based upon value to the organization. But I accept reality, and, like everybody else, I do my best to prepare budgets that have a chance of providing the money I need when I need it.

The basic purpose of financial management is to make money available when you need it, where you need it, and in the amount that you need.

It would be more accurate to include items such as your inventory of animal cages as part of your financial resources, because you can sell the cages. But, as a practical matter, laboratory animal facility managers are mostly concerned with using funds that have already been allocated as part of the animal facility's budget. You don't have to go to banks for loans. Your job is to work with your staff and superiors to develop a budget that will eventually provide the funds you need.

How Money Is Allocated for Animal Purchases

Profit-Making Organizations

It would be nice if we could pick our salary off a money tree, but we still have to earn it the hard way. Organizations have to do the same. In a profit-making organization

such as a pharmaceutical company, money can come from the sale of various products or services, the sale of shares of the company (i.e., stocks), borrowing, and investments that the company makes. A portion of this income will eventually be allocated to the animal facility. Some of it will be used for salaries, some for supplies and equipment, and some to purchase animals.

The money needed to purchase animals is generally provided for in one of two ways. In the first instance, each department of the company that uses the animal facility estimates the number and types of animals it will need for a certain time period (usually a year in advance). Then, either the user's department or the laboratory animal facility estimates how much money it will take to purchase those animals. This figure becomes part of the budget request of that department. When the budget is approved, the company allocates that amount of money to the department's operating budget. The department is expected to work within that budget. Therefore, if the Toxicology Department estimates that it will need 10,000 rats during the budget year, and each rat costs $10.00, toxicology would have to request $100,000 in its budget for rat purchases.

In the second instance, the laboratory animal facility estimates the amount of money it will require to purchase animals for all users in the coming year, and that amount of money is requested in the animal facility's budget. When the budget is approved and the money is actually being used, the animal facility becomes responsible for monitoring its animal purchase budget and not allowing it to be overspent.

Not-for-Profit Organizations

In not-for-profit organizations, such as most universities, the government, or some private research laboratories, money for the organization may come from government and private grants, special endowment funds, borrowing, and different types of gifts the organization might receive. Additionally, income may come from the sale of services, products, or various investments.

Money used to purchase animals is usually part of the research funds of a particular investigator or the investigator's department. On occasion, the animal facility is given the responsibility of monitoring the amount of money in an investigator's animal purchase account and advising him or her when it's low. Sometimes the laboratory animal facility has its own budget for purchasing animals for investigators. That is how we do it where I work. When this occurs, the laboratory animal facility estimates how much money it will need to purchase animals for all the investigators in the upcoming budget year. It requests those funds as part of its own budget. When the facility purchases an animal for an investigator, the funds to purchase the animal come from the animal facility's budget. Then the animal facility transfers money from the investigator's account back into its own account. The net effect is that it's an even trade financially, but it's a cumbersome way of doing things, and, in general, it is easier for the animal facility to purchase

the animals using the investigator's money. One good reason for doing the latter is that the animal facility doesn't have to worry about an investigator running out of money and not being able to repay the cost of the animals.

How Money Is Obtained for Animal Care

A laboratory animal facility must have money to pay its staff, purchase cages and cleaning supplies, get pens and pencils for the office, and for everything else needed to run the facility. In many profit-making organizations, the laboratory animal facility requests money directly from the company, based upon either past history or the development of an annual animal care budget. In a few profit-making organizations, and in most not-for-profit organizations, the income from *per diem* charges is used to fully or partially cover the expense of operating the laboratory animal facility.

A *per diem* charge (or a *per diem* rate, as it is sometimes called) is the amount of money an investigator has to pay the animal facility to maintain one animal for one day. Each species you house will have its own *per diem* charge. There are some variations possible. For example, a *per diem* charge in your institution may refer to the cost of keeping one cage of animals in the facility for one day, even though the cage may have more than one animal in it. I will discuss below some of the components of the *per diem* charge, and how they are formulated.

A *per diem* charge is the amount of money you charge an investigator to house one animal (or one cage of animals) for one day.

In general, a laboratory animal facility receives its income from *per diem* charges in one of two ways. In the first, the facility sends monthly animal housing bills to the investigators, and it's the investigators' responsibility to pay those bills using their research funds. A variation of this method occurs if the animal facility sends the bill to the institution's accounting office, which then transfers money from investigators' accounts into the animal facility's account. In the second method, the organization puts a certain amount of the investigators' money in a special account that is exclusively for the use of the laboratory animal facility. The animal facility requests money from that account once a month. When this second method is used, investigators must be informed of the amount of the monthly deductions from their accounts so they can keep accurate records. Although these are typical ways of funding the operations of a laboratory animal facility, there are other variations in use.

In any organization, but particularly in not-for-profit ones, investigators should have sufficient money to cover all anticipated animal facility charges. Their funding should cover not only *per diem* charges but also any anticipated extra charges, such as for radiographs, special treatments, animal transportation, and so forth. If money is not available, either the study should not begin or the parent organization should provide a mechanism for supporting the expenses of the laboratory animal facility. If, as the manager of the facility, you know that there will not be sufficient money, it's your responsibility to bring it to the attention of the appropriate people in your organization. In other words, my advice is that you estimate as accurately as you can the animal facility's cost for the entire research project, and make sure there is money to cover it. This accounting may not be part of your job description, but it is part of being a manager. You're doing your best to control the use of a resource that, in this case, happens to be money. Politically speaking, it's also to your advantage to point out that a potential problem exists before it becomes a reality.

Before moving on to a discussion about budgets, I want to be sure that I haven't given you the impression that *per diem* income is "extra" income that supplements the money that has already been allocated to fund your budget. That is not the case. Your organization uses *per diem* income to pay all or part of your current expenses unless your organization just approves your expense budget and doesn't expect your animal facility to generate any income. If there is insufficient *per diem* income to cover your expenses, your organization has to make up the difference with other funds, or work with you to come up with another solution. *Per diem* income is not extra income, it's *the* income that typically balances all or most of your expenses.

Budgets

From what you have just read, it should be obvious that money management is an important part of the responsibilities of many managers. Such responsibility can transform even quiet, withdrawn managers into fire-breathing dragons. Planning, making decisions, organizing, controlling, and directing are all used in the management of financial resources. Whether you like it or not, the budget will frequently be the center of your attention.

A budget is a financial plan. It is prepared for a set period of time, which is usually one year. Generally, a budget requires you to plan for both income and expenses, although, in some organizations (such as some pharmaceutical companies) the animal facility may plan only for its expenses. Assuming there is no *per diem* charge, the pharmaceutical company will provide the entire operating income for the animal facility. In most not-for-profit institutions, you must estimate your operating expenses as well as your anticipated income from *per diem* and other charges. *Your goal in preparing your budget is to have your income equal your expenses.*

A budget is a financial plan.

Types of Budgets

From many conversations with my colleagues and my own experience, it appears that the most commonly used budget in laboratory animal facilities is the *incremental budget*. In this type of budget, the expenses of the previous year are assumed to have been reasonable. For the coming year, you simply add or subtract a percentage to the old budget. A similar percentage is added to the *per diem* charge so that income and expenses are balanced. For example, if your expenses totaled $100,000 this year, you might estimate that next year your expenses will be $105,000, assuming an inflation rate of 5%. You would then increase your *per diem* rates and your charges for other sources of income (if any) by 5%, to make your income balance with your expenses. If you anticipate housing fewer animals in the coming year, you may decrease your budget by a small percentage or perhaps keep it the same to compensate for inflation.

Incremental budgets are commonly used because they are satisfactory for many animal facilities and they are the easiest to develop. Unfortunately, they don't require any vigorous assessment of the actual requirements of the laboratory animal facility. At most, you may be asked to justify increased spending above a given percentage. For example, assume you are asked to justify any increases in supplies that are 20% more than last year's budget. So if you paid $1,000 for cleaning chemicals last year, you would have to justify any increase greater than $1,200 ($1,000 + 20% = $1,200). Most managers can do that, and it often becomes an exercise in thinking up excuses for requesting budget increases. It can be argued that, if you have too much money left over at the end of the current budget year, upper management will not approve a substantial increase for the next budget year without detailed explanations. True, perhaps, but then, most managers are aware of this common problem and simply make sure they spend most of their budgets.

All of this makes little managerial sense. If you want to be a second-rate manager, you can get away with all kinds of tricks. But you really have to look at the entire organization, not just your area of immediate responsibility. All the managers in an organization, on all levels, have to budget as honestly as possible. I truly empathize with a manager who submits an honest, bare-bones budget and has it approved, only to be asked to cut it by 10% once the budget year begins. If the request was due to unforeseen problems, that may be understandable, but if it was meant to be an across-the-board cost-cutting gimmick, the savvy manager will not

put in an honest budget the next year. Trust, trust, and more trust is needed to grease the wheels of financial management.

A second type of budget, used much less often, is the *zero-based budget*. Zero-based budgeting assumes that you start with a budget of $0 and you justify every item in the budget until you get your entire budget completed. Therefore, if you claim you need $3,750 for diagnostic serology for mice, you should be ready to justify that amount by (for example) explaining that you will be doing 50 serology panels at $75 per panel. It's far more difficult to make unsubstantiated guesses with a zero-based budget, since it requires that every year you justify all your planned expenses. It also requires that you justify why each *per diem* charge is what it is. That is, you have to justify why the mouse *per diem* is $0.11 per mouse per day, rather than $0.12 or $0.10. Although this procedure requires greater time and effort on your part, it also gives you an opportunity to study your needs for the coming year in depth.

If you really want to get a handle on your financial status and understand what's going on, prepare a zero-based budget. I did that when I went to Ohio State University. It was a chore, but I learned the ins and outs of where money came from, where it went, what records we had, what records were needed, what we could eliminate, and so on. I was able to speak intelligently to the university's account managers and I was able to clearly articulate to my staff where we were financially and how we got there. Fortunately, there are a number of commercially available computer programs that can greatly simplify — but not replace — the development of zero-based budgets for animal facility managers.

A combination of incremental and zero-based budgets can be used. A percentage of the last year's budget, such as 80%, might be approved for the coming year. The manager then must justify further deletions or additions by zero-based budgeting.

You should consider yet another type of budget, although I don't know how often it is used in laboratory animal facilities. This is a *continuous budget*. In this system, you develop a part of your next year's budget at the end of each month of the current year. For example, assume that at the end of November 2007 your records indicate that you spent $2,400 on travel (because of the national American Association for Laboratory Animal Science [AALAS] meeting), $750 on office supplies, $950 on equipment repairs, and so on. You then develop your November 2008 budget using the same figures, perhaps adding a small percentage for inflation. As you probably can see, this is similar to developing an incremental budget. The advantage with the continuous budget is the month-by-month visualization of how you anticipate your money will be spent. Even if your organization's business processes don't accommodate a continuous budget, it's a good idea to have it for your own needs, so you can readily see what expenses are forthcoming. I tried continuous budgeting for a while and it actually had some value, but not so much as to warrant the additional time it took. That doesn't mean it will not be good for you, so give it full consideration.

A sample budget for a laboratory animal facility is shown as Table 4.1, for the period of July 1, 2007, to June 30, 2008. You will notice that, by the end of the 2008 budget year, the Laboratory Animal Research Center of Great Eastern University anticipates a deficit of $21,410. When this budget is submitted, the university will have to agree to subsidize the animal facility for that amount, or the facility will have to revise its budget. Certainly, the large expense for office supplies should be questioned.

The value of 20% for benefits that are included with salaries was not a figure determined by the animal facility. Rather, it was designated by Great Eastern University's upper-level financial managers and then used by the entire university. Different groups of employees might have a different benefits percentage, but, if that occurs, it also is determined by upper management.

Table 4.2 subdivides the salaries from Table 4.1 and also indicates where the effort for those salaries will go. For example, in Table 4.1, the total for all salaries is shown to be $135,120, and, in Table 4.2, this is detailed to describe the base salaries (i.e., salaries without benefits) of the individual staff members.

In my calculations for Table 4.1, I did not include the animal facility's share of the cost for heat, electricity, janitorial services, and the like. In some organizations, these expenses (the so-called indirect or overhead expenses) are put into the budget, whereas in other organizations, the company pays for these items with separate funds. You must be aware of this information before you begin your budget-making process. Usually, you will receive this information well in advance.

Information Needed to Plan a Budget

Assuming that you have been asked to prepare a budget, what information will you need? First and foremost, relate your budget to your goals. We know we have to care for the animals and their environment, but what about your goal of replacing all your monkey cages within 3 years? What kind of financial commitment is needed? Will you need an increase in *per diem* rates? If yes, will it be everybody's *per diem* or just those who use monkeys? What did you say you would do when you developed the strategies to implement your long-range goals? What financial resources were needed? Now, at budget time, you have the opportunity to implement those strategies.

> *One of my favorite stories concerns a woman who had been the executive director of a research-related organization. We were having lunch together and she was bemoaning the fact that her organization needed more money. I asked her why they needed more money. She said, "What do you mean by 'why'?" to which I responded, "If your organization had all the money it needed, what would you do with it?" This*

Table 4.1 General Budget of a Laboratory Animal Facility

Great Eastern University Laboratory Animal Research Center 2007–2008 Budget					
Expenses	*Total*	*General and Admin.*	*Animal Health Care*	*Animal Husbandry*	*Research Services*
Salary (with 20% Benefits)	$135,120	$10,200	$11,400	$108,120	$5,400
Office Supplies	$90,350	$785	$12,515	$45,235	$31,815
Food	$8,300			$8,300	
Bedding	$12,900			$12,900	
Laboratory Services	$4,500		$4,500		
Equipment	$3,800			$3,800	
Equipment Repair	$1,000			$500	$500
Travel	$800			$800	
Dues/Subscriptions	$350	$350			
Freight	$200			$200	
Service Contracts	$425			$425	
Animal Purchases	$150				$150
Animal Maintenance	$500				$500
Postage	$100	$100			
Messenger Service	$65	$65			
Total Expenses	$258,560	$11,500	$28,415	$180,280	$38,365
Revenues					
Per diem Billing	$205,150			$205,150	
Research Services	$32,000				$32,000
Total Revenues	$237,150			$205,150	$32,000
Surplus (Deficit)	$(21,410)	($11,500)	($28,415)	$24,870	($6,365)

Table 4.2 Salary Breakout of a Laboratory Animal Facility Budget

Great Eastern University Laboratory Animal Research Center 2007–2008 Administrative and Technical Salaries					
Item	*Total Less Benefits*	*General and Admin.*	*Animal Health Care*	*Animal Husbandry*	*Research Services*
Secretary 50%	$8,500	$8,500			
Vet Tech 50%	$9,500		$9,500		
Sr Animal Tech	$22,850			$18,350	$4,500
Animal Tech II	$16,150			$16,150	
Animal Tech I	$13,900			$13,900	
Animal Tech I	$13,900			$13,900	
Animal Tech I	$13,900			$13,900	
Animal Tech I	$13,900			$13,900	
Total Salaries	$112,600	$8,500	$9,500	$90,100	$4,500

threw her for a loop, and after thinking for a few seconds, she answered, "I guess we would do what we're doing now, but more of it."

In other words, she really didn't have any noteworthy plan for using extra money. She's probably still wishing for the extra cash and probably still doesn't know what she will do with it if she ever gets it, because to date I haven't heard anything about her organization's plans for the future. Your budget, of course, is a somewhat more immediate document, but it is still a financial plan and you have to know where you want to be when you are preparing it. If a manager can't figure that out, the best he can hope for are no changes from past years because there are no plans for the future.

If your budget will only be a percentage increase from the previous year's budget (an incremental budget), then very little information may be needed. Even here, however, you might have to provide a general explanation about the previous year's expenses and income to justify your new requests. Certainly, if you had responsibility for approving someone else's budget, you would want to know at least that

much. Simply approving a new budget by basing that approval on an increase or decrease in the Consumer Price Index or some similar index is questionable financial management.

Whether you have short- and long-range goals and strategies or none, there are certain basic items that you must have to plan a budget for an animal facility. The specifics, of course, will vary with the organization. As a rule of thumb, if you don't know what to include in your budget, try to obtain a copy of a recent budget from your department, from another department, or even from a colleague in another institution. Use whatever information resources you have. Simply asking experienced people what goes into their budgets is an effective but often overlooked use of a resource. Even if you are an old pro at making budgets, its format and what is included in it may be quite different in a new organization. Some commonly included budget items are shown in Table 4.1.

If you are working with a zero-based budget, you will need an estimate of the average number of animals that will be housed each day, by species. I'll discuss this necessity further in just a moment. You will want to know the salaries of your staff and what percentage of their salaries should be added to the budget for fringe benefits (such as life or medical insurance, Social Security, etc). What percentage should be added to current salaries for raises? Usually, you will have a reasonable idea of what constitutes an average raise in your department. In some organizations, you will be told what an average raise will be for the coming year.

With any type of budget, you will want to know the cost of all the items and services you purchased in the current budget year so that you can plan for next year. You will want to know about these expenses by category — dog food, mouse food, rat bedding, uniform rental, and the like. Many laboratory animal facilities have this information readily available, whereas in others, you must work hard to obtain it. If your organization doesn't have the information readily available, you should take the time to organize your records so the information will be available for next year.

There are commercially available computer programs that make this work a little easier, although it's time-consuming but not overly difficult to do this manually. The problem with most of the computer programs that are designed for animal facility management is that they rarely have a direct communication with the accounting programs used by most institutions. Therefore, it is not unusual to have to enter financial and related information into your institution's financial system and, if you also want to use a separate animal facility management system, you may find yourself reentering the same information into the latter system. Another potential problem with some computerized systems (particularly those *not* made for an animal facility) is that you may not be able to subdivide expense categories. For example, if you feed rats, mice, and hamsters the same food, you have to categorize this as "rodent food," rather than rat, mouse, or hamster food. Don't forget to add possible price increases or decreases when you prepare your budget.

In Making a Budget, You Should:

- **Relate the budget to your financial and nonfinancial goals.**
- **Know what items have to be included.**
- **Remember to take into account any salary or other cost changes.**

Reviewing Programs and Operations

While preparing your budget, I recommend that you review your ongoing programs to see if they are satisfactory as is or if they should be modified. The purpose of this review is to make sure your facility is financially running efficiently and effectively. There is a legitimate desire on the part of upper management to save money. At the same time, your job is not only to save money (i.e., to be efficient) but to keep your operation effective.

The concept of budget review is a touchy subject. To some people, it's a catch phrase that means "cut the budget by any means," whether by letting people go or making fewer long distance phone calls. That's not what I'm referring to. I am suggesting you review major categories of what you do, such as the services (e.g., animal health monitoring, radiography) or benefits (e.g., continuing education) you provide. If, in your opinion, programs should be dropped, revised, or expanded, these matters should be discussed with your staff, your boss, and, when appropriate, the users of the facility. Get their feedback, because there are times when efficiency has to take a back seat to effectiveness.

Most seasoned animal facility managers know there is a limit to the number of services they can offer. It sounds nice on paper to want to provide animal husbandry, surgical help, radiography, veterinary service, account balances, a diagnostic laboratory, and everything else imaginable, but reality tells us otherwise. The typical laboratory animal facility is either not big enough, doesn't have the budget, or doesn't have a need to provide all possible services. Think about what you have and what you really need to do, as opposed to what would be nice to do. Obviously, you must provide for animal husbandry and veterinary oversight. Beyond that, you have to evaluate the need versus the cost. There may be times when you choose to continue a service that loses money because it's necessary to your organization. There will be other times when you have to give up financially profitable services because they take the space or time that can be better used for other endeavors that more closely match your organization's needs. If you have the financial and other resources, and you can provide both what is needed and what we would generally call "icing on the cake," then so much the better.

When preparing your budget, review current programs to determine if they should be continued, modified, or deleted.

Let me again emphasize that discussing your budgetary and other views with your staff and receiving their input can be invaluable in the long run and is essential to good management. This feedback is part of the concept of keeping communications open and making sure everybody has a stake in the organization. This is also part of your responsibility to determine where you are, where you want to be, and how you are going to get there.

Working with a Zero-Based Budget

Let's return to zero-based budgets and use the subject as an introduction to calculating *per diem* rates. You will quickly find that listing your planned expenses and income are more important to you when you work with a zero-based budget than when you work with an incremental budget. The zero-based budget requires that you will be able to estimate in advance the costs for most of the individual items that will comprise your budget (e.g., mouse food, rat bedding, equipment repairs, and cleaning chemicals) whereas with the incremental-based budget it's good to have that information available, but you can do without it.

For the moment, let's concentrate on estimating your expenses for the coming year using a zero-based budget. First, you must have a reasonably accurate estimate of the average number of animals, by species, that will be housed in your facility. In addition, the length of time that those animals will be housed must also be estimated. The calculation is fairly simple. If you think you will be housing 1000 rats for 60 days, 300 rats for 30 days, and 150 rats for 365 days, the average number of rats housed is 339 per day,

1000 rats × 60 days =	60,000	rat-days
300 rats × 30 days =	9,000	rat-days
150 rats × 365 days =	54,750	rat-days
Total =	123,750	rat-days

123,750 rat-days ÷ 365 days in a year = 339 rats housed per day

Using these calculations, if an average of 339 rats are to be housed every day of the year, how many people are needed to care for them? How much food will

be needed to feed 339 rats every day? How many brooms, mops, and shoe covers are needed? How much will all of this cost? Past experience will help answer this question because the needs of each facility differ. As the manager, you are expected to know how many people are needed to care for an average of 339 rats per day. In many organizations, this would be less than one person (one part-time person), but this can vary, depending on the level of care required. Nude rats will undoubtedly require more care time than conventional rats. You may also have to plan to use short-term help, because, at times, you will be housing more than the average number of animals. You have to plan for sickness, vacations, and so on. The important point is that, through the zero-budgeting process, you begin to understand what your needs will be. Although this example is quite simplistic, it serves to illustrate that zero-based budgets almost force you to reexamine your operations to ensure that they are both efficient and effective.

Who tells you how many animals to expect in the coming year? Usually, investigators, your animal facility business office, or the research administration office will be able to estimate the number. In some organizations, the number of animals housed per day rarely varies over time, and, therefore, it is easy to estimate what will happen next year. In others, the number varies greatly each year and getting an accurate estimate is quite difficult. It's not impossible — just difficult and sometimes quite inaccurate. You may recall the discussion in Chapter 2 about the internal and external environments that can affect animal facilities. For example, at the time of writing this chapter (late 2007) there is a major concern with bioterrorism and many animal facilities are gearing up for related animal-based studies. Their managers are planning to house certain types of animals for certain types of bioterrorism-related studies and the animal facility managers have to budget appropriately. Fortunately, in most instances, investigators know how much money they have or will have available and can make an educated guess as to what animal studies will be done in the coming year. In addition, your business office can estimate the number of grant or contract applications that are likely to be approved and funded in the coming year. By putting these two pieces of information together, you can get a rough idea of your estimated facility usage. Be advised, though, that wide fluctuations can occur.

Once you have an idea of what you will be spending on animal care, salaries, overhead, and so on, you can begin to calculate a *per diem* charge based on more than a simple percentage increase over last year's rate.

How to Calculate Per Diem Rates

Here's another true story. A colleague actually had this happen to her on two separate occasions.

> *The director of an animal facility at a major university asked his operations manager to calculate per diem rates for*

> *the facility. Since it had not been done accurately in past years, the operations manager spent a great amount of time methodically gathering information for the calculations, did them, and presented the suggested new rates to the director. The numbers indicated that the director's per diem rates had been far too low, which helped explain why the facility was losing substantial amounts of money each year. The director thanked his manager for the information and proceeded to simply raise the previous year's per diem by 5%, ignoring all the efforts of the operations manager.*

This probably sounds familiar to those of you who have had experience calculating *per diem* rates. To paraphrase a song, "Don't nobody give me no bad news." I'm relating the above story to help prepare you for some of the realities of business, not to discourage you. Many people in laboratory animal science have not had to calculate *per diem* rates, and, therefore, they're afraid to try to do so. Part of the fear is that they will discover they should have been doing these calculations all along.

At this point, I will state that I cannot provide you with all the details that are needed to establish an accurate *per diem* charge for each species of animal. Room simply doesn't permit us to do so; nevertheless, I will describe the major concepts here and then I suggest you turn to Appendix 2 where more of the nitty-gritty details are provided. For your information, the National Center for Research Resources has published a manual that goes into great detail on how to establish *per diem* rates [1], and work sessions on the subject are often given at professional meetings. I have read it a few times, and I think the method used below is substantially easier and provides about the same information.

Fortunately, more and more animal facilities are computerizing their financial records, and some of the commercially available software programs can compute reasonably accurate *per diem* rates. Still, if you don't understand what the computer is doing for you, you will not know what raw material is needed and how to best use the computer program for your own facility's needs.

I am going to describe the process of establishing the *per diem* rate in a series of steps, but there is one overall point that should be kept in mind: The main concept is to have all budgeted animal facility expenses covered by income-generating activities. For example, if your facility has a secretary, his or her salary is part of the animal facility's budget and is an expense for the facility. The cost of the animal care that the animal facility provides is also an expense to you, but animal care will also generate income when an investigator is charged a *per diem* for that service. Therefore, we will have to make sure that the income from animal care will cover both the secretary's salary and the cost of taking care of the animals. In effect, we include the salary expense for the secretary (and everyone else) into the *per diem* charge. At the end of the year, we would like to have all our revenues balance all our

expenses. That is, we want to break even. Nevertheless, it is entirely appropriate to have a little surplus revenue to cover unanticipated expenses or evolving needs.

The concept of covering (transferring) expense is used in most businesses. The cost you pay for an apple is more than what the grocer paid for it. That is because part of what he charges you has to cover his expenditures for heat, electricity, telephone, repairs to his store, taxes, and of course, it includes his profit. The grocer has transferred a part of his cost of doing business into what he charges you for an apple. Because the grocer sells more products than just apples, part of his cost for doing business will also be transferred to pears, plums, and anything else that is sold.

The main concept in setting *per diem* rates is to have all anticipated expenses covered by activities that will generate income.

Unlike the grocer, you may not be in a profit-making business, but, at the very least, you would like to break even. Therefore, you too have to transfer your expenses from areas that don't make money (such as disposable outerwear costs or equipment repair costs) into areas that do (such as the *per diem* charges for animal care). The income recognized from the *per diem* charges is the biggest moneymaker in most not-for-profit animal facilities. So instead of figuring out how much to charge for an apple or a pear, you have to figure out how much to charge to maintain a mouse or a rat for one day.

If we house just one species and the only service provided is animal husbandry, then calculating the *per diem* charge is quite easy. Assume we anticipate caring for an average of 1000 mice per day. The formula for calculating the *per diem* rate for mice is:

(total expenses for the year ÷ 365) ÷ (average number housed per day)
= *per diem* rate

Assume that you estimate from your budget that the total cost of caring for these animals for 1 year will be $50,000. This figure includes salaries, food, bedding, cleaning supplies, repairs, and everything else you want to include. Then,

$50,000 ÷ 365 days in a year = $136.99 (the cost to house 1000 mice for 1 day)

$136.99 ÷ 1000 mice = $0.137
(the cost to house 1 mouse for 1 day; the *per diem* rate)

This $0.137 per day is the *per diem* charge. It is the amount you will charge an investigator to house one mouse for one day. This charge is the major way you earn revenue for your animal facility. You are anticipating expenditures of $50,000 for the coming year, and, with a *per diem* of $0.137 per mouse per day, your revenues and expenses will be about the same at the end of the year.

This is a very simple example of the concept behind *per diem* rates. Since these rates influence managerial decisions and are quite important in a laboratory animal facility, a more thorough explanation of how *per diem* rates are calculated is presented in Appendix 2.

There are a few more points that I must mention relative to *per diem* rates. The first is that most institutions don't set *per diem* rates by planning *ahead* with a zero-based budget. Rather, they look *back* at the past year's expenditures, and, using the calculations just described, determine what the actual *per diem* cost *had been*. Then, as I said earlier, they add or subtract an estimated percentage to cover their financial needs for the coming year. This process is similar to how some managers develop an incremental budget. If their budget increases by 5%, they increase their *per diem* rate by 4% or 5%. This strategy can work if you anticipate no major changes in your operations, such as significant increases or decreases in animal numbers or the number of animals of each species to be housed, no major changes in salary structure, or no major construction and equipment purchases. The 4% or 5% is just an estimation of what the general escalation of costs will be for the coming year.

The unspoken attitude is that, if nobody complains, it certainly saves a lot of work to use an incremental *per diem.* You can rest easy with this approach. That's true until somebody who understands how *per diem* charges are calculated starts questioning your rates. That's true until a major animal user leaves your organization. That's true until you are asked to justify an increase in *per diem* charges. And finally, that's true if you are not interested in changes to the component parts of a *per diem* charge that occur over time. In other words, you cannot effectively manage your financial resources (and sometimes your human resources) if you don't understand the component parts of your *per diem* charge.

I must emphasize that, no matter how well you plan your budget and how carefully you formulate your *per diem* charges, they mean very little unless upper management approves them. Most organizations having a laboratory animal facility also have an Institutional Animal Care and Use Committee (IACUC). The IACUC interacts with the facility director and also represents various divisions of the organization. In some instances, the committee will help plan the budget and *per diem* charges. You may find it useful to have the IACUC endorse your budget and *per diem* charges before they are sent to upper management for final approvals. The budget will then have the indirect endorsement of many research divisions of your company, which will also help deflect the inevitable complaints that accompany any increase in *per diem* charges. Of course, although you may have the best of intentions by asking the IACUC to become involved with your budget, some

IACUCs are not going to want to work with you. You will just have to learn the culture of your IACUC.

An occasional downside to involving the IACUC is that it might refuse to support a new *per diem* rate. This might happen when the researchers on the IACUC try to protect their own budgets. The most useful way of preventing this lack of support is to justify every component of your *per diem* and have an open dialogue with the IACUC. Don't spring this request on the committee just before the new fiscal year begins. Keep the IACUC apprised of your financial and other activities throughout the year, so that trust is built. Once again, communication and trust are used to grease the wheels of management.

Finally, there is an operational tactic that may be of value to you. Even with the best of intentions, the best documentation, and the best institutional support, investigators are not going to be happy with any increase in *per diem* charges. This is just human nature. Some, perhaps many, will want to know how your charges compare with those of other institutions. This information is available through the informal network of laboratory animal facility directors and managers. It is not specifically important if your rates are at the top, middle, or bottom of the list, as long as the rates are based upon sound management. It is important that you have an idea of what other institutions include in their *per diem* charges. For example, if your animal care staff is paid through your budget, and that is offset by collecting *per diem* charges, you obviously cannot make a comparison with an organization that uses student labor paid by investigators. It's a comparison between apples and oranges. No matter what the reason, if your rates are way out of line with all other institutions in your survey, or even nationally, you'd better have some strong and convincing documentation behind you.

Management Control of Budgets

In addition to serving as a planning document, the budget can serve as a controlling document. You cannot make a budget, have it approved, and then never monitor its progress. Simply stated, you should periodically compare your actual revenues and expenses to your planned (budgeted) revenues and expenses. If a significant deviation occurs, you should determine the reasons for it and, if appropriate, make adjustments to get it back on target. In this way, the budget helps you to monitor your financial progress and control unanticipated changes.

In most animal facilities there is one person who does this monitoring. This can be the same person who had the major responsibility for the budget's preparation. Even if that person is not you, you may be the one who ultimately has responsibility for explaining and correcting any variances between what was budgeted and what is actually happening. When you study the budget in this manner, especially if you take steps to correct (or at least understand) any variances, you are using the budget as a financial control document.

Look for significant discrepancies between budgeted versus actual revenues and expenses. Try to prevent significant discrepancies from recurring.

To enable the detection of any budgetary variances, there must be sufficient information available to you from your organization's accounting department. Usually, the actual revenue and expense amounts are made available to you on a monthly basis. With that information you can compare the monthly revenue and expenses against the budgeted revenue and expenses for the same month. The accounting department generally takes your yearly budget and divides it into 12 equal monthly parts, although, in some organizations, the accounting program allows you to budget different amounts for each month of the budget year.

Unfortunately, the most frustrating documents I have ever worked with are the monthly financial reports sent by an institution's accounting office. I am convinced they are prepared by sadistic gnomes who spend most of their working hours devising statements that no living being, themselves included, can possibly understand. My pleas are simple. Please keep my income and expenses separate. Do not redistribute my income or expenses to categories I never heard of, particularly without telling me. Be reasonably up to date and give me enough detail to figure out what I'm paying for, how much it costs, and how much money I have left. Of course, none of these wishes will come true for many of you, but my lament is not unique. Over the years, I've heard the same tale of woe from scores of managers. What amazes me is that accounting departments think those statements are excellent — or maybe they only need a little fine tuning. There is a big difference in perception. Nevertheless, we all must try to adapt to those numerical terrorists and understand them as best we can, because, I assure you, they will not change and we need them to do our jobs.

Let's take a look at a hypothetical report an animal facility manager has prepared, based upon figures received from the accounting office. This document could be called a budget control report. Table 4.3 is the report as received from the accounting office.

In Table 4.4, I added another column (Explanation) to give you an idea of what you might include in the budget control report to account for the variances. In this particular report, I have included only expenditures. Most budget control reports would list income and year-to-date activity as well.

You should be able to account for *significant* underspending as well as overspending. Within the big picture, a few dollars either way just is not worth worrying about. They always occur, and it's rare to have income and expenses exactly match each other. Too much income, however, may indicate more research activity than expected, that you have set the *per diem* rate too high, or perhaps you can give more or better service.

You may have a superior who doesn't want a written report each month. However, if you ever have to explain or justify your budget, a control report can be very

Table 4.3 Budget Control Report for a Laboratory Animal Facility

Budget Control Report Jan. 1, 2008–Jan. 31, 2008			
Item	*Budgeted This Month*	*Actual This Month*	*Variance This Month*
Animal Food	$400	$475	19%
Bedding	$75	$30	(60%)
Salaries	$4,000	$5,000	25%
Telephone	$85	$87	2%

helpful. It's a tool for you to use for whatever reason you see as appropriate. Even if you are the only one in your entire organization who tries to justify variances, if it suits your style of management, do it.

You may have to do more than write down the reason for a variance if you want to avoid having the same problem in the future. For instance, you might not have been able to anticipate the increased price of animal food, but what about hiring temporary help for technicians on vacation? Was that in the budget? If it was, it should be noted as such. If not, why didn't you budget for it? Become introspective and think about whether you could have altered some work assignments so that people could have covered for each other. Perhaps you didn't even have to hire temporary help. Planning and organizing are part of every manager's job.

If you are the person who has to account for variances in the budget, you know you have no control over certain environmental factors. The unexpected rise in the

Table 4.4 Budget Control Report with Reasons for Variances Added

Budget Control Report Jan. 1, 2008 – Jan. 31, 2008				
Item	*Budgeted This Month*	*Actual This Month*	*Variance This Month*	*Explanation*
Animal Food	$400	$475	19%	Unanticipated price increase
Bedding	$75	$30	(60%)	Received double order last month
Salaries	$4,000	$5,000	25%	Temporary help
Telephone	$85	$87	2%	

price of animal food is a good example. It may be that a change in federal price supports is what led to the increase. Not only can you not do anything about price supports, but there is just so much you can reasonably be expected to know about the external environment of your animal facility. Under these circumstances, your performance should not be judged as inadequate. On the other hand, you can (and should) be held responsible for not budgeting for temporary help if you knew (or expected) you were going to need it. However, if a large and unanticipated contract was awarded to your organization, it would be ridiculous to hold you accountable for the cost of hiring temporary help, the cost of additional food, and so forth.

I suggest that you gather only *necessary* information as part of your budget controlling function. Don't take up room in reports with irrelevant items. For example, reporting income by species is usually valuable. Reporting income from different strains or stocks is irrelevant in most organizations, but may be important to animal breeders. You have to decide what information you want to receive and what information you want others to have. Meaningless information rarely impresses upper management and just wastes your time.

Although you may not be able to change certain aspects of the internal or external environment, you should keep alert for environmental changes that can directly affect your budget — for example, a major environmental factor (the so-called *key variable*). Consider what could happen if a large percentage of your budget relies upon providing animal care services to a single investigator. Obviously, the fate of that investigator's finances will directly affect your animal facility's finances. If the investigator has a large grant that is not renewed as anticipated, undoubtedly your budget will eventually suffer. If you are an astute manager, you will try to monitor this investigator's grant to try to detect a possible problem for your animal facility before it actually occurs, then discuss the situation with your superior, and subsequently attempt to make adjustments to your operations. And, by all means, don't forget to let the rest of your staff know what will probably happen if a major grant is not renewed. Keep communications open and ask people for their thoughts.

A *key variable* is an internal or external business factor that can have a major impact on your operations. Good managers carefully monitor key variables.

Inventory and Inventory Control

Taking an inventory of supplies and equipment is a part of the total financial management control picture. I am discussing it separately to emphasize its importance in laboratory animal facilities.

Most of us are familiar with an inventory of the drugs that are used in a laboratory animal facility. It may require recording the disposition of every dose dispensed or it may require nothing more than recording when only one bottle is left so that a new one can be ordered. Another example is keeping track of feed and bedding. Counting the number of remaining bags of food and bedding are both examples of a *supply inventory*, which is continuous, because it is concerned with supplies that are replaced quite frequently.

Another type of inventory is an *equipment inventory*. This is often performed at least once a year. It usually includes more or less long-lived items such as animal cages, animal racks, driers, and the like. I have intentionally used the term "more or less" because all of these items need periodic replacement, but they are not consumable in the sense that pencils, paper, bedding, and drugs are.

The purpose of an inventory is to be able to estimate for future budgets the typical replacement requirements for your animal facility. It can also help you determine if theft or abnormal usage has occurred. Over time, you will probably get to know the expected life span of most of your supplies and equipment. Once you know how often to replace certain items, you have to estimate their periodic replacement cost in your budget. Therefore, if you know that a new rat cage lasts 4 years, you might consider replacing 25% of your rat cages each year, so that every 4 years you will have replaced all of your cages. Having read this, I hope you don't throw out 25% of your new cages immediately. As you may have guessed, the cost for cage replacement is calculated into your *per diem* charge.

When taking inventory, there are no shortcuts to counting, even if everything is bar-coded or otherwise identified for automated counting. It is advisable to have a second person randomly spot-check your count. In many retail stores, a recount is needed if there is more than a 1% difference between the two people counting. You might wish to set certain percentage limits for yourself.

The good news is that numerous computer-based programs can aid your inventory. At the least, they should be able to compare one inventory period with another, show numerically or graphically the differences between the inventory periods, and be able to show purchases, sales, or discards that have occurred during the period. Even if the computer automatically subtracts supplies you have used, you will still have to perform a periodic manual count to ensure that the computer-generated numbers match the actual numbers counted.

The Animal Census and Its Use in Billing

Another type of inventory is an *animal census*. The number of animals (or cages) that are being used for a particular study is periodically recorded. Sometimes, this recording is done by an actual animal count, sometimes by subtracting (or adding) animals that have been removed (or added) since an earlier head count. In the latter method, an actual "nose count" is still periodically needed (perhaps every two

weeks) to account for any addition or subtraction discrepancies. Some institutions substitute a cage count for an individual animal count. Doing an inventory of cages (particularly with rodents), rather than of individual animals, makes for a quicker inventory and simplifies most of your record keeping. In the long run, it probably pays for itself.

An example of a cage inventory is shown in Table 4.5 (only the first 16 days are shown but a real inventory would cover all 31 days in January). In this animal facility, the animal technicians do the cage count at the middle and end of the

Table 4.5 Sample Animal Census Report for a Laboratory Animal Facility

Great Eastern University — Daily Animal Cage Census
Investigator: Smithwick, J.
Month: Jan. 2008
Protocol #: 01-001
Beginning Census: 100 Species: Rat

Date	*Add*	*Subtract*	*Balance (Office Use Only)*	*Cage Count*	*Recheck*
1		10	90	XXXXX	
2			90	XXXXX	
3		5	85	XXXXX	
4		20	65	XXXXX	
5			65	XXXXX	
6		5	60	XXXXX	
7		5	55	XXXXX	
8		10	45	XXXXX	
9	20	5	65/60	XXXXX	
10			60	XXXXX	
11		5	55	XXXXX	
12	20		75	XXXXX	
13			75	XXXXX	
14		10	65	XXXXX	
15		5	60	65	65
16	10		75	XXXXX	

month. On a daily basis, the investigator or animal care technicians record the number of cages that have been permanently added or subtracted (in the latter instance, it is usually because the animals in the cage were euthanized). The animal facility's business office (not the investigator or the animal care technicians) fills in the balance column at the end of the month and uses it for billing purposes. With computerized billing programs, the balance column can be automatically calculated. Different animal facilities have different ways of adjusting billing if there is a discrepancy between the actual cage count and the number shown in the balance column. Typically, *the investigator is charged (or credited) for the correct cage count (as determined on the day cages were actually counted) back to the date of the last addition or subtraction of cages.* In the example shown, the investigator would pay a *per diem* charge for five additional cages on January 14 and 15, because the last subtraction of cages was on January 14. Whoever filled in the census form made a mistake somewhere, since the actual count was 65 cages, not 60. The correct balance was entered on January 16. The investigator was lucky that it was only a 1-day difference. Some animal facilities are not that kind and charge the investigator the difference back to the very first day animals were added or subtracted since the previous census (in this example, it would be January 1).

From the above example you can see the problem of not performing a daily animal census. In this case, the animal facility did not count cages from January 1 until January 15; and on the 15th, the person doing the census actually counted 5 cages more than the number recorded in the balance column (i.e., a total of 65, not 60). In the interim, people adding or subtracting cages just entered what they believed to be the correct numbers. To straighten out this problem, the animal facility charged the investigator for five additional cages beginning on January 14. It could have been worse. But how can you do a daily inventory to eliminate (or at least try to eliminate) these problems? Many animal facilities have turned to bar-coding of cages. Others are considering radio frequency identification (RFID) chips imbedded into cage cards. Either way, a scanner has to be placed near each cage card to record the presence of a cage. The remainder of the process is largely computerized and at the end of the month a bill is printed. Although scanning can be labor intensive, some animal facility managers feel that it helps oblige the animal care staff to look in each cage. In the future, I am reasonably confident that scanners will be available that can scan all the cage cards in an entire room in a matter of seconds without interference from the amount of metal that is typically in an animal room and without unintentionally counting the cages in an adjacent room. In fact, we are almost there now.

In many organizations, the animal census, irrespective of how it is compiled, is used to determine the monthly animal care bill for a particular investigator. If an investigator has kept 200 rat cages for 30 days, at a *per diem* rate of $0.90 per cage per day, then the animal facility will charge the investigator $5,400:

$$200 \text{ cages @ } \$0.90 \text{ per day} \times 30 \text{ days} = \$5{,}400$$

If an investigator used 200 rat cages for 30 days, 100 for 10 days, and 50 for 20 days, the total *per diem* charge would be $7,200:

200 cages × $0.90 per day × 30 days =	$5,400
100 cages × $0.90 per day × 10 days =	$ 900
50 cages × $0.90 per day × 20 days =	$ 900
Total =	$7,200

I noted earlier that the facility either bills the investigator directly or informs a central financial office of the charges. In the latter instance, the financial office will transfer funds from the investigator's account into the animal facility's account.

Although not-for-profit organizations most often use an animal census to calculate *per diem* bills, profit-making organizations occasionally use them for the same purpose. In some profit-making organizations, their central administration provides an animal care budget for the entire year. Under this arrangement, the animal census may be used to provide investigators with information for their own future budget planning. The investigators then present their animal care budget to central administration.

An additional reason for keeping an accurate animal census is to comply with certain laws and regulations, such as the Animal Welfare Act and the Good Laboratory Practices Act. These laws can be applicable to both profit-making and not-for-profit organizations. Federal officials, as part of their responsibilities, may want to see your animal census records and compare that information with an investigator's experimental records. The Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) also requests information about the animal census as part of its accreditation program.

To summarize, an animal census can be used in planning your budget, in helping plan a budget for certain investigators, in calculating animal care bills, and for complying with federal and voluntary agencies.

Other Financial Control Systems

So far we have seen that budgets and inventories can be used as parts of an overall management control system. You will recall that developing and utilizing management control systems are important roles of all managers. I then went off on a little tangent and showed how the animal census, which is a type of an inventory, is used as part of the process of establishing a *per diem* rate. Now let's look at other financial activities in animal facilities that require the kind of oversight that we call financial management control systems.

Sometimes, when developing financial control systems, you have to think like an auditor. An auditor, for those of you not familiar with the word, is a person who,

among other duties, examines financial records (such as payments for products received) and compares them against the supplier's bills for the same items. Auditors also review financial balance sheets and many other financial reports to help ensure that a business is operating lawfully and in a financially responsible manner. Whether you do your own auditing, have special in-house people who do it, or have an outside firm do your audit, the end purpose is always to help protect your assets, limit or control your financial risks, and assist in achieving your animal facility's goals. How important is this? I'll give you one quick example. Soon after I took a new position in a laboratory animal facility, the departmental administrator (who was also new) and I recognized that we were doing a reasonably good job of sending out bills every month, but there was no control system in place to see if the bills were actually being paid. If a payment was received it was properly recorded, but if a payment wasn't received, nobody knew the difference. The monthly bill that was sent was only for the work we performed during the past month, never the accumulating charges. That lack of oversight was inexcusable. It was so bad that we had to threaten legal action against a company that was contracting for our animal care services in order to collect well over $100,000 that was owed to the animal facility over a period of years. As you can guess, we quickly remedied the problem.

Animal facilities can develop and monitor financial control systems for policies or procedures that are set by the institution (e.g., your school or corporation) or division (e.g., the animal facility). Let's take a look at a limited sample of how such controls might be implemented.

- *Control system for the receipt of purchased goods.* Personnel must match a completed order requisition to the packing slip that came with the newly arrived order to confirm that the shipment actually contains what was ordered. The person doing the comparison then signs the packing slip to confirm the accuracy of the contents or notes any discrepancies. If problems are found, there is a formal procedure for resolving the issue.
- *Control system for accounts receivable.* On a monthly basis a person reconciles income received from an investigator against the amount billed to that investigator. This can be for *per diem* charges, veterinary services, animal orders, or any other charges. Procedures are developed to handle problems arising from a lack of payment or incorrect payments. To avoid any conflict of interest and to strengthen the control system, it is preferable to have one person do the billing and another the accounts receivable.
- *Control system for invoicing of animal users.* At the end of each month a person ensures that a bill for *per diem* charges has actually been sent to all investigators who used animals during the month. This is typically reconciled through the experimental protocol, not individual investigators, as one investigator may have more than one active protocol. This assurance can be as basic as counting the number of bills sent against the number of active protocols during the month.

- *Control system to ensure that the entire cost of purchased animals is properly recharged to an investigator.* As an example, the animal facility will not charge an investigator for the purchase of animals based on a telephone estimate of costs from the vendor. Rather, the animal facility waits until the vendor's bill arrives with charges for animals, shipping, crating, and anything else.
- *Control system for spending limits.* In this financial control system there is a Standard Operating Procedure (SOP) for the amount of money that can be authorized for a purchase by a person with a specific job title. For example, an animal care supervisor may have the authority to sign a purchase order for amounts up to $100. An associate director may have authority to authorize a purchase of up to $1,000 without a second signature but can authorize an expenditure of up to $5,000 if the director cosigns the purchase order.
- *Control system for authorization of overtime.* No employee can decide that he or she will work overtime without specific written authorization from that person's supervisor or a higher level supervisor. Standardized forms can be used for this purpose. This control system prevents unanticipated financial expenditures or compensatory time while allowing for overtime when it is truly needed.
- *Control systems to ensure competitive pricing for large-dollar items or multiple small-dollar items.* This is simply a way of saying that every animal facility wants to get the best price for comparable items, whether it is a cage washer or shoe covers. One way to do this is to execute written specifications for a type of a product (or even for a specific brand name product) and send it out to bid. You may be surprised how much money you can save. Is this really a control system? It most certainly is. It is another way of overseeing that one of your resources (money) is being utilized efficiently and effectively.

Each animal facility will have a different set of control systems because the facility can be in a corporate environment, academic environment, federal or state agency, or other venue. As with all control systems, it goes without saying that somebody has to have the responsibility for making sure that they are being used. That is the human element; someplace along the line a manager, thinking like an auditor, has to make sure that everything is actually being done as it is supposed to be done. It may not be the most exciting part of the job, but it's one of our most important roles.

Acknowledgment

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Reference

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Chapter 5

Management of Information Resources

Information surrounds us. It permeates our lives. Meetings, memos, faxes, telephone calls, gossip, journals, books, Web browsing, e-mail, spell checkers, and on and on. Sometimes, the goal of information management is to keep it away from us before we become overwhelmed. Nevertheless, information is a valuable resource, and we have to use it efficiently and effectively.

Information is always available to us, and the manager is often the person who needs the most (and has the most) available information. Interestingly, there are some managers who don't let needed information reach them for a variety of reasons, such as not wanting to hear bad news, a fear of having to give negative feedback, and a generally poor organizational culture. However, the astute manager always has his information antenna raised and functional. The astute manager also tries to develop a culture where people are willing to share information with each other. In an earlier discussion (Chapter 3), the analogy of national security concerns was used to describe the extent to which some people don't want to share information. They think that sharing diminishes some of their power or makes them less valuable to their organization. Nevertheless, managers have to share information if they want people to *give* them information. Unfortunately, more often than not, managers use the information they gather intuitively rather than in an organized systematic manner. If you ask me what time it is, I'll look at my watch and tell you. It is a simple, almost thoughtless process. In many instances, that's all you need. At other times you truly have to systematically manage information, particularly when it comes to the information you need to run a laboratory animal facility. Preparing a budget, for example, is not a quick, automatic process. Information has to be

gathered, evaluated, and used. The purpose of this chapter is to describe some of the characteristics of information and how you can manage its use.

You have to be willing to share information if you want others to provide you with information.

Almost everything that has been discussed thus far in this book requires the use of information. We use information to learn about internal and external problems (that is, from the internal and external environment) that might affect our work, to learn about possible opportunities, and, of course, for planning. For example, Chapter 4 described budgets and budgetary controls. Looking at any variances between what was budgeted and what was actually spent in a given month was an example of how you could use information. Studies have shown that there is a poor correlation between many managers' perceptions of how their companies are faring financially and how they are really doing [1]. Perhaps better information, or paying closer attention to the available information, would rectify some of these misperceptions. The gathering, transmission, and proper use of financial and other information are all parts of information management.

The modern laboratory animal facility has a large amount of information at its disposal. There is so much information that companies exist to provide needed information in a manner that is easily usable. For example, if you are a veterinarian, you might be able to review the current veterinary literature on a compact disk while driving to work. Even if you work for a small organization, you may have a need for specialized information-providing companies. Research facilities frequently subscribe to a Web-based information source such as *Current Contents Connect.* Among other features, it lists the tables of content of many journals. By reviewing this information source, you can request or download reprints of articles on animal diseases, biochemistry, pathology, or many other areas that might be of value to you. This journal is only available online or on a disk. Previously, it was a print journal, but as helpful as the journal was, it took a good deal of time to read it, particularly with its small print. Now, of course, you can use the power of the computer to establish specific search strategies and thereby save yourself substantial time.

One of the best but often overlooked sources is simply asking people for information. Managers learn a lot by asking specific questions. At the very worst, you will receive nothing of value, but, at the best, you may get all the information you need. And don't forget that idle gossip is another great source of information. If you can synthesize the information you get from formal reports, gossip, asking questions, and other sources (such as books, journals, and meetings), you will be doing exactly what most successful managers do.

Managers synthesize information from formal reports, gossip, asking questions, and many other sources.

Sometimes, the manner in which information is presented can be a clue to how much trust people have in you. When my usual information sources start to dry up, I know I'm on the outs with somebody. Conversely, the manner in which we give information to other people can be revealing. If, for example, you ask me what I think of a person and my best response is, "He's a nice guy," then it should be apparent that I'm beating around the bush and not giving you a complete answer.

Obviously, some information doesn't come to you; it originates with you. The animal census, animal health reports, clinical observations, *per diem* bills, and descriptions of new techniques are just some examples of information that can originate with you or your staff and be passed on to others who need it. These recipients might include your own staff, the staff of other divisions, your own supervisor, and the Institutional Animal Care and Use Committee (IACUC).

Six Characteristics of Managed Information

When you have a lot of information coming across your desk, you want to be able to understand and use it (or discard it) without having to wade through piles of words before you get to the important part. Sometimes, you never do get to the heart of the matter. Still, there are certain characteristics of information that can make it more user-friendly and help you develop good habits for providing useful information. Here are six characteristics that I think will be useful. There is an additional discussion on information usage in Chapter 7, although that discussion is primarily focused on what can happen when you get advice from others. For our present purposes, we will assume that the information you receive is accurate. However, that's not always true. Managers and leaders often test the validity of information they receive before running with it. For now, assume most of the information is correct.

1. Information Should Be Relevant

The information you receive or give to others should not be superfluous. It should help you resolve a present or potential problem. In a laboratory animal facility, you may want to know about upcoming legislation that will affect your work, but it's unlikely that you will be interested in the fluctuations of the dollar's value overseas.

You must be able to tell those people who provide you with information, such as a librarian or a research administration office, just what kind of information is

relevant to you. There is simply too much information available on almost any topic for you to be able to digest all of it. The Web-based information source *Current Contents Connect*, mentioned earlier, is a good example. It would be a waste of your time to read the titles of every article in every journal it indexes. You must be selective as to which journals you scan and what information you receive.

You also must be selective as to what information you retain. Even though managers listen to gossip as much as anybody else, they must be able to sort out what is important and what is not, because sometimes gossip turns out to be true. At a meeting such as the American Association for Laboratory Animal Science (AALAS) annual conference, most of us keep our eyes and ears open to find out what is happening at other institutions. In essence, we are exploring current information in our external environment to help us in our jobs. The chances of picking up some highly relevant information as part of a general conversation may be minimal, but, if you sit down with a colleague over a cup of coffee and get specific about what you want to discuss, it may surprise you how much you can learn.

2. Information Should Not Be Excessive or Insufficient

With too much information, even if it's relevant, you can still have a problem separating the wheat from the chaff. Sometimes, a summary of the relevant information will suffice, while, at other times, a full reading or discussion is required. Consider a disciplinary meeting with an employee. Do you want a summary, all the facts, or something in between? Even though some people argue that too little information is worse than too much, I suggest that the minimum amount of information required to do the job is ideal. You should request the appropriate amount of information needed to complete your task — not too little, not too much. As a general statement, you don't need all the information reasonably available to successfully complete most tasks. Usually, having 20% or 30% of the information is more than adequate to start (and often finish) a project. If you wait until all the available information is in your hands before starting something, that project may never get off the ground. However, if you don't know what you need, err on the side of asking for too much information rather than too little. This was the method used by Henry Kissinger in the anecdote that was provided in Chapter 3.

Budget reports are another area where you have to be very careful about how much information you request. Depending on how your particular animal facility and organization function, you may need anything from summary data to a detailed listing of all income and expenditures.

3. Information Should Be Timely

Information should be available when you need it. It may be old news, but if you need to see a copy of your budget from 2 years ago, you should be able to retrieve

it rapidly. Perhaps one of the reasons we like gossip (and often use it) is because it's usually timely.

We have all experienced, at one time or another, a problem with timely communication among large numbers of investigators. Some animal breeders send faxes to their clients when rapid communication is necessary. That method is appropriate, since most offices have fax machines, and better fax machines can send the same message to multiple other fax machines. If your organization has the proper equipment, voice mail can be sent to many people at once and, of course, e-mail is so ubiquitous now that I cannot imagine any animal facility, even small ones, operating without e-mail. And, while we are on the topic of e-mail, I don't want to forget to say a word in support of some information resources that many animal facility managers use. There is the IACUC Forum e-mail discussion group sponsored by AALAS, which also hosts the Compmed and TechLink discussion groups. Additionally, numerous other electronic resources for veterinarians and laboratory animal facility managers are available.

As a veterinarian, I'm particularly attuned to the timely receipt of vendor health reports. Most major vendors can provide them quarterly, and they provide much important information. Some vendors have their reports on a Web site. I received a report from one vendor that was very impressive except for one problem: the report was not dated. I called and found that the vendor checked its animals once every 6 months for viral pathogens and once a year for bacterial pathogens. Sorry, my friend, but I want more timely information than you're willing to provide. I'll buy my animals elsewhere.

4. Information Should Reach the People Who Need It

Information has to reach you or other people who need that information. It's not unusual for an IACUC administrator to need concurrent information from the animal facility, the Institutional Biosafety Committee, and the Institutional Review Board (the human equivalent of an IACUC). Alternately, the animal facility may need to share or obtain computerized information from the IACUC administrator. One way of approaching this need is to have a local network of computers that can provide pertinent information to multiple users. Another way is to have computerized links to relevant information. For example, if an investigator is filling out an IACUC protocol form that includes a question about the volume of blood to be withdrawn, wouldn't it be nice to have a link to information about the volume of blood that can safely be sampled on a daily or weekly basis?

I wrote earlier that you have to be willing to share information if you expect people to give you information. You have to engender a culture of openness to encourage people to provide you with certain types of information. People have to know that you need certain types of information. You also may need appropriate equipment (for example, a computer) to get certain types of information.

Nevertheless, even with everything in place, there are some people who attempt to gain or keep power by withholding information from others. For example, the supervisor who doesn't tell employees about pending changes in a work schedule until the last minute has certainly exercised his power to withhold information — whether it was the smart thing to do is another story. There are also people who may withhold information from you because they like to see you squirm when a minor problem elevates into a major problem as a consequence of the withheld information. If you withhold information simply to prove that you can, you have a significant managerial personality flaw and you may have to pay the piper later on. The truth is that in most instances all information should be disseminated to the people who will be affected by it. There are times when this cannot and should not be done. If you work for a pharmaceutical firm, you may be advised about health effects and safety precautions involved with a drug under development, but it would be very unlikely that you will be told the chemical structure and other details, even if you will be involved in animal studies that use it.

At one time or another, all of us have said, "Why wasn't I told?" Sometimes, as I just wrote, you weren't told because the information was confidential at the time. In other instances, you weren't told because the information meant for you was given to the wrong person. If that wrong person had no idea why she received the information, it could have ended up in the trash. On many occasions I have been sent copies of memos that, for the life of me, I could not understand why they were sent to me. Sometimes they were filed; more often they were discarded. A good way of providing information to animal-using investigators is via a monthly or bimonthly newsletter addressed to that person. If the "Why wasn't I told?" question comes up, you have a black-and-white answer — or perhaps an e-mail copy — in front of you.

Although I said it previously, I again want to emphasize that you must keep your immediate supervisor informed of significant events in your area of responsibility, whether they have already happened or you are planning them. This is another one of those circumstances where too much information may be better than too little, although you have to know what your supervisor wants. Chapter 3 commented on some of the ways to integrate your own management style with your supervisor's style, and this may be a good time to review those comments. One way or the other, you have to provide needed information to your supervisor in a timely manner. Equally important, when you provide that information, you should try to know more about the situation than the most basic facts. For example, if you learn that a nearby new private laboratory is doing research that is very compatible with research being performed in your own institution, part of your job becomes trying to find out some additional details about that research and the appropriate persons to contact. All of this should be done well before you meet with your boss. The additional information certainly may help your boss and your institution, and it also speaks well of your own initiative and commitment.

5. Information Should Be Cost Effective

The management of your information resources may be costly. Business computers and their associated software, printers, Internet access, e-mail, voice mail, professional meetings, and the like can cost many thousands of dollars. We have to make managerial decisions as to whether the value of the information is worth its cost. Sometimes, the answer is obvious. For example, professional journals are important in animal facilities. Because it may be too expensive to receive individual copies for everyone, many people can share one journal subscription. A less obvious example is the cost of installing a computer link to a library database, such as the National Library of Medicine. Would it be cost effective for your organization? It has been said that in the not-too-distant future biomedical journals may all be on computer disks. No more reading them on the train or before going to bed — unless, of course, you read them on your laptop computer or electronic book reader. Perhaps it's the end of an era that should not end, but the ability to do rapid searches for articles and passages certainly offers a compelling case for having electronic journals in addition to print journals.

In some instances, it's almost impossible to evaluate the worth of information. Consider a professional meeting in another part of the country. Although you almost always learn something new, there is more to meetings than the formal sessions. The contacts you make with other professionals may, in the long run, be worth far more than the cost of the meeting. If a professional meeting is important for you, is it also important for your technicians? Have you considered budgeting money for them?

6. Information Should Be Used

Assuming that the information reaching you is timely, relevant, and adequate in amount, you now must do something with it. It does very little good to have it pile up on your desk. It's like going through the mail: Sometimes you do nothing with the mail, and sometimes action is required. Some information simply confirms what you already know, and, if everything is under control or if it is "for your information" only, no managerial action may be needed. One way or the other, you will have to decide what to do with the information.

It's not always necessary for you to wait until confirmatory information comes across your desk before taking action. Most managers develop the skill of piecing together snippets of information from multiple sources in order to help visualize the bigger picture of what is actually happening. If you think that immediate action is required, take it, and worry about the confirmation later. An excellent example of this point occurred when a filovirus was found in imported cynomolgus monkeys. Because of the potential zoonotic hazard of certain filoviruses, the Centers for Disease Control and Prevention (CDC) imposed stringent requirements for the

importation and quarantine of those animals. The CDC continued its investigation into the source, dissemination, and potential hazard of the virus, but it acted rapidly and decisively.

Perhaps it's just my personality, but I always like to use the information I have to perform "what if" scenarios in my mind, imagining the worst outcome and the best outcome. If the worst outcome is really horrendous, I have to plan damage control ahead of time. If the best scenario is favorable to everybody concerned, I mentally sketch out the next step to take once that outcome arrives. Most often, I will use whatever resources I have available to identify the most likely outcome and focus my energies in that direction. For example, in broad terms, I know the major challenges that are confronting the University of Massachusetts Medical School. I'm also initiating the annual budgeting process and, after meeting with various people, I'm mentally making decisions on financial allocations. These decisions are based on what I know about the university as a whole, about changes in animal numbers, about researchers coming and going, and so on. My budget decisions will be made on our best guess as to what is likely to happen, but I keep in the back of my mind some contingency plans in case things are better or worse than I'm predicting.

As a manager, there will be times when you want to be decisive but the corporate culture says "slow down." You have to know your own organization. No book can tell you that. But you should not use your corporate culture as an excuse for either doing nothing or taking reckless risks. Use some common sense.

Desirable Characteristics of Information

- **Information should be relevant.**
- **Information should be neither excessive nor insufficient.**
- **Information should be timely.**
- **Information should reach the people who need it.**
- **Information should be cost effective.**
- **Information should be used.**

Information Commonly Needed by Animal Facility Managers

I mentioned earlier that you probably are not concerned about the value of the dollar overseas. Currency fluctuations may be a concern of your chief financial officer, but, for the most part, you have other things to worry about in your job. Yet don't think for one second that because you're a manager of the animal facility, you should be concerned only with that little piece of real estate. This idea is absolutely not true.

If you think it is, this is the time for you to skim through Chapter 2 to refresh your memory about environmental variables and how they can affect your operations.

Let's take a look at some information requirements that are common to most laboratory animal facilities and are used to help keep the facility running smoothly and to establish goals. Some of these, such as financial statements and personnel policies, have already been discussed.

For starters, as noted in Chapter 3, you and all the other employees should know the chain of command and how your institution is administratively organized. Strange as it may seem, many people in any given organization have very little idea of who anybody is other than their immediate boss. You certainly don't have to know everybody, but you and your coworkers should at least know the names and titles of those people who can immediately affect your operations.

A common information need is knowledge about your employees' working hours, as well as their efficiency and effectiveness in performing their jobs. The assessment of efficiency and effectiveness was discussed in Chapter 1 and is expanded on in Appendix 1. This information helps us assess and discuss performance with our staff and gives us objective criteria, if needed, to increase or decrease personnel based on the projected workload.

Standard Operating Procedures (SOPs) are quite important and, in some cases, they may be required by law or regulation (the Good Laboratory Practices Act, and, in some instances, the Animal Welfare Act regulations). It might seem obvious, but it's worth stating that you should be aware of and understand other pertinent laws, regulations, and recommendations (for example, the *Guide for the Care and Use of Laboratory Animals* [2], the Public Health Service policy on the use of animals in research). The information contained in those laws, regulations, policies, and guidelines may affect your organization's research effort if the animal facility is not in compliance. It is unfortunate that more than one laboratory animal facility "manager" believes that all he has to do is make sure the required work is done efficiently and effectively. Everything else is somebody else's problem. Some of these managers hardly know what is in the *Guide*. This attitude is really unfortunate for a manager to have. These people are more like construction bosses than true managers.

Budgets are of major importance in most animal facilities. If you are not the one who prepares it, you must know who does, where to get the needed information, how to help that other person prepare a budget, how to use it, and, if appropriate, how to develop *per diem* rates. You should also compare your expenses and *per diem* rates with those of other institutions, even though this usually provides nothing more than very rough information. Different institutions don't always include the same items in their *per diem* rates, so at the least you should know what is included or not included in your own rates.

Cage inventories, cage washer temperature charts, cage cleaning schedules, and equipment maintenance charts are also among the information the facility manager must have available. Periodic animal health reports may be required and therefore you should keep health records (either on a group or an individual animal basis).

For some species, such as dogs, you must have records that are specified by law. You may be asked to trace the location and treatments on a single animal (e.g., a dog) from the time it was ordered to the time it left the animal facility. If you have good records, fulfilling this request should not present a problem. A typical record for individually housed animals is shown below (Table 5.1).

Not all animal health records originate with you. Most vendors of common laboratory animals are able to provide you with health reports on their animals. Even if you have an in-house quarantine program for arriving animals and perform your own periodic general health and serologic monitoring of animals, receiving vendor health reports can only help you. These reports must be timely and reach the person (usually the veterinarian) who is most able to interpret and act upon the information they contain.

Here is another information-related consideration you should be aware of: Many animal facilities are unionized. If you are employed by such a facility, you should know the appropriate rules for working with the union. For example, you may need to change days off for a few weeks to accommodate an employee out on maternity leave. Does your union contract allow you to do that? If a union employee wants to make the change to help a fellow employee, is it permissible? Do you know the contract's provisions on regular working hours, overtime, promotions, attendance at union functions, arbitration of grievances, and so on? If you don't, you should.

What about the research or teaching programs of your institution? You certainly must know how to work with the investigators and instructors who use your facility. You must know what types of animals are usually needed, the quality of vendors, and the availability of animals. You will probably have to know some specifics about different animal models and alternatives to the use of live animals. It's all part of the job.

It should be obvious that I have not and cannot possibly discuss all the information managers need in laboratory animal facilities. It's your responsibility to determine what information is needed for your day-to-day operations. One thing is clear, though: Information is as much of a resource as money and people. As such, it must be managed by you so that it helps you to reach your short-range and long-range goals.

Organizing and Retrieving Information with Computers

One of the desired characteristics of information management, as described above, is that information must be timely. That is, the information you have available must be managed so that it can be rapidly located when you need it, and it must be in a usable form. Every office and every manager has some type of an information organization and retrieval system. My personal system is to put important information in the top tier of a three-shelf basket on my desk, and put progressively less important information in the baskets below it. Then, of course, there is the junk

Table 5.1 Individual Animal Health Record

Great Eastern University Individual Animal Health Record					
Species/Strain_____ Investigator_____					
IACUC Number_____ Arrival Date_____					
Appetite: √ = normal; F= fair; P = poor					
Bowels: √ = normal; D = diarrhea; S = semisolid; X = other problem					
Urine: √ = normal; B = with blood; X = other problem					
Date	*Appetite*	*Bowels*	*Urine*	*Comments*	*Initials*
1					
2					
3					
4					
etc.					

pile on the table next to my desk. I am the only one who knows where things are, which sometimes works to my detriment.

Filing research protocols by using a code number or alphabetical filing of personnel records are typical examples of basic office information-retrieval systems. Today, computers are a major means of storing and retrieving information. They can sort information and present it to you in a multitude of forms. Thus, you may be able to track a study with a database that sorts it by investigator, protocol number, species, type of procedure performed, and many other parameters.

Remember, computers can only do what you can do manually. They simply do it faster and usually with greater accuracy. As a rule of thumb, if you don't understand the basic concepts of how to do something manually, you won't understand how to do it with a computer. There are exceptions, of course. You may not understand the mathematics behind a particular statistical test, but you should know what information to give the computer to get an answer. Let the machine worry about the formulas and calculations. You must, however, know what statistical test to use before you enter the values into the computer.

Every manager should have a basic understanding of computers and how they can be used. This is usually termed being "computer literate" and nowadays it is almost impossible to manage an animal facility without computer literacy. Computers can also give you access to laboratory animal science electronic bulletin boards, to many other types of laboratory animal and scientific information, and to other managers

throughout the nation, and, indeed, the world. In today's world, you simply cannot operate an efficient animal facility, even a small one, without computers.

Still, computers should not become a substitute for the basic skills I have previously described for managing your information resources. But once those resources are in place, you should be leading the troops toward computerization. As I said, you simply cannot be particularly efficient or effective without them. If one or more people you work with are afraid of computers and don't want to invite change, you're the person who has to lead by example, by offering training opportunities (even one-on-one if necessary) and doing whatever else it takes to bring your facility into the modern world.

References

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Chapter 6

Time Management

It certainly is a rare day when a laboratory animal facility manager can sit back, look at the ceiling, and feel guilty about having nothing to do. Most of the time, facility managers are juggling three or four major projects along with their routine responsibilities. That's just the beginning of the time crunch, particularly for a seasoned manager who may get more and more work delegated to him. People are working longer days than ever before, taking their work with them on their vacations, taking their work home, and neglecting their family life (although interestingly, the actual divorce rate has been moving downward). Then, of course, the inevitable emergency arises at the worst possible moment. What can we do to remain sane? How do we find enough time to do our work? This chapter discusses day-to-day time management. Time, and time limits, are also part of the vision and strategic plans discussed in Chapter 1.

It's very easy to forget that time is a resource that must be managed to help us reach our goals. Time is a limiting resource in the sense that there are just so many hours in a day. The word "efficient" is easily applied to time management, but let's not forget that we must balance efficiency with effectiveness. I have always been fascinated by budget-cutting managers who expect people to be as efficient and effective as they were before their budget was slashed by 30%. "How you do it is your problem; just do it," they say (or imply). This is no small trick, and, in some cases, it's impossible. Often, you have to increase your efficiency or decrease your service. If your staff is already working at reasonable efficiency and effectiveness, a budget cut will usually lead to decreases in service or effectiveness. Unfortunately, almost everybody who has worked in a laboratory animal facility has experienced budget cuts, and I will do my best to try to help you manage one part of that

problem — increasing your efficient management of time to help you effectively accomplish your goals.

New managers, up to their necks in more work than they can handle, may fall back on the old saw that when you are being chased by alligators you can't worry about your swimming form. In other words, they feel they are too busy to worry about any fancy theories on how to manage time. That, they say, is for people who have nothing better to do. Yet this is precisely the reason that time management is so important. It allows you to get out of the swamp and think more clearly. More time for planning may actually lead to more productivity, not less. If you are one of those people who claim to work 60- to 70-hour weeks, you should read this chapter carefully. Either your timekeeping is wrong or your ability to manage your time needs to be improved. There is simply no need to regularly put in ridiculously long work hours. Although most people who put in long hours do so because they like their job and find it challenging, their home life often suffers [1] and I am willing to speculate that their day-to-day work quality will suffer as the number of hours worked increases beyond some as-yet unspecified breaking point.

I'm sure that some of you reading this book feel that your life is just getting out of control with people making demands on you. There's only so much multitasking any person can do and, as I will describe in a few moments, although we can delegate some tasks, there are certain ones we must keep for ourselves. But people, including our bosses, continue to make demands on our time. How do we handle this? One simple (perhaps simplistic) answer is to politely say no, explaining that you are absolutely swamped with work. But can you do that if you are the low person on the totem pole? It's hard to know because each situation is different, but it's fair to say that if you don't try to push back a little once in a while, you will never know if you can. One way of raising yourself a couple of notches on that totem pole is to exert a little authority by not being afraid to decline a new task when you know you will not be able to do it justice. As emphasized a little later in this chapter, it's better to do a few things well than many things poorly.

Time must be managed like any other resource. It is more than working faster or working longer hours to complete your work.

Most managers of laboratory animal facilities have worked their way up through the ranks. Even for those with a college degree in animal health technology or laboratory animal science, almost invariably there has been an apprenticeship period where hands-on work was the rule rather than the exception. Now, as a manager, you're probably still spending a certain percentage of your time as a "doer" rather

than as a manager. This is not at all unusual, particularly if you are a first-line supervisor. A lot depends upon the size of your facility. It's hard to envision one person sitting behind a desk all day and managing two others (although this is not unknown). On the other hand, if you manage a very large facility, you may rarely have time for hands-on animal work. Overall, it has been estimated that supervisors in most professions spend 39% of their time "doing things" rather than managing [2]. That may not be so bad. Tom DeMarco points out that managers need some extra time for thinking or handling unique problems. Without what he calls "slack," you can keep things efficient but not necessarily better [3]. In other words, you need some slack time to see how things can be improved.

One of the keys to successful time management for the new manager is to learn relevant new skills, such as management skills. You should not be completely involved in performing and refining skills that do not have a significant impact on your daily activities. To rephrase this, you have to stop functioning as an expert in laboratory animal technology and start functioning as a manager. Don't steadfastly refuse to give an injection because it's no longer in your job description, but at the same time, don't do it just because you want to prove that you're still one of the guys. Do it because there is a particular need at a particular time. We all have to chip in when it's necessary to do so. I have changed cages, washed down runs, cleaned filters in the cage washer, and fed animals when we were short-handed. My wife, who is a veterinarian, will insert catheters or do other technical tasks when her technicians have trouble doing so. Some managers make a point of periodically working on the production line or doing other jobs within their company to keep themselves in touch with what is actually happening outside of their office. They don't do these other jobs day-in and day-out, but the occasional stint also helps keep employee morale high. If you are first and foremost a manager, spend most of your time managing, but don't be afraid to pitch in when the situation calls for it.

If you are first and foremost a manager, then spend most of your time being a manager.

"The goal is not time 'saving' *per se*, but rather reallocating hours for more important tasks. This involves understanding what is important and what is not" [4]. It is entirely reasonable for you to have more than one goal. It would be unusual if you did not. You do not have to completely stop working toward one goal if another is somewhat more important, but you do have to allocate more time to the more important goal. That is, you must establish what your priorities are. This is part of your role as a decision maker and it's an important facet of your job. Here's an example.

It was early March, and Dr. Peter Smith, the director of the laboratory animal facility at Great Eastern University, was working on three projects. There was a monthly newsletter to be sent to investigators, a grant application for capital improvements in the animal facility, and his annual budget.

The budget was due in three weeks, and, although he wasn't short on time yet, he knew he had to pay more attention to the budget than to the other projects. Dr. Smith continued working on the two other projects, but spent the bulk of his time working on the budget. When the budget was complete, he was able to spend more time on the other projects.

Smith appears to have been an experienced manager. He had a ton of work but he didn't get flustered. Whereas an inexperienced manager might have wanted to be helpful to others and take on more and more work, Smith limited himself to three projects. He set priorities and got the most important project, the budget, completed first. Maybe he even shut his door to keep people away from him for part of the day. Like any good manager, Smith knew where he was, knew where he wanted to be, and he developed a short-range plan to get his budget completed within three weeks. Smith understood that time management does not mean managing for one day at a time. It implies that you must set your short-term and long-term goals and properly allocate the time needed to reach those goals. As with all aspects of management, you are constantly reevaluating where you are, where you want to be, and how you are going to get there.

Establishing priorities is an important aspect of time management.

Recording Time Usage

Some years ago I tried to become more efficient in my daily time usage by keeping a time log. Every hour, for two weeks, I recorded how I spent my time. I followed the advice I'm going to give to you. I did it because I believed it was standard doctrine in time management. It helped me for a few months and then I began to slip back to my old habits. It was like going on a diet; it works at first, then the slightest little slip and you're back to square one. Nevertheless, it wasn't a total waste of time. I picked up and kept enough good habits to make it worth describing to you. I do this with a little hesitancy because, after speaking informally with other managers,

Table 6.1 Time Log Used to Record a Manager's Daily Activities

Time Log Date: March 23, 2008							
	Enter all time as minutes spent.						
	Animal Care	*Species*	*Admin.*	*Records*	*Phone*	*Meeting*	*Personal*
9–10 A.M.			40		20		
10–11	30	Cat		30			
11–12			30		15	15	
12–1 P.M.							60
1–2			15		25	20	
2–3	15	Rat	30		15		
3–4			60				
4–5						60	
5–6			45		15		

my impression is that recording time usage works for some people but not others. With that caveat, let's move forward.

To properly manage your time, you should begin by knowing how it is currently used. How much of your time is spent as a manager? A technician? A teacher? How much is spent in meetings, on the telephone, looking at your e-mail? An easy way of making such a determination is to keep a time log. For one workweek, record what you are doing every 30 minutes or every hour. Record this as you go along, not at the end of the day, because nobody can remember the events of an entire day. Some people have forms that divide their time into telephone, meetings, planning, and so forth. Others simply list their activities and summarize them later. But one way or another, it's necessary to define what you are doing and when you are doing it before you can consider making changes.

Shown above is an example of a time log for a manager with minimal animal care responsibilities (Table 6.1).

In addition to keeping records of your own time, all members of your animal facility may have to keep time records. This process can serve a multitude of purposes. The most obvious is to help your employees in the management of their own time. In addition, having employees record their time is immeasurably helpful in setting *per diem* rates. The biggest part of this rate is labor, and it's imperative that everybody be accurate about recording the amount of time that is allocated to

specific tasks. Although I am somewhat ambivalent about the use of personal time logs, I am a strong proponent of knowing, in general, how my staff spends their time. This is discussed in greater detail in Appendix 2, where a special time log for people working with animals is included.

Asking your staff to record their daily time usage can lead to some raised eyebrows unless you clearly communicate what your goals are. If someone handed me a sheet of paper and told me to record my time usage (which has actually happened to me), my first impression would be that someone is out to get me. If the economy were bad, I would be paranoid. So be sure to let your staff know why they are recording their time usage. Be sure to give them periodic feedback about your findings.

Some years ago, when I was working at the American Health Foundation, I did a small informal study of time usage by our research technicians. We found that approximately 30% of their workday was occupied by meetings with investigators or with their supervisors, work breaks, personal telephone calls, going to the restroom, and the multitude of items that make up a typical day in a laboratory animal facility [5]. This came as a great shock to the heads of the various research divisions, who were convinced that their own staffs worked 70 minutes every hour and had no bodily functions. Yet none of them would do a similar study; perhaps they didn't want "no bad news." Perhaps they didn't realize that talking to each other, going to meetings, and doing other normal daily activities helps build the camaraderie and skills that are so important to an effective and efficient operation.

You should evaluate staff time usage records for other reasons. Record keeping can help you justify the need for additional staff or to reassign staff to other areas. In the facility where you are currently working, can you justify how many people are required for general animal care? In those facilities where the salary of the staff may come from more than one source, time records allow for the correct allocation of charges. Under these circumstances, it may be necessary to have, on an ongoing basis, hourly (or other intervals) recordings of how time is spent during the day.

Many laboratory animal facilities charge for administering medications or for the special care of an animal. When this occurs, labor is often charged to the nearest quarter hour. To do this, a record must be kept, particularly if you find yourself having to document a charge.

A final advantage to keeping time records is that it provides information to compare your time usage, and the time usage of your staff, with that of other institutions (assuming, of course, they have time records).

Utilizing Time Records

I just gave you some reasons for keeping time records. Now that you have this information, what are you going to do with it? Begin by realizing that time management is an important part of your planning function. Think about what your goals are

and how you have planned to reach them. Then review how your time, or your animal facility's time, has been used. Try to determine how much time has been used for repetitive functions (for example, did two different people check to see if the surgical packs had been autoclaved?). How much of your daily work could, and should, be delegated to others? How much work could actually be deleted without harming the animal facility or the organization? Even though you are trying to find ways to save time, it may turn out that you and your staff are being efficient but not very effective. In laboratory animal facilities, given a choice, we would have to choose effectiveness over efficiency. It may turn out that you need *more* people or equipment.

Here's a starting point. Make a list of what wastes your time relative to what you want to accomplish. In most animal facilities, major time wasters include:

- Telephone calls
- Unexpected visitors
- Unanticipated work problems
- Special requests from superiors
- Excessive memos
- E-mails that are irrelevant to you
- Meetings
- Delays while waiting for information from others
- Your own procrastination

I will return to this list shortly.

Next, and very important, I suggest that you set up a list of priorities for each day, month, year, or whatever other time period you feel is appropriate. For example, on a daily basis, you might define three goals that are essential to both your animal facility and your organization. These goals become your most essential ones for the day. Deciding which applicant to hire might fit into this category. These are the items you should put a star next to on your priority list.

A second grouping can be those objectives that are important to your facility, but not the organization as a whole. This group has a somewhat lower priority. For example, setting new work schedules might fit into this group. A third group, with still lower priorities, might include objectives that are of importance but do not need immediate attention. For example, evaluating the need for additional animal caging might be appropriate for this group. As a rule of thumb, if by *not* doing something there are no severe consequences, then that item can receive a lower priority.

Needless to say, low-priority items cannot be delayed indefinitely. Time management, like everything else, is in a constant state of review. An item that has low priority one day may have a higher priority on another. Remember, your priorities should be related to your organization's goals. Buying a new television for your home does not belong in any priority grouping.

Maximizing Time Usage

Let's return to the list you made of time wasters and discuss some methods by which they can be avoided. Obviously, you should eliminate those items that are totally unimportant to the functioning of your facility. Buying the television I just mentioned is an example. Now, begin to schedule your own time or, if appropriate, the time of your coworkers. You have to be very careful when you schedule somebody else's time, as it may be taken as exhibiting a lack of trust on your part. Once again, good communication relative to telling people why you are doing what you are doing, and asking for opinions, is of inestimable value. Your staff may perceive problems that you have not thought of. For example, you may have considered surgical prep and actual surgery time for a given procedure, but not the time needed to bring the animal from the cage into the prep area, and the time to take it back to the cage area.

Scheduling Your Day

Don't try to schedule 100% of your day. It is a fool's errand because the many unexpected interruptions that occur every day or every month will disrupt your plan. Try scheduling no more than 75% of your time, and indeed, 50% may be a safer figure. As a practical matter, it's better to do fewer things well than to do many things poorly, so if time is really tight, try to plan on doing fewer things well. Do not take on so many tasks that you simply can't get them done.

Do not schedule more than 50% to 75% of your time. Unanticipated items will take up the rest of it.

Determine for yourself the time of the day when you are at your best. For many people, this time is in the morning. For you morning people, this is a good time for you to handle your roughest chores, particularly those on your highest priority list. Don't procrastinate in tackling problems, but make sure that you have enough information to accomplish your task. Procrastination can have a snowball effect for you and other people. It is all too easy to put things off. Personally, I like to get one or two problem items out of the way as soon as possible. I will tackle something I don't like to do before handling things I do like to do. It's akin to a having sweet dessert after a main course you really don't like. Some people disagree with this, trying to get some easy items out of the way first. I think that's appropriate for a meeting, but for my day-to-day schedule, I would rather tackle the hard stuff first. See if this works for you.

If necessary, set a deadline to complete the task, as Dr. Smith had in the earlier example. Many people work better and with more intensity if they know there is a deadline to meet. You may remember that many students begin their term papers only when the deadline is upon them. Lisa, my wife, is one of those people and still works best when she starts at the eleventh hour. I'm just the opposite. I have to get everything done as soon as possible so I have time for revisions. Whether you do things Lisa's way or my way, stick with the job. Shut the door if necessary. Turn off your telephone if you can. You do not always have to be writing or reading while you work. It is perfectly reasonable to stop and think. Look out the window if you want to. If you feel that a task is particularly difficult or objectionable, schedule it to be accomplished in more than one work period, but you must work during the scheduled time. The preparation of a budget is a common high-priority task that might be scheduled over more than one time period.

Work on a project during the time you allocated for it. Do not procrastinate.

How else can you maximize your scheduled time? I've already discussed setting aside time to tackle your priority list, which may include innovative items or repetitive chores (such as analyzing budget variances), but they all have to get done. As a practical matter, a good deal of your scheduled time is often taken up by these chores. You might also consider setting aside certain times of the day for specific managerial functions, such as planning or controlling activities. This can include your time for meetings.

Do You Need Time for Planning?

For the longest time, I was disappointed with myself because I could not get around to sitting down in my office to "plan." I felt much better when I learned that many managers are spur-of-the moment planners who do some of their best preparing in brief spurts and in response to specific situations [6]. Now, I save my scheduled time primarily for items that I know have to be accomplished while sitting at my desk. (I actually do my best thinking in the shower.) This does *not* mean that you should jump from one project to another. You still must set your priorities toward your most important ongoing projects.

As part of your scheduling, consider setting specific times for receiving and making telephone calls. Many physicians, private-practice veterinarians, and purchasing departments have learned the value of such a policy. Politely inform

colleagues, salespeople, and others of this policy. A secretary or other assistant can also be of immeasurable help here. They can screen calls and let you know what information to have ready when you return a phone call. It's also important for you to know just when to call certain people, even when it doesn't fit into your usual schedule. For example, some laboratory animal facility managers order their animals on Friday mornings. This requires substantial time in getting through to some suppliers, and frequent callbacks from suppliers to confirm the availability of animals. If it doesn't present a problem, try placing your calls on a Thursday, or have an understanding with a particular supplier that they will call *you* at the same time every week.

I know that some people, when they're away on a trip, arrange ahead of time when they will call their office. I don't do that and, in fact, I rarely call my office when I'm on vacation or at a meeting. I like to think that my animal facility can survive without my being there every day, and without my having to constantly call in. Maybe that's just my ego, but I really believe that a good manager should have things running smoothly enough to be able to take some time off without the entire operation falling on its face. If it's an emergency, I can usually be reached on my cell phone. If it's not an emergency, wait until I get back or leave me an e-mail (yes, I usually do check my e-mail while I'm on vacation or at a meeting).

If you normally have an open-door policy for your office, close it while you are busy. This simple procedure will inhibit many people from walking in on you. If your office door must be open or if you work in a relatively open cubicle, position your desk so you don't make eye contact with everybody who passes by (that's why I keep my office door only half open, with my desk in the opposite corner). If you have a secretary, have her sit between you and anyone who might be coming in to see you. A secretary can be most helpful in stopping unnecessary interruptions.

While discussing the management of information resources, I stated that you must have adequate information to complete your task. You probably don't need 100% of all possible information. In many cases, you can complete 80% of your work with only 20% of the total available information. That is, to do most of your job, you may need only 20% of the total information you would like to have. You don't have to be absolutely perfect. More often than not, the attempt for perfection becomes nothing but a time waster. You become too anxious and nervous about your work. If you wait until you have 100% of the information, usually, you'd be old and gray before that happens. Just think about all the progress we've made in biomedical research, and we still do not completely understand how a cell functions.

> *At the end of the day, Angel Gomez, a supervisor at Great Eastern University, always found there were cages still to be washed. It seemed that only working overtime would solve the problem. After reviewing his options, he solved this problem by having some people work from 7:00 A.M.*

> *to 3:00 P.M. while others worked from 9:00 A.M. to 5:00 P.M. All Angel had to know was that the employees could begin at 7:00 A.M. without a supervisor being there, and that his own supervisor would approve the plan. From that point, Angel delegated all the details to a subordinate. The decision did not require any knowledge of which person would be involved, who was making how much money, or any secondary facts.*

A simple solution to a common problem.

Meetings

Let's turn our attention to another common time waster, meetings. I say a time waster only because most meetings either accomplish very little or accomplish their goals in twice the needed time. Meetings can be useful for many reasons, but they have to be run efficiently and effectively. There are some meetings, such as general staff meetings of an animal facility, that you might want to have even though there is nothing critical to discuss. That kind of a meeting, which keeps communication lines open and builds solidarity, is something I believe to be necessary. I have a weekly managerial meeting with those who report directly to me (my "direct reports"). Sometimes we have important things to discuss, sometimes not, but often we go off on fruitful tangents. Also, during the week I often accumulate information that might be valuable to some managers. Once I "download" that information to them and we discuss it as much as necessary, I empty it out of my memory bank. But for most other meetings, the following advice, which is more "how to" than the basic concepts given in most of this book, should prove helpful.

1. *Before you call a meeting, consider whether the meeting is even needed.* If the probable result of not having the meeting is inconsequential, then why have it? If it is needed, carefully consider who should attend. Don't leave out any key persons who have a stake in its outcome. It's often not necessary for every person on your list to be present for the entire meeting. Let people know for what parts of the meeting they are needed, so they can make optimum use of their own time. Before anyone leaves the meeting, ask if there are any final comments they would like to make. This technique frequently brings out important points. At other times, it starts a "postmeeting meeting" that goes nowhere.
2. *Set specific times for the meeting to begin and end.* For many meetings, it's a good idea to circulate an agenda before the meeting and stick to it. The agenda should say something more than "budget discussion." Try enlarging it to "consequences of Board of Trustees proposed 3% budget cut to animal facility operations." The curt "budget discussion" notation does not give

people a chance to formulate their thoughts ahead of time, thereby wasting everybody's time with nonproductive side discussions. If you have background information that will aid the discussions, attach it to the agenda. It will save time at the meeting and make it more productive. I like to put some easily agreed-to items at the top of the agenda. The usual agreement on these items gives the group a sense of accomplishment and paves the path for tackling the harder issues.

3. *Consider brainstorming before the meeting.* There are some meetings that require ideas emanating from brainstorming (getting all ideas on the table, no matter how important or unimportant they may seem) before a detailed discussion ensues. Based on my own experience, it appears that most brainstorming goes on during the meeting. This does take time, but it also helps break the ice and open up a general discussion after the brainstorming is complete. Nevertheless, if you deem the situation to be appropriate, consider having people submit their ideas ahead of the meeting. They can then be neatly summarized and discussed at the meeting itself. In many instances, this will save a tremendous amount of time and allow people more time to focus on the ideas the group deems most appropriate.
4. *If possible, set a time limit for each topic to be discussed.* Write that time limit on the agenda. In general, I like to hold meetings in the afternoon, and I try to keep them to an hour or less. Meetings that drag on much longer start to lose focus and people. If I want to be sure a meeting will end on time, I schedule it about an hour before most people leave to go home. It works wonders. Try eating a light lunch, without alcohol, so you stay alert during the meeting.
5. *Begin your meetings on time.* Unless there is an overriding reason to wait for a particular person, go ahead and start. I have been known to start meetings with nobody present. I would not do that if it would be political suicide, but if I'm in control, I will do it. I've done this with classes that I've taught. You would be surprised how quickly students learn to be present on time. If you don't routinely start on time, you may find yourself always starting late because people expect you to start late.
6. *If you called the meeting, it is part of your responsibility to ensure that superfluous topics and prolonged discussions do not interrupt its flow.* Try to get things back on the track. I am not suggesting that you avoid discussion and dissent for the sake of keeping on time or pushing through your own agenda. Under those circumstances, meetings can become an exercise in frustration. Open communication is as important during a meeting as at any other time. Even if people disagree with you, even if they know you will disagree with them, they want their opinions to be heard. Team spirit is built, not dictated.
7. *It might be important to keep formal minutes of your meeting,* especially if policy decisions have been made. Minutes ensure that, when implementing those policy decisions, there are no misunderstandings about what was discussed. One hoped-for outcome of any meeting is a consensus of all those present.

Formal records (and subsequent minutes of the meeting) are often vital to document this consensus. If you are going to keep meeting minutes, I suggest making sure that somebody is given the responsibility of being the recorder. I've been to more than one meeting where it was assumed that the minutes would magically appear at the end of the meeting. Keep your policy decisions in an easily retrievable form, such as a separate book, so that you don't spend hours going through old meeting minutes to find out when and if a policy decision was made. I have sat through many Institutional Animal Care and Use Committee (IACUC) meetings where far too much time was spent trying to remember what a particular policy said, or even if there was a policy.

8. *Not all meetings need to be formal.* Try having a brief meeting with somebody standing up. It tends to shorten the meeting and makes it easier to leave. Some managers find it convenient to go to somebody else's office to have a meeting, as that can make it easier for them to get up and leave. You might consider having a conference telephone call or video conference, rather than getting people around a table for a meeting. It can save both time and money.

Here's a summary of the points I just made about having a successful meeting.

Hints for Successful Meetings

- **Make sure the meeting is needed and decide carefully who should be invited.**
- **Set specific times to begin and end the meeting.**
- **Consider if brainstorming ideas will be needed and if it might be completed before the meeting, rather than during the meeting.**
- **Circulate an agenda before the meeting; include information that might facilitate discussions.**
- **Set time limits for each topic to be discussed, but do not arbitrarily halt productive discussion.**
- **Solicit all viewpoints.**
- **Consider whether formal meeting minutes are needed.**
- **Consider whether a video or telephone conference call can substitute for a face-to-face meeting.**

Not everyone would necessarily agree with my philosophy on meetings, particularly if you reside outside the United States. In a study of attitudes toward business

meetings around the world, it was found that, in the United States, the five most important elements of a business meeting are:

1. Clearly set meeting outcomes.
2. Have an effective moderator.
3. Be adequately prepared.
4. Have agreement on follow-up action.
5. Start on time. [7]

Paperwork and Reading Material

I will say only a few words about how to efficiently use the time that is spent with your general paperwork and reading material. The simplest solution, and one that frequently is best, is to handle important work as it comes in. If it can't be handled on the spot, establish a priority filing system for handling it, as I previously described. That means you determine what is most important, what is next in importance, and so on. You might also put it in a file to be handled on a specific day, and stick to that schedule.

I'm not much for writing hard-copy memos unless I believe that formally putting something in writing is necessary. I do most of my in-house correspondence by e-mail and to a lesser extent by telephone. For key items, it's usually the telephone. It's faster, more personal, and usually gets a better response. It's easy to ignore an e-mail memo or a letter, but it is harder to ignore someone with whom you are talking. You can therefore understand my prejudice when I suggest that you should not add to the paperwork clutter by writing memos when a telephone call or e-mail will do.

Let me return for a moment to our understanding of an organization's culture (Chapter 2). In some organizations (or with some bosses), a paper or e-mail memo is the only way to get things done. In others, it's frowned upon. If you find that a memo is needed but waiting for a return memo will delay your work, try sending a memo that reads "Unless I am informed otherwise, I will proceed with this plan on such and such date." That gives you the opportunity to move ahead while keeping others informed of your intent. If they choose to respond, that's fine; you can act on their comments. This type of tactic can turn on you if you are planning to do something that you know is against the grain of either the organization or your superior. As I have said many times in this book, use a little common sense.

Many managers have become bogged down by excessive amounts of reading material such as journals, junk mail, junk e-mail (spam), important mail, memos, and the like. A few years ago, someone told me about a report he heard on the radio. In essence, it said that people who leave messages on e-mail or voice mail thought that what they had to say was very important. But these same people were annoyed at the length of messages that other people left for them. Obviously, it's all

in the eye of the beholder. At least with e-mail you often have the option of using a "digest," which is often just the message header and one or two sentences from the e-mail. It makes it easier for you to determine what you do and do not want to read. It also tells you that when you send an e-mail, get your key idea into the header and the first sentence because the recipient may be using an e-mail digest.

Suggestions that might help you cope with the mounds of reading material that will come across your desk include learning not to read all of your junk mail and reading only that material that is pertinent. It drives some people crazy when they see me discard about 75% of my mail without even opening it. The reason is simple: I just do not have the time to read everything that is sent to me. I have to be selective. In journals or books, scan through the table of contents or read the abstract. If it's not important to you, move on. If it is important, you might want to underline or highlight specific passages so you don't have to reread the entire article in the future. You can do the same thing with some e-mail chat groups; set the program to just give you a list of the e-mail subjects (and sometimes a first line) so you quickly scan it, and pick and choose what you need to read (this is the digest just noted above). Some managers have found it useful to have a filing system on cards or on a computer that lists keywords from an article, where it originated (e.g., the journal and its date), or where it is filed. This is to save time in trying to relocate the article. As an example, you might have one 3 × 5 card entitled "Facility Design" that tells you the keywords in the article that interested you (e.g., "mice" and "cancer research") and in which journal it appeared (e.g., *Lab Rodents* 1:2008, p. 101). Nowadays, with the ability to locate almost anything online, it's less likely that you would need such a system, although some journals are quite restrictive with what you can access for free. Other managers, particularly those who themselves are active scientists, make use of electronic journals that "automatically" set up a keyword retrieval and article citation system. To help you save time in reading, you might even consider a speed-reading course if you think you require that kind of help.

Delegation

After following all or most of the suggestions that were made above, you still might not have enough time in your day. The problem could be that you are trying to do those jobs that could or should be done by others. Because most animal facility managers have worked their way up through the ranks, some have a tendency to try to bite off more than they can chew. They attend to their new managerial responsibilities while clinging to many of their old nonmanagerial ones. The parts become greater than the whole. In other instances, there is such a large amount of work that no one person could handle it alone. If you find yourself in this situation, you may have to delegate some of your work.

If you decide to delegate, don't give up those activities you do best. For example, if you are good at writing proposals and that's part of your job, find someone else to do your photocopying or go to the library for you [8]. Please do not interpret this to mean that you should stick only to those areas of your competency. That would be foolish and lead to a managerial disaster in the long run. A good manager should always try to develop skills in his areas of weakness. The point I am making is that you should delegate support activities that have to be done, not your central role as a manager.

Do not delegate the activities that you do best.

MacKenzie has provided a fine description of the value of delegation [9]. He notes that delegation extends results from what a person can do to what a person can control. It releases a manager to do more important work. It develops in subordinates a greater amount of initiative, skill, knowledge, and competency. Finally, it maintains the decision level. That is, it allows operating decisions to be made at the operating level and major policy decisions to be made at upper-management levels. I will add one additional thought to MacKenzie's: delegating responsibility and authority demonstrates trust in a person. Trust, as you know by now, can go a long way to increasing motivation, morale, and productivity.

Many tasks can be delegated, and they need not all be yours. You can work with supervisors who report to you to see which of their tasks could be delegated. Some simple examples of what might be delegated include monitoring food supplies, ordering bedding, and checking study records.

No matter who does the delegating, it should be axiomatic that nobody likes being saddled with the dirty work while the supervisor sits back and takes all the soft jobs. I remember how the dean of a medical school took his turn on emergency call like everyone else. Emergency call was not among the faculty's favorite pastimes. The dean did this not because he had to (he certainly could have delegated this responsibility), but because he wanted to give himself credibility when he found it necessary to delegate unpleasant tasks.

At times, even your best employee doesn't want to take on more responsibility. Perhaps there's a problem that needs to be solved or perhaps you are just giving too much work to a small number of people. In the latter instance, the "good old boy" network comes into play. We tend to give jobs to our friends, and sometimes we just overload them. There is also the possibility of demoralizing the quiet person who wants to be part of the team, gain a little authority, and work his or her way up the ladder. Don't overlook these people when work is delegated. They may blossom later on.

Delegated projects should be completed in a timely manner, not when a person "gets around to it," because if that happens there's a good chance the project will never get done. If you delegate a responsibility, set a mutually agreed-upon schedule and stick to it.

It seems logical to delegate a task to the person who can do it best. Sometimes, logic loses out to friendship or other considerations. The results may not be what you might have wished. In the following example, Erin Rourke got more than she bargained for.

> *Erin Rourke managed the laboratory animal facility at Ethical Pharmaceuticals, Inc. Although she worked hard, there came a time when she realized she would have to delegate some of her responsibilities to one of her group leaders. She had come up through the ranks with George Novak, a good friend who shared many of her views on facility management. George was still a group leader on the first floor of the facility. He was able to work with people and he could follow directions, but he was not very detail oriented.*
>
> *Erin asked George to help her out by doing some of the supervisor's weekly inspection reports. He would do the first and second floors of the facility and she would do the third and fourth floors. She explained that his job would include evaluating the daily operations to make sure they complied with the Guide for the Care and Use of Laboratory Animals and the Animal Welfare Act regulations. This help would save her a substantial amount of time and effort. George was a little apprehensive, but he agreed.*
>
> *George did his best. He made some superficial comments about peeling paint in a rat room and that the hose in the cage wash room needed fixing. Erin was tolerant and asked him to be more thorough the following week, but the next report was not much better. Erin had to redo the inspection herself, and now she found herself in the position of telling George that she would do the work herself or assign it to someone else. Her decision was a double-edged sword. George was somewhat relieved to get rid of the task, but he had a deep-seated feeling of failure.*

In this example, it appears that George simply didn't have the motivation (and perhaps also didn't have the needed skills) to do the work and Erin should have used more forethought about using George for the job. She did not do him any favor by

giving him more responsibility, and in fact, the deep-seated feeling of failure that resulted was likely harmful to his position and feelings about his work.

While discussing morale, I pointed out the need to give the right job to the right person. We have to make sure the person wants the added responsibility. Was George Novak the right person for the job? Erin chose him because of friendship, shared values, and the fact that he could get along with people. But were these the characteristics needed for this job? Did George Novak really want the responsibility or did he accept it out of loyalty to Erin? The bottom line is that Erin Rourke should have thought about the qualifications needed before she thought about who she wanted for the job.

At times, you will have done your best to define the responsibilities of a job and who would be best for the delegated work, but you may still have lingering doubts about your choice. If you are not sure about a person's ability, you can set limits on the delegated responsibility and authority. For example, an animal care technician may be given authority to reorder cleaning solutions for your cage washer, but you are not obliged to give that technician the authority to choose a different supplier or a different brand. That limitation of authority should be clearly communicated to the technician; otherwise, the authority and actions taken may not be in the best interests of the facility.

When you delegate a task and the authority that goes with it, take the time to let other people know what has occurred. Don't send the new person on a journey without your staff, and possibly your own supervisor, knowing that somebody has been handed part of your authority. I'm sure that you would appreciate the same courtesy. Likewise, it is the delegating manager's responsibility to ensure that the person with the delegated task has the resources (people, money, time, and the like) to get the job done. I would not want to start to guess the number of times I've seen a manager, with a figurative wave of his or her hand, delegate a responsibility where failure was the likely outcome because the needed resources simply were not there. Then, of course, the manager would blame the failure on the other person.

Let your staff and other people know when you have delegated authority to another person.

One great source of delegated assistance that managers often overlook is a secretary or a similar assistant. Whether you have a personal secretary or a divisional one, a good secretary is worth his or her weight in gold. Secretaries can do more than screen your calls. They can schedule your meetings, draft letters for you, keep or review financial records, interact with investigators, and a myriad of other

functions. Good assistants are very much a part of your team. Delegate responsibility to them the same way you would to anybody else.

Whether you delegate full or limited responsibility and authority, you cannot blame all failures on the person who did the delegated work. It may work once or even twice, but pretty soon it will be obvious that you, the manager, must be accountable for the actions of your staff. If you are not willing to be accountable, you should reconsider being a manager.

In most cases, a manager will be held accountable for the actions of his or her staff, even if the work was delegated.

Returning Delegated Problems to the Manager

Some employees may ask for your opinion or advice about projects you have delegated to them. Assume you have passed both the responsibility and authority to an employee to purchase the best cleaning compounds available, at the best negotiated price. That person now comes to you and asks, "Who do you think I should buy descaler from?" At first, you may be flattered, but be careful. In many cases, that person is inadvertently (or intentionally) giving the responsibility back to you. I recommend that you resist direct answers to these questions. Suggest that they look into the problem for themselves, come up with alternatives, and act on the best choice. This also helps that person learn how to make decisions and emphasizes your trust in the person.

This problem of returning the responsibility for making a decision has an interesting spin-off that involves the IACUC. As most of you know, the IACUC represents its institutions' animal care and use program to the federal government, and most research institutions in the United States that use animals have an IACUC. For many years the laboratory animal science community has been advocating the implementation of performance standards (that is, doing what is best for the animal given the circumstances of the research) and not engineered standards (formal, one standard for everybody, irrespective of specific needs). Little by little, the federal government has been allowing certain performance standards to be implemented. But what have I heard from many IACUCs? It is "Just tell us what to do and we'll do it." Well, we can't have it both ways. The federal government delegated to the IACUC the authority for making certain decisions. The IACUC cannot turn around and say "Tell us what to do." That is returning the delegated authority to the manager. It's asking for an engineered standard because of presumed problems (or perhaps laziness or fear) in developing a performance standard.

Be on the alert for innocent questions or a casual discussion that may actually be returning delegated tasks to you.

Don't make somebody else's problem your problem unless it is absolutely necessary to do so. This does not mean that you should be mean or inconsiderate by avoiding a direct answer to a person's questions. There are times when people have done their very best and have hit a roadblock; this is when you should become involved. Becoming involved does not always mean taking direct responsibility for the problem. You can help stimulate a person's thinking about the problem by asking key questions in addition to "What have you already done?" For instance, you might ask about the positive and negative consequences of two possible solutions to a problem. Or even a simple statement such as "Give me more details" gets some people thinking in the right direction. On the whole, though, avoiding returned questions establishes where the responsibility is and obviously saves you time since you are not trying to resolve someone else's problems. And, as I noted earlier, it demonstrates that you have confidence in the person. If you wanted the burden, you would not have delegated it in the first place.

This may be a good time to review the section of Chapter 3 that discusses the need for positive reinforcement in human resource management. When tasks are delegated, there is a possibility that something may not work out exactly as you wanted it to. This is rarely a tragedy, but it does require that you express your concerns about the problem while being generally supportive of the individual. In the same light, praise should be given when all goes well.

I hope you are convinced that time management is not working faster or longer hours but a skill that every manager must learn. Time is a resource that is to be used with care. It is part of the process of asking where we are now, where we want to be, and how we can get there. As a resource, time must be planned, controlled, organized, and directed, and decisions must be made about its use.

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Chapter 7

Leadership

Are Managers and Leaders the Same Person?

Managers and leaders are not necessarily one and the same person. Whereas "manager" is a job title that a company gives to you, good leaders are good leaders, with or without a title. There are good managers who are weak leaders, good leaders who are weak managers, and in the best of all worlds, there are good leaders who are also good managers. Can you imagine a person who is supposedly a good leader but is a complete failure at organizing or making decisions? Not likely. Likewise, in a business organization, it's highly unlikely that a good manager will be a total failure at all aspects of leadership. Some leaders may be better than others in one or more areas of either leadership or management, but widespread weaknesses will not result in true leadership. Therefore, I think it is fair to say that most leaders (although not all) can apply basic management skills when needed, and most managers (although not all) can show a degree of leadership when it is needed. It's also fair to say that good leaders know that they are not omnipotent and they will gather a support group that will help compensate for any of their own weak areas. This support group can come from people within or outside the organization, such as employees, vendors, other leaders, and so forth.

Before we go too far, let's see if we can come up with a working definition of a leader and leadership. I've heard as many definitions of these words as I've also heard of managers and management, but most tend to revolve around the process of pulling people, rather than pushing them, toward new goals. One of my favorites

is that "management controls people by pushing them in the right direction; leadership motivates them by satisfying basic human needs" [1]. As much as I like that definition, I understand that it's somewhat of a catch phrase because, as stated in Chapter 3, any organization has to meet the basic needs of its employees to prevent poor motivation and morale. As a manager, you can only push people so far before they rebel. I would prefer to define a leader as a person who can motivate others to accomplish a goal. As a corollary, leadership is the methods a person uses to motivate others to accomplish goals.

A leader is a person who can motivate others to accomplish a goal. Leadership is the methods a person uses to motivate others to accomplish goals.

A consequence of these definitions is that leaders do not reach their goals by themselves. Although a manager, by the definition provided in Chapter 1, may work alone, this is not so for leaders. They are leading and motivating the people who are needed to get the work done. If you go back to Chapter 3 (The Management of Human Resources), under the discussion of motivation, it stated that "if an employee *wants* to perform efficiently and effectively. … You have helped give that person the inner drive to reach a personal goal." And that is what leaders do: they motivate people to do things by instilling within them the desire to do whatever it is that the leader wants them to do. Managers may have to motivate one person, but leaders usually have to motivate a group of people. People do not have to follow a leader; rather, they *want* to follow a leader. Here is what D.R. Clark wrote:

> Although your position as a manager, supervisor, lead, etc. gives you the authority to accomplish certain tasks and objectives in the organization, this *power* does not make you a leader … it simply makes you the *boss.* Leadership differs in that it makes the followers *want* to achieve high goals, rather than simply *bossing people around.* [2]

People who follow a leader feel that the leader's influence over them is reasonable at that point in time. There is no need to coerce a person to follow a leader [3]. Leaders are satisfying the needs of those who follow them. Therefore, although managers (and usually leaders) have a certain amount of authority that is vested in their position, it is the quality of leadership, not the authority of leadership, that will determine whether (and when) all or part of those goals will be reached. Leaders, like managers, are judged by results and it is what the followers do, not what the leader does, that defines a leader's success or failure.

For leaders, success or failure is ultimately determined by the actions of their followers.

Leaders are always leaders. Even when they are doing basic managerial functions they don't turn their leadership on and off like a light bulb. Sometimes they have to go into a higher gear, but on a daily basis it is their obvious motivation and drive, how they talk and listen to people, their mannerisms, their intuition, and their overall personality that helps set them apart from others. We discuss some of these traits later in this chapter. Nevertheless, business leaders, including those in laboratory animal facilities, don't walk into their office every morning and start to lead things. They have many of the same basic management responsibilities that we all have, but at the same time they have that something extra I just described that distinguishes them as leaders. Still, sometimes it's a little hard for us to see just where basic, good management differs from leadership. It's important for you to understand the basics of management, corporate culture, and the use of resources before launching into those characteristics that define a leader and leadership. In this chapter you will be constantly reminded about the basics of management and how they relate to leadership. This is why this chapter on leadership is at the end of the book, rather than in the first chapter. As I have preached for many years, leadership relies a good deal on the ability to motivate people but it also encompasses all of the basic roles of a manager (planning, decision making, directing, organizing, and controlling).

So a leader is a motivator, but leadership does not start and end with motivation. I might be able to motivate you to jump out of a window if your house was on fire, but that would hardly qualify me as a leader. The fire did most of the motivating; I just urged you on a little bit. In an organizational setting, the leader is focused on developing and accomplishing goals. The leader can articulate the vision statement in such a way as to make people also want to accomplish its goals. The leader is able to convince the entire organization that he or she symbolizes trust, open communication, and the importance of the organization's goals. The leader projects an image of: I will make you happy to follow me. My beliefs are your beliefs. My values are your values. You can trust me. Follow me! The talented leader is a highly self-motivated person and that enthusiasm to achieve rubs off on others. There is almost a tinge of religious fervor; after all, following an inspirational leader does require a dose of faith because very often we don't know where we're being led. Typically, we trust that our leader is leading us down the right path.

Another difference between leaders and managers is that leaders are always in the spotlight whereas managers are in the spotlight less often. From the moment a new leader comes on board or is promoted into a leadership position, she is being scrutinized. People are wondering what she is like and how her actions will affect them. Here is a true happening with only name changes.

> *When Dr. Laura Phelps was named dean at the Great Eastern University School of Veterinary Medicine, tongues quickly were flapping about what might happen when she assumed her new position, even though very few people had actually met her. Of course, those people who already knew her were on a pedestal of importance for a short while because they had a modicum of information about the dean. When Dr. Phelps finally arrived and settled in a little bit, she clearly articulated some of her short-range goals, told the faculty how she planned to reach those goals, and asked for their help and feedback. She was astute enough not to try to make too many changes in too little time. To do so would have alienated the faculty and department chairpersons, who are the basis of support for a dean.*

Veterinary schools, like medical schools, animal facilities, pharmaceutical companies, and aircraft carriers, have a certain inertia that keeps them on their current course. It takes time and effort to change direction, and if the change is too sudden, everything will fall off the shelf. There are exceptions to this, such as when a company is nearly bankrupt and drastic action is needed and needed quickly, but generally speaking a new leader has to tread carefully at first, build trust with honesty and open communication, and then motivate the entire organization toward higher goals.

Do We Need Managers or Leaders for Animal Facilities?

It's a fact that more often than not an animal facility is a monopoly within its own organization. Therefore, why does an animal facility need a leader? Can't we just get by with talented managers? I can think of a number of reasons, but let me give you the first three that came to my mind.

- *You may have a monopoly today but there will be competition tomorrow.* There are private companies that would be more than happy to take over part or all of the operations of your animal facility. You may like the status quo and think that you're doing a fine job as a manager, but those companies are looking at innovation in equipment, supplies, personnel methods, and overall delivery of service. Strong leadership and an associated, well-managed animal facility are potent reasons to keep outside contractors at bay, if that is your intention.
- *There is a constantly changing business environment.* Managers and leaders both look for changes in the political, socioeconomic, information, and physical environments that can affect the animal facility. It's not unusual for the direction of research to change, and leadership is needed to prepare the animal

facility for that changing environment. We can't remain in a horse-and-buggy age when there are rockets flying to the moon and planets. Just think about the burgeoning use of interference RNA (RNAi). If your animal facility was already set up for genetically modified mouse studies, there may not be a need for significant leadership in order to use mice treated with RNAi. However, if much of your work has been with larger animals, and your organization's researchers recognize the importance of RNAi in biomedical research, true leadership will be needed for the significant changes that will likely have to occur in the animal facility.

- *There is often a need to initiate change.* Whereas the business environment itself might be changing, and corporate competitors are out there, it is still not unusual for an animal facility to just plod along year after year, getting its work done but not doing much more. If RNAi studies are being done, that's fine. We'll take care of those animals. If behavioral testing is being done, that's fine. We'll take care of those animals too. But are your business processes in the 21st century? Is the equipment being used up-to-date? Are people being properly trained? Are services being offered that should be offered, and so forth? If the answer is no, then good leadership is needed.

We have to consider the needs of the customers of our animal facilities. In general, leaders focus on the future whereas managers give heavy consideration to the present. Leaders and managers must work together to develop long-range plans to serve our animals and those who use them, but it is the leader who has to be able to secure the needed resources to help accomplish those goals. The leader must be attuned to the internal and external environments to determine which opportunities to seize and which threats to avoid while seeking those resources. The leader must have the political savvy and sufficient authority to be a strong advocate for the animal facility.

A talented manager may now and then have the opportunity to show her leadership skills, but as noted at the beginning of the chapter, leaders and managers are not always the same person. You need a good leader along with good managers in order to stay competitive.

For those of you who want some concrete examples of differences between leaders and managers, Table 7.1 provides a side-by-side sampling. As I mentioned previously, it is a matter of emphasis, because depending on the situation, at one time or another, almost all managers will have to exhibit leadership and all leaders will have to be able to manage.

As expected, there are many traits shared by good managers and good leaders. Here are some of them:

- They communicate clearly.
- They establish a culture of openness and trust.
- They clearly state goals.

Table 7.1 Some Side-by-Side Comparisons of Managers and Leaders

Managers	*Leaders*
Can motivate a person.	Can motivate a group.
Is a key player in establishing or influencing the culture within his or her area of responsibility.	Is a key player in establishing or influencing the overall organizational culture.
Create a clear purpose and direction for the area of their responsibility.	Create a clear purpose and direction for the entire organization.
More involved in obtaining results for what is already decided.	More involved in initiating organizational changes.
Focused on limited area of responsibility (e.g., animal husbandry).	Focused on the company or department as a whole.
May, by definition, work alone and not oversee the work of others.	Is, by definition, leading one or more people.
Has a primary concern that existing business processes are working efficiently and effectively.	Has a primary concern to look to the future and develop new business processes.
Primarily interacts with subordinates to accomplish one or more goals.	Interacts with subordinates, peers, and outside contacts who can contribute to accomplishing (or thwarting) one or more goals.
Knows the skills and personality of each direct report and works to maximize that person's potential.	Understands the basic needs of all employees and unites them toward achieving a goal [4].
Occasionally in the spotlight.	Almost always in the spotlight.

- They define and disseminate what is meant by success.
- They are honest.
- They know what they don't know and use others to fill in knowledge and skill gaps.
- They actively solicit feedback before making significant decisions.
- They understand that the ideas of others may be as good as or better than their own.
- They are willing to learn.
- They are self-motivated.
- They are a stable force in the face of uncertainty.
- They hire the best people possible.

- They project an aura of confidence.
- They are friendly people.
- They are aware of their own strengths and weaknesses and do what is necessary to minimize weaknesses.
- They are not afraid to embrace conflict as a means of improvement.
- They recognize that people are assets, not objects.
- They give credit to others.
- They serve as mentors.
- They are consistent in their management and leadership style but can change when necessary.

The Authority of Leaders

It's relatively easy to envision great leaders coming from politics, armies, and business. However, not all leaders have to come from these fields and not all leaders even have to know that they are leaders. Just look around the organization where you work and I'm fairly sure you will be able to identify at least one person whom you consider to be a leader, even if that person has no formal authority. For instance, there are "ringleaders" who always seem to be planning something you are not happy about, but people do follow them — and since they do make and execute plans (even when they have a malevolent intent), they can be considered leaders. It's obvious, then, that not all leaders have to be at the top of their organizational structure. There are excellent leaders who are the "number two" people in an organization. Other leaders not only help lead people above them in the corporate hierarchy but also prove their value by influencing their peers, their peers' subordinates, their boss's peers and, of course, their own subordinates [5].

There are all kinds of leaders; some are good and some are bad (and sometimes good or bad depends on your point of view). I think many people would agree that George Washington, Adolf Hitler, Golda Meir, Winston Churchill, Estée Lauder, and Bill Gates qualify as important leaders, but their impacts on history will be vastly different. It should be apparent from the above group of people that not all leaders are good people, even if they are good leaders. I often think about Lord Acton's observation that "Power tends to corrupt, absolute power corrupts absolutely." Our nation's Founding Fathers certainly recognized and were concerned about this possibility well before Acton's time, and devised a system of checks and balances in government that were designed to prevent any one person from assuming absolute power. And yet, there were those (such as Huey Long) whose corruption was ostensibly channeled to the welfare of the man on the street, but if left unchecked might have tried the foundations of our democracy.

Part of a leader's ability to lead is due to actual or implied authority, while another part is due to leadership skills (what I called the quality of leadership). The two are intertwined even in an authority-laden environment such as the armed

forces. A leader with authority will not get very far if that's all he has. Indeed, as indicated in Chapter 1, gaining the trust of your coworkers is a critical ingredient for leadership. Nevertheless, we can all agree that authority can catch your attention. For example, France's King Louis XIV allegedly proclaimed that he was the State. He would not have done that unless he believed that he had the power to do so. Let's take a look at the types of authority leaders have.

Positional authority is the authority that goes along with your job title. Elizabeth Windsor has the title of "Queen of England" and has the positional authority that goes with her title. A supervisor has a certain degree of authority over nonsupervisors. An associate director has authority over supervisors, and the director probably has positional authority over the entire animal facility. The importance of positional authority is that people believe you have the right to make certain requests of them and that they have a responsibility to comply with those requests. When positional authority is abused, we often see low morale and high employee turnover.

Knowledge authority is the ability of a leader to gain the respect of followers as a consequence of her special knowledge or skills. In academia, for example, it's typical for department chairpersons to have distinguished careers in the same general field as the other members of the department. It's also the reason why we see advertisements for American College of Laboratory Animal Medicine (ACLAM) boarded veterinarians, as opposed to nonboarded veterinarians, to lead animal facilities. The ACLAM-boarded veterinarian is expected to have advanced knowledge and skills. It's also why scientists like to be led by other scientists, veterinarians by other veterinarians, technicians by other technicians, and so forth.

With knowledge authority, people follow you because they believe that you can teach them something, that you have already experienced their unique work concerns, and that you will provide needed resources for their work because you understand their needs. When Jimmy Carter first was campaigning for the presidency of the United States, my boss was urging all members of our research institute to vote for Carter because he was a scientist and he would understand our needs. Whether or not he understood our needs turned out to be immaterial because federal research grants were harder to get under Carter's presidency than in previous years.

Coercive authority is a type of authority that emanates from coercion; if we move out of polite society, this is sometimes reflected in raw brutality. Al Capone's special skill was killing those who did not do things his way. It certainly gave him authority among those who understood the consequences of not following the leader. A supervisor who threatens to suspend you for three days has coercive authority. An Institutional Animal Care and Use Committee (IACUC) chairperson who tells you to use a particular anesthetic or else your protocol will not get approved has coercive authority. Coercive authority occurs when people require a reward from a leader or they do not want to experience a punishment from the leader.

Leaders use all three types of authority, as needed, in order to reach their goals. A leader's leadership style requires flexibility because not every style of leadership will meet every situation. The same holds true for authority. Sometimes the leader

who normally depends on knowledge authority will have to use coercion, and there are times when simple positional authority is not sufficient and the leader has to rely in part on knowledge authority. Nevertheless, the ultimate source of power for a true leader comes from the people who follow his leadership [6]. This was drilled into my head by a former faculty colleague who emphasized that the administration of a veterinary school is there to serve the faculty, not the other way around. Likewise, a leader has no real power without willing followers.

A Leader's Personality Traits

Leaders lead by a combination of authority and leadership skills. Sometimes authority is more important, sometimes skills are the key, but usually both are used at the same time. Some (perhaps most) leadership skills are learned. The good news is that some traits that may seem to be innate (for example, self-motivation as well as the ability to motivate others) can also be learned.

Leaders lead by combining authority with leadership skills.

Let's take a look at motivation and other personality traits that are common to good leaders [7]. They are:

1. Motivation

I've already noted that being self-motivated is a hallmark of a good leader just as it's a hallmark of a good manager. If you're not happy being in a leadership role, then the chances are you're not going to be a good leader. Perhaps you should reconsider what you are doing. Those who are self-motivated often become good leaders.

> *I'll tell you about one person in my department who routinely did superior work. She was intelligent, self-motivated, technically competent, and everything else that any manager would want from an employee. At her annual review I gave her, as you might expect, a glowing report that was largely little more than summary of what I had told her during the past year. However, there was one small aspect of her job over which she had no authority and limited dealings, so I gave her a "meets expectations" rather than an*

"outstanding" rating for that item. It wasn't meant to be an indication that improvement could be made, but rather, I meant that it had little impact on her performance. Nevertheless, she asked what it was she could do to improve her work in that area. If anything, I was the cause of her query because I was not clear enough in stating that she did not have any true weakness in that area. Yet that constant drive to achieve was what spurred her on and is one of the hallmarks of leadership potential.

2. Self-Awareness

Good leaders are typically self-confident, assertive people. They are willing to accept criticism as being constructive, not destructive. This goes along with asking for feedback, whether positive or negative. They can look in the mirror and see themselves for what they really are, accept who they are, and try to better themselves whenever possible. They are not trying to make themselves into a textbook description of the perfect leader. They know how certain problems might affect them, so they work to find ways to constructively work around these issues. The need to gain the respect of people by calmly and politely expressing your true feelings when having a difficult conversation was discussed in Chapter 3. A self-aware person can do this and draw out the feelings of the person he or she is talking to. In a leadership role, being honest with yourself is as important as being honest with others. This personality trait (being able to understand other people's needs and willing to accept all forms of feedback) is of particular importance to laboratory animal facility leadership where we are relatively rigid in how we care for animals and typically have to clearly define everybody's roles and responsibilities. The leader has to explain the need for this rigidity and provide direction on how to achieve consistency in animal care and other technical procedures. From this need, we can also see that in an animal facility, the authority that comes with a knowledge of facility operations is often quite important in establishing a person's leadership.

A self-aware leader not only accepts feedback but actively solicits it. Because leaders are judged on results, and results emanate from the decisions leaders make, it is almost self-evident that asking for employee input about decisions that will affect them can build morale, help open communications, and give employees a degree of ownership of those decisions. It's reasonable to assume that most employees know that they often do not have the final say in implementing a decision, but in my experience that has not been a deterrent to their providing useful feedback. Still, it's a good practice for the leader to make it clear that he is asking for input, not a decision. If a leader tries to incorporate everybody's opinion into a final decision, it may be very difficult, or impossible, to make progress. This is because many

people simply don't like changes; however, a leader has to make decisions that often lead to changes.

When asking for feedback, leaders should make it clear that they are not asking for decisions.

You may find that you have to set up a formal meeting with one or a few people to get the feedback you want before making a final decision. Your listening and other communication skills may be put to the test, but the result will be worth the effort. Here's an illustration of how feedback can be used.

> *During the 2006 national American Association for Laboratory Animal Science (AALAS) meeting, a few attendees got together to discuss problems that were common to larger laboratory animal facilities. One of the topics discussed was how to provide water for animals in the event of a significant disaster. After we returned to work, I put this same topic on the agenda for our weekly management meeting. I was a little (but not overly) concerned that we could have a water supply problem for animals in the event of a major human disease outbreak (such as an influenza pandemic) or even from domestic terrorism. During such an event, water company workers might not be able to work if the water supply was cut off or contaminated. I presented one possible solution — stockpiling 55-gallon barrels of clean water — to start the discussion. I asked for everybody's thoughts about the need to even consider this issue, and if it was important, what could we do to ameliorate the problem if it occurred.*
>
> *The senior managerial staff first asked itself if water alone was the potential concern or if we should also be concerned about food, bedding, or anything else. After some open discussion, it was agreed that an interrupted water supply was a legitimate concern and was more of a problem than food, bedding, or other items. Some quick solutions (brainstorming) were put out for consideration. The associate director for animal care was given the responsibility for meeting with his supervisors and getting their feedback on both the problem itself and the suggestions that were already made.*

> *In turn, the supervisors decided to discuss the issue with the animal care technicians and get their opinions. After all was said and done, a contingency plan was developed and there were even two backup plans for the contingency plan. Everyone who wanted to have a say had a say, and although it was the senior management team as a whole that made the final decision, it was really a departmental effort. Now, of course, it was my job to make sure that the plan was actually carried out. If there is a catastrophe requiring alternative sources of water for animals, and our plan does not work, then I alone will probably be taking the heat. I will be judged by the results of my decisions, not the steps I took to get there.*

As we have seen, leaders not only need people to lead, but they also need to get honest feedback and honest advice. Therefore, managers who are leaders need to engender a feeling of freedom (trust) among staff members to speak up without getting dirty looks, cold indifference, a quick thank you and you're out the door, and so on. People are not dumb; they know if you're sincere about asking for feedback or if it's just a ruse that looks good on paper. Herb Kelleher, executive chairman of the board of Southwest Airlines, goes the extra mile and gets right in with his employees, periodically works beside them, and obviously talks to them. All in all, it creates a level of comfort for employees to be able to provide feedback to one of the bosses, and although Southwest is led on a daily basis by its president (Colleen Barrett), one can only hope that Kelleher's example and constant admonitions about teamwork will filter down and throughout his company. Kelleher does what Warren Bennis advocates, which is "to lead people, you have to enter their world" [8].

3. Self-Regulation

The best leaders I've seen are typically calm people who look for solutions to problems rather than looking for people to blame. They're not afraid to take risks (a good leader must take some risks), but they are also not afraid to say no to out-and-out bad ideas. Either they have learned from experience, or they know intuitively, that it's wiser to sit back and think about a problem rather than make a snap judgment that they will later regret. My personal rule of thumb is not to make an important decision until I'm confident that I have enough information to make that decision *and* that I have mulled it over for a day or so. Of course, there are times a quick decision is needed, but these are the exceptions. My other rule of thumb is that I will typically reject a possible solution to a problem if it simply doesn't feel right to me. A good example of the last concept is my tendency

not to send an e-mail in haste. If it is an important e-mail, I'll write it, save it as a draft, then look at it again the next morning. When leaders are capable of self-regulation, their demeanor sets a corporate climate for people to work together toward a common goal, not to try to save their own skin when something goes wrong. If the boss is willing to take his or her share of responsibility for an error, then the remainder of the staff will be that much more willing to do so as well. And, as discussed in another chapter, the smart leader knows not to take all the credit when something goes right. When you are the leader and you give most of the credit to others, you will get your share of the pie, even if you don't ask for it.

There are exceptions to self-regulation. Some leaders are successful even with a domineering "in your face" personality. I'm not talking about the out-and-out tyrant who uses nothing but coercive authority (as I described earlier for Al Capone), but rather an individual with an abrasive personality toward those within and outside of the organization, yet one who understands politics and can get things done. President Lyndon Johnson was a classic example of such a person. These people — who use power, intellect, taunts, temper tantrums, slurs, and demeaning looks to make their points and get their way — are those Kramer [9] calls the "Great Intimidators." There is no doubt that sometimes this type of a personality can result in effective leadership, particularly when a rapid change is needed to bail out a sinking organization.

4. Empathy

Whereas sympathy is feeling sorry for another person's predicament, empathy is the ability to see a problem from the other person's point of view. If you wish to reword this, perhaps we can say that the leader can relate to the man in the street. Perhaps one of the reasons for Shakespeare's greatness as a writer was that he could think like the characters he wrote about. And he could also think like the person in the audience watching his plays. Together, it was a winning skill. As a leader, you must also be empathetic. If a group of employees is late for work because of a power failure on a train line, you have to put yourself in their shoes and consider what choices they realistically had. If you are working for a pharmaceutical company that was planning on giving everybody a bonus when its new wonder drug came on the market, what would you do if your company had to pull it off the market due to adverse reactions that were found during clinical trials? The good leader would stand up and tell everybody that she is as disappointed as everybody else because she could also have used the extra money, but it is more important that the drug be taken off of the market before more people were affected. Pfizer Inc. found itself in that situation in 2006 when its new cholesterol-lowering drug had to be withdrawn from further consideration due to unanticipated problems found during clinical trials.

5. Social Skills

When I was writing my management thesis, I quickly learned a critical fact: people in any given field, such as laboratory animal science, want to be led by others in the same field. But, I wondered, why was it that, on occasion, some otherwise intelligent, pleasant, hard-working people were left in the dust while others who seemed less motivated and less talented became department chairpersons? At the time, I was convinced that there were two answers. The first was that those who quickly rose through the ranks were more articulate than most others and, second, that they knew how to "schmooze" with the best of them. I still think that communications are crucial and being articulate is important, but being articulate is certainly not as critical as I used to think it was. However, I do believe that social skills, including being part of the "in group," are an important but unsung attribute of leadership. You simply have to have friends and acquaintances, you have to be at ease with other people, you have to know the customs of where you live or where you are, and as shown above, you have to have empathy, self-regulation, and self-awareness. You may not want to bow or curtsey when you are introduced to the queen of England, but the astute leader knows that this is something one simply does. The astute leader goes to an AALAS meeting and learns more from socializing than he does from sitting in on scientific sessions. The astute leader knows how to build personal and political relationships that can only help in the future. The astute leader knows that he needs friends and alliances both outside and inside the animal facility. A manager networks to be sure that today's course of action is correct; a leader networks to learn the course of action that should be taken tomorrow.

Chapter 2 (The Organizational Environment) provided information about the external and internal environments that surround an organization. I indicated that there was a social environment, a politico-economic environment, a physical environment, and an information-technical environment. They all have an impact on our ability to reach the goals we set for our animal facilities. Our general social skills — and, in particular, our ability to network within and outside the animal facility and our own organization — can provide us with information about these various environments that we can never get from books, newspapers, or journals.

Networking helps leaders make decisions about future courses of action.

6. Prudent Paranoia

This personality trait is in addition to those presented by Goleman [7]. I don't know its extent in management and leadership, but until I read two articles that,

in part, described the business paranoia of Andy Grove (former Intel chairman and chief executive officer) [10,11], I was always too embarrassed to admit to my own paranoia because it seemed too much like micromanagement. To be sure, I am not concerned that everything that goes on behind my back is a threat to me, or that people who don't say good morning to me know something that I don't know. Rather, I continually fret about the details. I worry that all cages are being changed correctly, that every animal gets the best possible medical care, that investigators are not complaining, that we provide enough services, and so on. Of course, all leaders continually sniff the political and social environments where they work to determine if there are business or personal problems to unravel or opportunities to grasp, so maybe a little "prudent paranoia," as Kramer [10] calls it, is a healthy personality trait for leaders.

It would seem that if we put most of the information from the previous discussion together, we can say that good leaders know themselves. They know their strengths and weaknesses and don't try to hide them. They don't try to become somebody they are not. They actively work on making themselves better leaders by doing the right thing, not by forcing themselves on people by the sheer power of their position.

Nonpersonality Characteristics of a Leader

Leaders Can Convince People of the Importance of Their Vision

Leaders tend to have the personality traits that were just described, but that is not the end of the story. Leadership is about setting new directions and leaders have to be able to convince people of the importance of their organization's mission and their vision for change. Therefore, leaders — like managers — must communicate well. That doesn't mean that they have to be eloquent with every word and phrase that they use (not that it would hurt), but they do have to be convincing. Every day in every way they have to repeat their vision and emphasize its importance. They cannot sit back and hope things happen. They have to get out there and walk their own talk (that is, do what they are asking others to do). If they cannot convince those who will be carrying out the vision about the importance of the vision, then it will be near impossible to have success.

Leaders must be able to convince their followers of the importance of their vision. If not, the vision and its goals have little chance of success.

Leaders have to make their vision sparkling clear to everybody who hears it. If it takes a leader more than 30 seconds to clearly state her vision, then it is too long or not clear enough. Leaders have to describe their vision as if it was a story, and not just any story. The story has to go to the heart and mind of the listener because the leader wants that listener to become a follower. It has to be relevant to the listener, in the same way that politicians target their speeches to their audience. If the political candidate is speaking to an audience that strongly shares his own beliefs about a controversial topic such as abortion, then the message the audience will hear is what they want to hear. But if the audience and the speaker differ in their views on abortion, the astute politician will find another topic, almost always one where she and the audience can find common ground. A recent online article made the same argument for scientists. It stated,

> Scientists must learn to focus on presenting, or "framing," their messages in ways that connect with diverse audiences. This means remaining true to the underlying science, but drawing on research to tailor messages in ways that make them personally relevant and meaningful to different publics. For example, when scientists are speaking to a group of people who think about the world primarily in economic terms, they should emphasize the economic relevance of science. [12]

Good leaders and good scientists are often good politicians. Here's another example.

> *Dr. Laura Phelps was the new dean of the Great Eastern University School of Veterinary Medicine. The school was already well known for its excellence in clinical medicine, but it was just another school as far as basic, translational, and clinical research was concerned. During the time she was interviewing for her new position, she told many people, including the search committee, about her belief that the veterinary school should be as active in research as was the university's medical school. There was general support for this, but now that she was the dean, many of the faculty wanted to know how her vision would be accomplished.*
>
> *Phelps began by meeting with the faculty as a whole and talking about how their academic careers would be enhanced by their becoming more involved in research. She emphasized how, as an academician herself, she understood the intellectual needs and desires of the faculty. In other words, she showed empathy with the faculty. She appealed to their excellence as clinicians and reminded them of the prestige that would come to them by being "dual threats" and being*

on the faculty of a school whose reputation would rapidly grow. Here she was motivating them. For those who were already researchers, she thanked them for their existing work and told them of the positive changes for the better that were coming, including more laboratory space and hopefully more grant dollars.

Phelps also knew that she had to continue to solidify the support of a skeptical faculty, so she had low-key, informative individual meetings with every single faculty member and found out from them what they needed to make the research vision a reality. She was demonstrating social skills, self-regulation, and empathy. From these meetings she learned that the biggest concern was that the school's clinical case load was so demanding that the clinical faculty had no time to even think about their research interests. Armed with this knowledge, Phelps continued to articulate her vision, and each time was able to provide a little more detail on how it could and would be accomplished. She also worked behind the scenes, making sure the department chairpersons and the school's board of trustees shared her enthusiasm and were kept up-to-date. Little by little the faculty began to feel like academicians rather than private practitioners in a large not-for-profit setting. More faculty were hired and eventually, things began to fall into place.

The story above is hypothetical but typical of the activities of a new leader. Phelps could not transform the veterinary school's research endeavor overnight. The purpose of the story was to highlight Phelps's activity as a leader who understood the desires and needs of the faculty and was able to motivate the faculty to support her vision by appealing to those needs. The story also highlights that in most instances a leader is setting a new direction, not improving on what already is in place (managers do much of that work). It's true that there was already some research at the veterinary school, but it certainly was not a major facet of its work. Enhancing research was a major new direction that required leadership as well as good management.

Can an animal facility make major directional changes requiring leadership rather than managerial skills? Admittedly, the type of work we do does not have as many opportunities for initiating major changes as compared to many other enterprises. As a profession we often need good managers more than good leaders. Nevertheless, although much of our work is routine, the same was true at the veterinary school until Phelps came in and saw a need and an opportunity that previous deans had not acted on. An analogy would be having a laboratory animal facility

begin a Division of Comparative Medicine that would have research but no animal care responsibilities. Another example would be an animal facility that expands its in-house training program into a national training program. Also consider the leadership that might be needed to motivate your scientists to want a mouse phenotyping core that might raise their *per diem* rates, or an *in vitro* center for making monoclonal antibodies. I am sure you can think of more examples where leadership is more important than management, and two additional ones were provided earlier in this chapter. Even relatively small changes, such as trying to have your entire animal care staff obtain some level of AALAS certification, takes leadership. It is a forward-looking change that is focused on the animal facility as a whole, it requires people to be motivated, and it requires a true leader to make it happen.

Leaders Can Adapt to the Needs of the Organization

One of the most crucial assets any leader can have is to be adaptable to the situation at hand and not assume that his or her preferred leadership and personality style is suitable to every situation. As with managers, there are times when a leader has to be a chameleon and change his or her usual leadership style to meet the immediate needs of their organization. Farkas and Wetlaufer [13] studied many leadership approaches, but the two that we see most often in animal facilities are those they termed *box leadership* and *expertise leadership*. Box leaders establish and communicate a set of controls that ensure predictable results for customers and employees. Those of us in laboratory animal science can relate to this because most of us rely on Standard Operating Procedures (SOPs) as control documents for helping to get predictable results. Box leaders in animal facilities are aware of the regulatory pressures in laboratory animal science and help ensure that their customers (animals and researchers) do not have to worry about compliance issues. Thus, the box approach leader expands on the managerial control role that all managers have. This person is constantly looking over reports, supply requisitions, and the like. The box leader gets involved in almost all of the day-to-day activities of the organization to help ensure consistency. There is a chance that a box leader can get so wrapped up in controlling variables that he or she will develop a micromanagement personality. On the positive side, box leadership results in a good deal of predictability in how the animal facility will react to any external situation, such as a new direction for research or a new regulatory requirement. The users of the animal facility can be reasonably assured that sufficient controls are in place so their own research will remain on track even if the organization as a whole moves in a different direction. Therefore, the box leadership approach may be best when an animal facility has had a heavy turnover of its upper management and research consistency is suffering.

On the other hand, leaders who primarily implement the expertise leadership approach spend most of their efforts improving expertise, such as developing new training programs for managers and animal care personnel, and looking at

technology that can yield a competitive advantage. These leaders design programs to track their progress toward meeting their mission and vision. As with box leaders, they may have quality assurance teams in place to review processes and suggest more efficient and effective methodologies. This approach to animal facility leadership may work best when there is a rapid expansion of research, and new people and new technology have to be brought into the facility.

Both of these methods may be appropriate (as may others) and choosing one way or the other will depend on the needs of the animal facility at a particular time. Sometimes you need a little of both, just like leaders who sometimes have to mix positional authority with knowledge authority, and once in a while, a little coercive authority. However, once you decide on the leadership approach with which you are comfortable and that meets the current needs of your animal facility, then just like a manager, you have to be consistent in your leadership style. Continuous vacillations in managerial or leadership styles lead to confusion and frustration among employees. It then becomes easier for employees to look out for their own interests and relegate the animal facility, school, or company's interests to the rear burner.

Leaders, like managers, should be consistent in their leadership style.

Leaders Understand the Needs of Those Who Follow Them

Just as leaders have to adapt to the changing needs of their organization, they also have to recognize the needs of those who follow them. We discussed a somewhat related topic in Chapter 3, pointing out that different people seek different types of rewards, based on their own needs. The earlier discussion of empathy, in this chapter, also touches on the fact that leaders have to relate to the needs of their followers. We know that different followers need different types of support, some of which are tangible and others intangible. For example, in terms of intangible support, the best support my boss (the vice provost for research) can give me is to meet with me periodically so we can discuss emerging issues, make sure I have rapid access to him when I need it, support my decisions if they deserve support, but otherwise just leave me alone and let me do my job. Fortunately, he does just that. This type of a relationship meets my needs, but not necessarily those of everybody else. Some of his other direct reports may need a shoulder to cry on for personal issues, while others may want to be mentored to improve their skills. You may recall from earlier in this chapter that leaders often get a certain amount of their authority by having special knowledge or skills. They often have to show their support for a person or group by sharing this knowledge with them to help the group accomplish its own goals, giving it information that fills in some blanks or puts their minds to rest. Sometimes

the leader has to cater to an entire group, sometimes to direct reports only, sometimes to individuals who are not direct reports. But a leader has to be attuned to people's needs and wants, and be willing to meet those needs whenever possible.

Leaders usually have to lead groups, but sometimes they have to gain the individual support of key group members. If we can agree that an important part of a leader's job is to implement change through a clear vision, then the leader must be able to have a core of supporters who will be leading the charge. It was interesting for me to learn from Jim Collins's research that the best leaders attended to people first and strategy second [14]. To gain the support of people, you, as a leader, must understand and be adaptable to the needs of many different individuals at the same time. Wherever possible, you want your core coalition to be composed of other senior managers and also those key individuals (managers and nonmanagers) who have connections with, and can influence the opinions of, other employees. There's a lot of inertia in some animal facilities and it can be hard for any one person to implement significant changes without an initial broad base of support.

Supporting the specific and general needs of people is an important characteristic of good leaders and good managers. Whether your style is that of a box leader, an expertise leader, or something else, support is particularly important when leading an animal facility where the work is often repetitious, requires following specific rules, and can be stressful [15]. This support might be manifested by showing respect for an employee's opinion, by talking to everybody as peers rather than as underlings, or by pitching in and cleaning cages when needed. To return to a theme in Chapter 3, meeting the needs of a person or a group satisfies two important basic needs of people: the desire to have respect and to feel that their work is important.

Leaders, like managers, also have to understand that there are times when tangible rewards might be best for an individual or a group. At the group level, think for a moment about AALAS certification. Does your animal facility or the person who leads it provide any rewards for attaining a particular level of certification, such as a bonus or a salary increase? If the answer is no, ask yourself if that type of reward would be meaningful to people passing their certification exam. In many animal facilities the answer is yes, as few of us are getting rich in our jobs. But there may be behind-the-scene issues that prohibit a bonus or salary increase, such as union contracts. A union may oppose a bonus or increase for one department that provides the opportunity to take a certification exam, whereas another unionized department may not have a certifying organization and therefore cannot provide such an opportunity. When this type of a scenario occurs, the leader must have a body of facts ready and explain to the animal facility employees what he did to try to secure a raise or bonus, and provide a logical explanation of why the plan could not be implemented. People are often willing to accept an honest effort that led to disappointment as opposed to a limited effort with no explanation and no success.

I am of the opinion that for a leader to understand the needs of those who follow him, he has to get out there and find out for himself what is happening, and "press the flesh" with his coworkers. This is similar to what was described earlier for

Herb Kelleher of Southwest Airlines and his propensity for periodically working alongside employees. This is partly management control and partly socialization. Speaking for myself, I believe it's important for me to periodically drop by and informally chat with my coworkers, at all salary levels. I actually enjoy doing this. I'll also sit next to different employees during our group meetings and not just next to my trusted lieutenants to help build morale and learn about their concerns. Equally important, I'll periodically drop in on researchers just to chat for a few moments and see if there is anything I can do to make their life a little easier. Every little piece adds up.

Leaders Are Mentors

Leaders (and managers) have to think about the future of their organization, such as replacing themselves before they move on or retire. They also have to work with others who simply need the skill and experience that a mentor can provide to help them advance to higher levels of management and leadership. Mentoring benefits the mentor, the student, and the organization. The mentor gains satisfaction from the feeling of being needed and respected. He is also forced to evaluate what he says and what he does more than ever before. It's almost like a self-imposed refresher course in management and leadership. There is also a tremendous sense of accomplishment when one sees his or her protégé becoming successful. When I was teaching many more graduate students than I do now, it was a true emotional high for me to place their master's degree hood on them at graduation. Their success was my success. Their happiness was my happiness. I'm not ashamed to say that it invariably would bring tears to my eyes. Of course, the person being mentored benefits from the knowledge and experience gained and the close networking with the mentor and the mentor's colleagues. The organization gains because now there is increased camaraderie and a more knowledgeable, integrated, and skilled employee.

How do leaders decide who to mentor? It's usually a two-way process. Sometimes leaders actively seek out people who seem to have promise and who might benefit from mentoring, and sometimes an astute novice seeks out a mentor. That is, the learner tries to find a mentor in the organization who has the skills, knowledge, and position that she believes can help her if the two of them are compatible. It's not often that one person directly asks another to mentor her (although this does happen); more often a relationship develops as a result of the proximity and access between people. In some organizations, a mentor is routinely assigned to a new manager, which is often a valuable practice. Mentoring does not have to be anything formal, although it can be. It often entails shadowing the mentor, talking informally to the mentor, taking on projects for the mentor, and so forth. The mentor has to share her knowledge and skills, guide the apprentice away from danger, introduce the apprentice to the "right" people, and even let the apprentice fail when failure has a positive effect on learning. The person who has the desire to

be mentored, and the person who has the desire to help a coworker, together set the stage for an important aspect of leadership success.

How Leaders Use Advice

Leaders and those they mentor learn to listen and take advice as needed. Advice is a form of feedback. We all need advice at one time or another, and a good adviser can help a manager refrain from making foolish errors. There are basically two types of information that are used when advising a person: factual and nonfactual. The best advice is always based upon facts, even if those facts are based on little more than experience. The worst advice is based upon wild guesses or knowingly providing wrong information. Because leaders are so often in the spotlight, and because many people enjoy the status that often comes with a leadership position, it becomes all too easy for some leaders to become surrounded by yes men (those people who tell the boss what she wants to hear in order to promote their own careers or beliefs). But if the leader cannot listen to trusted colleagues, who can she depend on for advice and direction? To begin, the basic premise has to be challenged. Most people surrounding leaders are not yes men and most leaders are astute enough to know who is providing honest feedback as opposed to who is providing self-serving or strictly ideological feedback. A good leader is, in my experience, an intuitive person. He can "read the crowd" and read a person. He seems to understand what people are thinking without having to be told what they are thinking, by being attuned to hidden meanings during a conversation, by reading body language, and, of course, by listening and gathering information. Although a leader cannot always follow the crowd's wishes (because to do so often leads to maintaining the status quo), there are times when the astute leader (like a manager) finds that a group opinion may be the best opinion. You may recall the television show *Who Wants to Be a Millionaire?* If a question stumped a contestant, the contestant could poll the audience members to see what they thought was the right answer; more often than not, the audience was correct. So a good leader is often intuitive but also knows when to back off and ask for advice.

What kind of advice does a leader need? The quick answer is good advice, but good advice has many parameters to it. For example, is good advice that is given at the wrong time any better than no advice at all? In the remaining parts of this section three aspects of advice will be discussed. First are comments on what constitutes good advice; next, what a leader (or a manager) can do to avoid bad advice; and last, some warning signs that suggest you may be getting bad advice are presented.

Getting Good Advice

As stated in Chapter 5, one characteristic of managed information is that the information should be relevant. That means it should help you solve your problem

because the information provides you with the key facts you need. In addition, information should be timely. That is, it should be available when *you* need it, not when someone else decides you need it. A good advisor will give you both relevant and timely information. Additional characteristics of good advice are that it is grounded in the solid expertise of the advisor and you can use the advice without additional extraordinary help [16]. Here, the focus will be on solid expertise because there are far too many people who act as consultants, gurus, and coaches, who have book knowledge but have not really walked their talk. Try to avoid these people (I hope I'm not one of them). If you've attended college, you can relate to this because you probably suffered through graduate assistants teaching a lab or a discussion section, and they didn't know much more than what came out of a textbook or the lab in which they were working. Wouldn't it have been nice to have had the professor who could have said, "Yes, that's right, but let me tell you what *really* happens when you do that." It's the difference between real experience and limited experience. I had a similar experience with a gentleman who came highly recommended for his ability to teach basic management and leadership skills in laboratory animal science. His name was fairly well known in the field. I should have done my homework a little better and checked into his credentials, but foolishly, I did not. After one month I had to terminate his contract because it was all too evident that he had carved out a little niche in the lab animal world, but he had no practical experience in the field. He could not respond to questions in a manner that gave me any confidence in his ability. However, had I not known anything about management in laboratory animal science, I could have been influenced by many of the things he said, because on the surface, they seemed to be reasonable. I suspect that's how he got as many jobs as he did. In case you're wondering, I have always been adverse to teaching management to my own staff.

Just as we need different types of advice at different times, we may need different advisors at different times. Using the same advisor for every situation can be dangerous, for as just noted, not everyone has experience in every field although most of us (me in particular) are willing to voice an opinion on almost anything. There are times when I'll ask for my own boss's advice on how to handle a touchy political matter whereas I'll ask a school architect for advice on how to reconfigure our limited office space. Advisors have limitations and we have limitations. We cannot assume that because we are managers and leaders that we know it all. We have to listen carefully to people who know more than we do about a particular subject.

Listen carefully to the advice of people who know more than you do about a particular subject.

Have you ever been reluctant to take someone's advice because he is much younger than you, she is your wife's cousin, or you just don't like that guy? It happens to all of us, but the budding leader has to overcome these problems. It's not a matter of swallowing your pride or dislikes; it's really a matter of leadership. A good manager — and, of course, a good leader — recognizes that information comes in many different colors and he does not let personal prejudices override his business judgment.

Preventing Bad Advice

Sometimes a leader has to know when to take advice even if it isn't directly offered. Consider the dilemma faced by President George W. Bush. The people he trusted the most were advising him to push forward with the Iraq portion of the War against Terrorism, while opinion polls, the 2006 midterm national election results, and the Iraq Study Group Report indicated that the majority of Americans were advising him to do otherwise. It's easy for us to be Monday morning quarterbacks and make decisions for the president, but in terms of reading the climate of the nation versus accepting the opinion of his trusted advisors, the president had a problem. Would "staying the course" in Iraq, which was what the president said he was going to do, prove him to be a wise leader or a foolish one? Was he being misled or properly led by his advisors? Was he continually relying on the same group of people for advice? "Dangerous confidants come in all shapes and sizes. … They habitually lie and cheat to achieve their aims without any apparent constraints of conscience" [17]. Can this happen in an animal facility?

We all know that leadership in a laboratory animal facility can be nerve wracking. There are investigators pushing us in one direction, administrators pushing us in another, an IACUC going its own way, and our own employees requiring that their needs be met. There have been times when I just wanted to crawl into a hole and let someone else make my decisions, take the heat for me if things went wrong, and give me the credit if they went right. Since that's a pipedream, it's tempting to rely on a trusted advisor — a confidant — who can help us make the right decisions. But what can we do to prevent our followers or advisor from influencing us in the wrong direction, and how do we know if our confidant is actually becoming dangerous to us? Lynn Offermann [18] offers suggestions that can best be described as preventive medicine. These are managerial techniques that leaders can use to help prevent being misled by their followers:

1. *Keep vision and values front and center.* In Chapter 1 we discussed the importance of an organization having a clear mission and vision. The mission delineates the reason for the organization's existence whereas the vision sets a general direction for the foreseeable future. If your advisors are suggesting you go outside your organization's vision, you should think very carefully

before acting. For example, a university-based animal facility is usually not in the business of performing contract research for private organizations, but here and there it does occur. If the vision statement of your animal facility is to decrease the university's financial subsidy from 40% to 25% in 2 years, increasing the amount of contract research should be considered by you as a leader and manager, even if your senior staff argues that the lofty research ideals of the university would be compromised. You will have to decide if contract research is within the vision and mission of the university and the animal facility, even if it's not something that is often done. You may have to set a new direction.

2. *Make sure people feel free to disagree. Cultivate truth tellers.* This brings us back to the concept of positive conflict in the organization, which was discussed in Chapter 3 under the heading of Morale and Organizational Conflict. In a nutshell, the argument that a manager cannot be surrounded by yes men or by people who are afraid to disagree was presented. Thoughtful disagreement can often help a leader see through the fog. A good manager/leader is willing to give up a tightly held belief if there is a good reason to do so. Almost every animal facility, like most businesses, will have some person who specializes in finding the downside of every new project. Rather than putting this person's opinions aside, perhaps we can use them to find actual flaws in our plans.
3. *Do unto others as you would have others do unto to you.* The ethical climate that you set for your animal facility should be the same one in which you would like to work if you were not the leader. If people think they can cross the ethical line, some of them will do so, and they may either directly or indirectly try to influence you to do the same. Just think about the IACUC and how some people cross federal boundaries to advance their own needs. They would be perfectly happy if you looked the other way. If, as a leader, you advocate and demonstrate an ethical and positive corporate culture, the chances are strong that your followers will also act in an ethical, positive manner.
4. *Honor your intuition.* Here I will simply quote Offermann: "If you think you're being manipulated, you're probably right" [18].
5. *Delegate, don't desert.* Just as a good research project has controls, a leader also has to set up controls. The concept of management control systems has been discussed throughout this book, and the need to delegate responsibility was discussed in Chapter 6. In all instances, I tried to emphasize that the manager or leader has final responsibility, and no matter who does the actual work, the person who does the delegating gets either part of the credit or a lot of the blame. You simply cannot give a coworker so much authority with so little oversight that you, the manager/leader, get caught up in a hurricane of activity caused by a subordinate and you are led in a direction you would have preferred to avoid.

Recognizing a Bad Advisor

As previously stated, Offermann's suggestions are more aligned to establishing a managerial style and business culture that helps prevent a leader from being adversely manipulated by her followers [18]. Sometimes, in spite of your best intent, you may rely more and more on the advice of one or two trusted advisors who, unknown to you, cannot be trusted to give you the wise counsel you need. Therefore, we look next at findings focusing on five specific warning signs that suggest a dangerous relationship with a trusted confidant is developing or has already occurred [17].

1. *People complain that you are inaccessible.* Many of us have seen leaders and managers who send a clear message that they are far too important to be bothered by the masses. However, an "important" advisor has ready access to the boss. You may have to alter your own leadership style and at the same time rid yourself of an advisor who supports this aloofness.
2. *You feel that only your confidant understands you.* Be careful and don't give excessive weight to any one person's opinion.
3. *Your close advisor discourages you from seeking the opinion of others.* Why? Perhaps he wants status or perhaps he wants your job.
4. *Your advisor starts becoming the boss.* When a trusted lieutenant almost invariably speaks for you, the brigadier general, people are going to start wondering if it's the general or the lieutenant who is in charge.
5. *You get too much praise from your confidant.* You don't need and should not want yes men surrounding you. If you only hear the good news and none of the bad, then maybe it's time for a new advisor.

It can be hard to accept that people we lead or manage, or a person we trust as a confidant, can lead us down the wrong path. Sometimes this is unintentional and other times it is calculated. But just as we don't want to surround ourselves with yes men, we can't be so pigheaded as to reject the concept that we might be used by others for their own benefit. We have to be aware of, and alert to, factors that might negatively affect our leadership.

Leadership Effectiveness

Chapter 1 and Appendix 1 discuss measurements of managerial effectiveness and one of the take-home messages is that making these measurements is not as easy as you might think. It takes a lot of hard work to determine how you are progressing toward a goal. We try to include as many numerical measurements as possible, and we try to include both financial and nonfinancial measurements. For example, a nonfinancial measurement that was mentioned in Chapter 1 was a customer satisfaction survey. Leadership should also be measured, because the effectiveness of leaders is based on their accomplishments, not on personality or other traits. Therefore,

we might consider a survey of the people who are following the leader, asking about their job satisfaction and their motivation. We can also look at financial measures, such as growth in research funding or income from supplementary services. In our animal facilities, we can survey the people who directly report to the leader or look at changes in employee retention, the ability to attract needed equipment, the number of union grievances, completed renovations, progress toward accomplishing the vision, and any other relevant considerations that focus at least as much on leadership as on management.

Most of us know that if a for-profit business leader cannot lead the organization's financial growth, that person will not be with that company for long. The same can be said for the president of a university, because if the school's finances don't hold up, the academic mission will eventually suffer or fail. But, as you know, financial success is not the only measure of leadership effectiveness. Look at the financial and nonfinancial accomplishments of Wayne Pacelle, the president of the Humane Society of the United States since 2004:

> Pacelle … was the [Humane Society's] top lobbyist before taking over 2½ years ago. He quickly consolidated his power base by merging with two other animal-protection organizations — the Fund for Animals and the Doris Day Animal League. He also formed a political affiliate, the Humane Society Legislative Fund, which spent $500,000 on key races in last year's elections, and established his own political action committee called Humane USA, which funneled an additional $300,000 to pro-animal candidates. Pacelle's goal is to double the amount of his electoral giving and the extent of the society's lobbying over the next 2 years. [19]

> Pacelle is quoted as saying that his goal is to continue to expand the Humane Society by joining forces with like-minded organizations, capitalize on their strengths and eliminate duplicated efforts by having them under the umbrella of his organization. [20]

Whether or not you agree with Pacelle's goals, there is little doubt that he has shown strong and apparently effective leadership for his organization. But let's think hypothetically and try to imagine what would happen if Pacelle's mergers and other activities distance him from his staff and are contrary to the desires of many of the society's members. It's likely that nothing good will result and it may, in the long run, harm the organization. If a leader (or, at least, a presumed leader) is a financial whiz kid but alienates half of the organization, there's a strong possibility that person will be terminated. I grant you that termination may take longer if the organization's finances are still strong, but no organization will survive with high employee turnover, low employee morale, and growing customer

dissatisfaction. The same can be said for the leader of an animal facility. You can turn around the facility's finances, but if you continually alienate every researcher, you're history. No vice president for research will sit idly by and listen to day-in and day-out complaints about the director of the animal facility. This director has failed in communication, trust, socialization, and probably many other areas. Maybe he really wasn't a leader.

Another way of approaching the evaluation of a leader's effectiveness is by assessing the quality of the people he has hired and trained. This will not come as much of a surprise to those readers who work in research universities because, like good leaders, good researchers try to attract the brightest graduate students and postdoctoral fellows, and then try to train them to be high-quality scientists. Researchers take great pride in telling others where their grad students and postdocs are working and what they are researching. Likewise, the exceptional animal facility leader understands that part of his success is predicated by the quality of people he attracts, how he helps them to develop, and eventually, where they go. Now it may seem odd to plan on having people leave, but we all know that very few people stay in the same job forever. So if someone who is doing a fine job is nevertheless going to leave, why not work with him rather than against him? You are building goodwill that certainly may help you in the future. Admittedly, I do my best to keep my core coworkers financially and otherwise satisfied because we are mutually dependent, but if I know that somebody truly wants to leave, I'll discuss that with the person and do my best to help him or her obtain a new position. It's rare that you can keep a person happy by money alone, so if someone is looking to move up to the next step on the career ladder, let's hold the ladder for her. Who knows, someday we may be working together once again.

Tying Together Leadership and Management to Accomplish Goals

As we approach the end of this book, I hope you have learned some valuable information about management and leadership. One of those lessons is that a manager uses resources to reach goals, and leaders and managers attempt to motivate people (a resource) to reach goals. We have also discussed the basic needs of people (e.g., fair salary, good supervision, good working conditions, and recognition), the need for open communication and trust, and so forth. We said that leaders are ultimately responsible for developing a vision statement (a written statement of a major direction or action the organization will be taking over a defined time period). The leader has to work with his or her coworkers and develop goals and strategies to accomplish the vision. Now, let's take a look and see just how a leader gets things going. The vision we will use is one we have already discussed: decreasing the animal facility subsidy from 40% to 25% in 2 years. This is a narrow vision statement,

but let's just use it as a simple example. We will make one change. In Appendix 1, the specific goal of decreasing the subsidy is dictated by upper organizational management. For now, we will assume that it was the animal facility's management that recognized grant money for animal research was limited due to federal cutbacks in research funding, and that the facility had to be proactive about rationing its finances before the school made even more drastic cuts to its budget.

Rob Rubino, our exemplary leader, demonstrated a combination of leadership and management skills (Table 7.2). He was not born with those skills; he learned them through readings, meetings, the mentoring of others, and much on-the-job practice. He worked hard every day to implement what he had learned. Nothing magical was involved. He had the same frustrations, successes, and failures that you have had or will have, but he persevered. His inner motivation to be a better manager and leader today than he was yesterday kept him going and eventually he climbed to the top of his profession. His work will not be done until the day he retires, but while he is there, he wants to be the best. And he wants to teach the person who follows him to be even better.

Table 7.2 Path to Leadership

Action	*Commentary*
1. Rob Rubino was a seasoned laboratory animal veterinarian, but new to Great Eastern University where he now directed the animal facility. He quickly discerned that the 40% subsidy that supported the animal facility was an unnecessary financial drain on the school because the facility could be run more efficiently and effectively. He also knew, from meetings and what he read, that federal funding for research grants was being diverted to the "War on Terror." This would have a further impact on the school and animal facility's finances.	1. Rubino evaluated the external political and economic environment (the federal government) and the internal environment of his school. He used information resources to determine there was a looming financial threat to the animal facility and he recognized an opportunity to overcome it.
2. Rubino met with his managers and asked for their opinions. He was calm, collected, and businesslike. Did they think this was a real problem? What might happen if they did nothing? What might happen if they did something? They were pleased that Rubino was including them in the discussion.	2. Rubino showed leadership, communication, and trust for the opinions of his managers. He organized and planned. He was self-regulated. He tried to align his management team while adapting to the needs of the school and his department.
3. Rubino listened to the managers' input. Based on what he heard, he suggested that they cut the subsidy from 40% to 25% in 2 years. Then he asked for more feedback. Could it be done? Would another figure be more realistic? He was enthusiastic. His managers were accepting the developing vision.	3. Good communication and good leadership. At this point he suggested but did not demand. He was motivated. He was building a coalition of support.

4. Rubino and his most senior managers developed specific goals that had to be reached in order to fulfill the vision (these are detailed in Appendix 1). The managers then delegated the responsibility for developing strategies to reach the goals to others in the animal facility. Other managers were put in charge of developing means to measure progress toward the goal.	4. Delegation is a proper use of time resources and demonstrates trust. Rubino has to make available any needed resources. The vision was clear, not complicated. The best goals are those for which progress can be measured.
5. The vision to decrease the subsidy to 25% in 2 years was communicated verbally to everybody, reinforced at meetings, and posted on bulletin boards. Rubino himself was the bellwether. He encouraged people to take reasonable risks to meet their goals.	5. For a vision to remain viable, it has to be reinforced, especially by the leadership. This entails communication and motivation.
6. There were biweekly meetings to report progress. Charts were publicly displayed showing progress toward reaching specific goals.	6. This reinforces goal fulfillment, gives people a sense of accomplishment, and allows for strategy corrections as needed.
7. Rubino continued his support of the program and made sure those groups or individuals making unique progress were rewarded. He would chat with people in hallways and keep his door open for them to chat with him. He occasionally showed up at group meetings to lend his support and make sure the group had what it needed.	7. Rewards, when used carefully, can be motivators. Social skills are important in leadership. Rubino was empathetic and supportive, but did not micromanage.
8. Rubino quietly ensured that his own boss and other key persons were aware of the efforts and progress in the animal facility. He gave the credit to his coworkers.	8. Good politics. You will always get part of the credit for a job well done. Keep your boss informed about important happenings.

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Appendix 1

Productivity Goals and Measurements

Characteristics of a Productivity Measurement System

Laboratory animal facilities perform a service for their parent organizations. This holds true for animal facilities in profit-making or not-for-profit organizations. At best, most animal facilities try to run efficiently and break even financially (with or without a financial subsidy from the parent organization). Nevertheless, one reality about running an animal facility is that there has to be a balance between operating efficiently (getting the most output from the least input) and operating effectively (having a high-quality output). There are financial and nonfinancial aspects of efficiency and effectiveness.

> *Consider a university animal facility director who buys 1000 mouse cages from Vendor A, saving about $10 a cage compared to purchasing the same size mouse cage from Vendor B. On the surface, she's being efficient because she saved $10,000. There was more output (cages) for less input (money). If the cages from both vendors were made of the same material, were of the same quality, and met the needs of the animal facility, then indeed she was an efficient manager. But if Vendor A provided standard polycarbonate cages and Vendor B provided high-temperature polysulfone*

cages, and if the facility needed to repeatedly autoclave the cages, then purchasing the polycarbonate cages wasn't such a bargain. They will likely break down sooner than the polysulfone ones and therefore have to be replaced more often. The cost efficiency may have evaporated. The director should have balanced efficiency against effectiveness.

Now let's take a look at a nonfinancial example of the balance between efficiency and effectiveness. If we can put 500 cages an hour through a cage washer, most of us would agree that's pretty efficient by today's standards. Of course, if most of the cages come out dirty, we would also agree that we are not being particularly effective. But if we slow down the cage washing process to the initial point where essentially every cage comes out clean (perhaps 250 cages an hour), then we have reached the proper balance between efficiency and effectiveness.

You can probably think of other examples, but it's fair to say that animal facilities have to operate their financial and nonfinancial activities both efficiently and effectively. Taken together, determining how efficiently and effectively an organization uses all of its financial and nonfinancial resources to reach its goals is termed *productivity* [1]. A highly productive animal facility is highly efficient and effective.

An organization with high productivity is highly efficient and effective.

Historically, most organizations (including animal facilities) have relied primarily on financial measures to determine the overall productivity of their operations. I believe this was a holdover from a corporate accounting mentality where the "bottom line" was of primary importance. However, in service organizations, such as animal facilities, the quality of the service (effectiveness) is a major factor to be evaluated when considering overall productivity, perhaps more so than efficiency. We all know it's easier to count the number of cages coming out of the cage washer than it is to determine if the cages are clean. Yet, eventually, we have to come to grips with the problem and determine what the word "clean" really means. Is it a matter of just looking at a cage or do we have to count bacterial colonies cultured from its inner surface? This example may be relatively easy to envision, but sometimes it gets tricky. For example, how do you measure the quality (effectiveness) of a veterinarian's output? Or, if you have a manager who is developing a long-range plan, is there a good way to measure that person's output? What we need in our laboratory animal facilities is a system to measure progress toward our productivity goals that incorporates important financial and nonfinancial parameters, and

perhaps gives a little more weight to effectiveness over efficiency. If I had to make an educated guess, I would suggest that our measurements be about 60% focused on effectiveness and 40% focused on efficiency.

A productivity measurement system is part of an overall management control system in which we develop important goals, develop the strategies to be used to reach the goals, and, of course, we use the measurements to gauge our progress toward reaching those goals. Yet it takes more than mere words to measure productivity; it takes commitment. As managers, we have to be self-motivated and continually promote productivity — otherwise whatever efforts we expend will most likely lead to failure. We have to believe that the performance goals we set are important to us and our animal facility and we are going to provide as much support as possible toward achieving those goals. Productivity goals require the support of the animal facility's upper management to give the goals and their measurement the organizational backing needed to implement them.

Productivity measurement is part of a management control system that managers use to gauge the progress toward reaching goals.

Measuring productivity is not a passing fad. Every manager has to do this to determine if his business is progressing toward its goals. Basically, productivity measurements "help managers translate strategies into measurable actions and meaningful business results" [2]. As a practical matter, a productivity measurement system should have six important features. Based on the earlier discussion in Chapter 1, some of this will be a review.

1. *The goals to be achieved will be aligned with the mission of the animal facility and its parent organization.* A good mission statement outlines what your organization does and who its main customers are. For a laboratory animal facility, we don't want to waste our time with measurements that are not aligned with our animal care mission and the mission of our parent organization. These measurements eventually should bring added value to either or both of our two key customers: animals and investigators. For instance, it might be valuable to measure our progress toward decreasing the number of investigator complaints because that is obviously aligned with our animal care mission, but it would probably serve no useful purpose to have goals and related measurements for increasing the number of white versus black mice in the animal facility.
2. *The goals will be specific.* If we don't have clear goals, we don't know what we are trying to achieve, and it makes little sense to try to measure progress toward

reaching unclear goals. A goal such as being the "best in the business" is nice, but not particularly specific. On the other hand, a goal such as "decreasing our annual personnel turnover by 20%" is quite specific.

Goals are not items that can be accomplished overnight; they normally have to be reached over time. For example, changing the temperature setting on a cage washer can be done almost immediately by pushing some buttons. Yes, it's a goal, but it's not much of a goal. On the other hand, decreasing annual personnel turnover by 20% will take some time and may be a legitimate goal for many animal facilities.

3. *There should be clearly defined strategies for reaching the goal.* There will probably be different strategies and goals for different working groups within the animal facility, but when we put everything together, the various strategies should result in reaching the overall goal of the animal facility. Some examples are provided later in this appendix.
4. *There will be a limited number of items we have to measure.* We want to evaluate only those activities that are really central to enhancing productivity and that provide value to our key customers. We don't want to waste time measuring interesting but nonessential items. For example, let's say you have goals of cutting personnel turnover from 25% a year to 10% a year, decreasing overtime by 20%, increasing American Association for Laboratory Animal Science (AALAS) certification by 20%, initiating a section of comparative medicine, and repairing the ceilings in 10 animal holding rooms. Those are a lot of important goals, but which ones are really the most important? Which ones enhance productivity and provide value to our customers? You have to prioritize the importance of your goals and develop measurements for a few (perhaps your top three), not each and every one.
5. *A good productivity measurement system will be numerical.* It is obviously more accurate to be able to count bacterial colonies than to look at a cage and try to guess how many colonies survived going through the cage washer. For ease of understanding, numbers on a graph or table make our comprehension much easier. Measuring outcomes in numerical terms can be difficult, particularly when evaluating both financial and nonfinancial goals. This is because many of the nonfinancial goals are quality, not quantity, oriented. Here are just a few examples of laboratory animal facility activities that are amenable to numerical measurements. Some are primarily measurements of efficiency and others are primarily effectiveness measures.
   - Time from placing an animal order to the time the animals are received.
   - Time from taking the animal census to the time bills are sent out.
   - Number of *per diem* billing errors.
   - Time from placing a request for veterinary services to the time the service is provided.
   - Time needed to clean a given number of mouse cages.
   - Number of mouse cages that need recleaning.

- Reduction in the number of cracked or discolored cages in use.
- Customer satisfaction with veterinary services (via customer survey).
- Customer satisfaction with front office services (via customer survey).
- Employee satisfaction with specific departmental personnel practices (via survey) [3].
- Number of publications in the past year.
- Impact quality of journals in which publications appear (define what impact quality number is desired from published lists).
- Number of sick days used.
- Number of investigator complaints.
- Number of negative findings by the U.S. Department of Agriculture (USDA) or the Institutional Animal Care and Use Committee (IACUC) inspections.
- Dollar amount of a budget subsidy by the parent institution.
- Total income versus budgeted income; total expenses versus budgeted expenses.
- Number of people taking an AALAS certification exam.
- Number of new AALAS certifications versus the number of people taking the certification exams.
- Number of on-the-job accidents.

6. *The system should be able to use past data* (what we have just measured) as a reasonable indicator of future productivity. Collecting data is interesting, but if it cannot predict anything about the future, it will have limited importance to us.

Summary of Important Features of Productivity Measurement

- **Goals to be measured are aligned with your mission statement and will bring value to your customers.**
- **The goals to be measured are specific.**
- **Each goal is associated with clearly defined strategies that will be used to help reach the goal.**
- **The number of items to be measured is limited to those that are central to enhancing productivity.**
- **Measurements are numerical.**
- **Collected data will help predict future outcomes.**

As you might suspect, people have been trying to measure productivity for years. One of the most recent iterations of productivity measurements, the Balanced Scorecard [4], began in the 1990s and it is still going strong. At its bare

bones, the Balanced Scorecard is a management control system because it allows a manager to maintain oversight of activities as they progress. Over the years, it has morphed from a measurement system into a combination of a measurement and management control system [5]. We can incorporate many of the concepts of the Balanced Scorecard and other measurement systems to develop a productivity measurement and enhancement system for laboratory animal facilities. In reality, this is still basic, good, day-to-day management skills that have been reworked into a system of measuring the productivity we all strive to obtain.

Linking Productivity Measurement to Specific Goals and Strategies

We cannot escape the management adage "Where are we now? Where do we want to be? How are we going to get there?" The same adage applies to productivity measurements. If we don't know what our goal is (that is, where we want to be), then how can we measure progress toward that goal? It doesn't matter how much money we have available, how many people are available, or how much fancy equipment or space is available; we still have to know what our goal is before we can develop and evaluate the strategies and resources needed to reach the goal. And then, of course, we have to be able to measure progress toward reaching the goal.

We will use as an example an animal facility that historically gets a 40% revenue supplement from its parent organization in order to balance its annual revenues against its annual expenses. That is, if it were not for the 40% financial subsidy, the animal facility would be losing money. Responding to a decision by corporate management, the animal facility's management tells the staff that they have to cut the subsidy down to 25% in 2 years. Now, we can argue if upper management should have taken the lead in making the decision to set that goal or if meetings with all the staff should have led to the decision, but let's not face that issue now. The bottom line is that a decision was made to cut the subsidy to 25% in 2 years. That's our goal because the big bosses said so. It is pretty easy to measure progress toward that goal, isn't it? Our starting point is a 40% subsidy, so it's an obvious financial-based measurement if we can show that it decreased to 30% in the first year. Thirty percent might be a pretty good first-year goal. If, by the second year, the animal facility manages to reduce the subsidy to 25%, it will have met its goal. Good for the animal facility; it was very efficient and we were readily able to measure that efficiency. But how did this happen? What were the specific strategies the animal facility had to take to reduce the subsidy? We know it was efficient, but was it effective in maintaining the mission of the facility? How was effectiveness measured?

We will see now if we can integrate the six ideal productivity measurement parameters described previously into an animal facility's goals. Let's use the example given above, which was to decrease the animal facility's annual operating sub-

sidy from 40% to 25%. If the animal facility's total annual expenses are $100,000 and the revenues are $60,000, then the parent organization has to provide $40,000 as a revenue subsidy to balance revenues against expenses ($100,000 expenses – $60,000 revenues = $40,000 needed revenue subsidy). Since the goal is to lower the subsidy to $25,000, we have to either lower our expenses, increase our revenues, or both. Although the end result is going to be financial in nature, we have to balance financial and nonfinancial productivity goals. If we didn't have to do that, we could be callous, lay off a person, and save the cost of his or her salary and benefits. That would be an efficient way to save money. But if that person is truly needed to care for animals, it would not be a particularly effective strategy. We need balance.

> *Great Eastern University is a large, multidisciplinary academic institution with major strengths in business administration and biomedical research. The university's stated 5-year goal is to become the generally recognized leader in academic financial efficiency. The medical and veterinary schools, along with all the other schools within the university, are included in this goal.*

This so-called goal of the university is really a vision statement, and we have discussed vision statements in Chapter 1. If Great Eastern wants to call it a goal, that's just fine with us, but we know it's really a vision statement because it gives us the general direction the university wants to take over the next 5 years. To get there, it will require all the schools of the university to have their own goals that are needed to fulfill the Great Eastern vision. From this university-wide financial goal, we can begin to understand why the animal facility was given a specific goal to lower its operating subsidy down to 25%. We can also see that the university's goal did not say anything about maintaining effectiveness, probably because it was assumed that effectiveness had to be maintained. Therefore, we will assume that effectiveness is important. It also was not as specific as a good goal should be (what does a "generally recognized leader" really mean?) but that doesn't suggest that the animal facility's goal has to be equally nebulous. I would say that lowering the subsidy to 25% is pretty specific. Take a look at this diagram (Figure A1.1) of productivity relationships within the Great Eastern University laboratory animal facility.

The diagram shows that Great Eastern University has a specific expectation (goal) for the animal facility (which, as we now know, is to have a 25% financial subsidy). The school also has a more general expectation to be a national model of financial efficiency. Because the vertical arrows point in two directions, the diagram suggests that the goals of the animal facility and the university have to be in concordance. That is, the animal facility must have a mission, vision, and goals that mesh with the university's mission, vision, and goals, and the animal facility must develop a financial goal that fits with Great Eastern's financial goal. Likewise, the goals of the animal husbandry and veterinary services groups have to be aligned

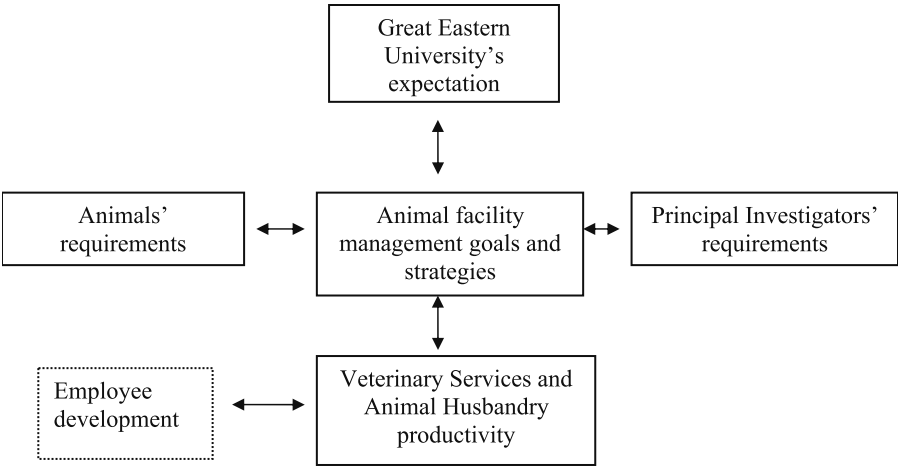

Figure A1.1 Productivity Relationships. (*Source:* Chang, R.Y. and Morgan, M.W., *Performance Scorecards*, Jossey-Bass, San Francisco, 2000. Modified with permission.)

with the overall goals of the animal facility. We also see two-way horizontal arrows between the animal facility's goals and strategies and the facility's two key customers, which are the principal investigators and the animals. Those two-way arrows suggest that the goals and strategies of the animal facility are tightly linked to the needs of the investigators and animals. Finally, the diagram shows that employee development (such as education, training, and having a career ladder) is important to achieve high levels of animal husbandry and veterinary services productivity.

To summarize the concepts shown above, we can say that productivity goals have to be viewed vertically and horizontally. Vertically, the productivity goals of the university, animal facility, and veterinary services and animal husbandry have to be aligned so that all the goals lead to a reduction of the animal facility's subsidy to 25%. Horizontally, the animal facility cannot focus on saving money to the exclusion of serving its two customers, animals and investigators.

Going back to the six areas of importance that were previously described, we will ask the following questions that are central to productivity and its measurement:

1. *Does the goal to be measured (reducing the school's subsidy from 40% to 25%) align with the mission and vision of the animal facility and with the mission and vision of Great Eastern University?*

   This is what you might call a "baseline" question, because if the answer is "no," it has to be rectified and changed to "yes" before moving forward with the measurement of progress toward specific goals. In this case, the answer is probably yes, although we never stated the specific mission of Great Eastern University and its animal facility. Even so, the mission of every university

includes the service of its faculty (to the school and community) and teaching. Likewise, the mission of every animal facility includes the provision of service to the animals and investigators of the school, and ultimately to humans and other animals. Very often, teaching the investigators and other employees is performed by animal facility personnel. Therefore, there is reasonable concordance between the missions of the university and its animal facility. If somebody suggested that the animal facility should make and sell pizzas on the weekends, we would have a lot of trouble integrating that idea into the educational and service missions of the school and the animal facility. I hope we can all agree that the financial goal of the animal facility (the reduction of the subsidy to 25%), as given to it by the university, meshes with the financial vision of Great Eastern (to become a leader in academic financial efficiency).

2. *Are there specific goals to be reached, so we know what parameters we have to measure on route to reaching that goal?*

   Here again, the answer is yes. Great Eastern has set a goal of becoming a generally recognized leader in academic financial efficiency. Given Great Eastern's strength in business administration, we will accept it as being a reasonable albeit somewhat nebulous goal. The animal facility has been given a related but more specific goal: to decrease its financial subsidy to 25% of its total operating funds within 2 years. Each subdivision (animal husbandry, veterinary services, administration) will have somewhat different, but related, goals that, when taken together, hopefully will allow the animal facility to reach that 25% mark.

   In the goals I describe below, you will see that I grouped all of the animal care technicians together as if they were one person, and I did the same for all of the veterinary technicians. A particular working group of people can be considered as one person if the people in the group all do pretty much the same work (such as animal care technicians who care for the mice in a particular building). You will also notice that specific goals are linked to specific people. This is an important concept because if individuals are not assigned specific goals, then nobody is really responsible for those goals and there is a good chance that they will never be properly addressed. This starts a dangerous slide downwards because, as you know, we are evaluated by results, not lofty goals or strategies. If we do not produce, we have failed.

Specific individuals should be associated with specific goals.

Here is a listing of some potential specific goals.

- Goal for the animal facility as a whole:
  - Decrease the school subsidy to 30% in the first year, 25% in 2 years.
- Goals for the animal facility director:
  - Decrease overtime by 20%.
  - Increase revenues by 5%.
- Goals for the animal care division supervisor:
  - Decrease overtime by 20%.
  - Increase number of cages washed/day by 10%.
  - Have no more than 1% of cages in need of rewashing.
- Goal for the animal care technicians in Building A:
  - Get all dirty cages to the cage wash room before noon.
- Goals for the veterinary services division supervisor:
  - Decrease overtime by 20%.
  - Increase fee-for-service income by 10% in 1 year.
- Goal for the veterinary technicians in Building B:
  - Respond to all morning sick animal reports by 11 A.M.

These are interesting goals, but how do we know that they are realistic? How do we know, for example, that having less than 1% of cages in need of being rewashed is achievable or even important? Is it really possible to have the veterinary technicians respond to all sick animal reports before 11 A.M.? Even if we assume that these goals are realistic, we have to be sure that they relate to the specific goals of other people or groups above and below in the organizational chain of command. In other words, will responding to all sick animal reports by 11 A.M. help the veterinary services supervisor with his or her goal to decrease overtime by 20%? In turn, will decreasing overtime by 20% have any significant impact on the animal facility director's goal of decreasing total overtime by 20%?

Adapting the thoughts of Chang and Morgan [2] to laboratory animal science, there are at least four sources that we can use to help us set realistic performance goals. They are:

- Statistical and historical data (e.g., information from laboratory animal science publications or our own institution).
- Customer requirements (i.e., requirements of animals and investigators).
- Generally known although not necessarily published standards within the laboratory animal science field (such as the number of isolator-style cages one technician typically can change in one day).
- What your boss wants (a political reality we have to live with).

3. *Are there clearly defined strategies for reaching the goals?*

Having strategies is critical. Goals without strategies are like plants without water: eventually they wither and die. Since this is a hypothetical

(although plausible) scenario, we can suggest some strategies for reaching the goals shown above. Here are just two examples.

- Strategy for the animal care division supervisor to reach the goal of decreasing overtime pay by 20%:
  - Have a split-shift day. Some people work from 7:00 A.M. to 3:30 P.M. while others work from 9:00 A.M. to 5:30 P.M. This keeps the machines working for an extra two hours/day without incurring overtime.
  - Strategies for the veterinary services division supervisor to increase fee-for-service income by 10% in 1 year:
    - Survey investigators about possible service needs.
    - Advertise monthly in the school newspaper about the availability of service.
    - Send a notice of service availability along with the monthly animal care bills.
    - Send e-mails to principal investigators about service availability.
    - Ensure that all technicians have appropriate skills to provide the extra services.
    - Increase the existing fee schedule by 2%.

You can see that many of these strategies do not require much detailed planning, although there will always be some effort involved. For example, you do not have to make grandiose plans to increase the existing fee schedule by 2%, but you do have to consider the timing of this increase and how it might affect the researchers. Likewise, it may be fairly easy to initiate split work shifts, but timing, having enough people to operate the cage wash facility, the possible need for supervisors to have a split shift, union agreements, and other factors may have to be taken into consideration before you actually implement this strategy.

4. *Are we limiting the number of items we are going to measure to only those that are really central to productivity?*

   This is always a difficult question. We all have our own prejudices, so you can expect that there will be a lot of discussion needed to agree on the goals that we will eventually measure, which in turn will lead to reaching the overall goal of decreasing the subsidy to 25%. For any one group of people in our example (animal care technicians, veterinary technicians, or managers), it's probably not realistic to have more than three or four specific goals. Each goal can have one or more associated strategies, so the more goals you have, the more work you have to do to reach those goals, and pretty soon you get so wrapped up in meetings and measuring your progress toward your goals that you don't have time for your regular work. So my advice is to go easy on the number of goals you select.

In the example being used, only a limited number of goals for each of the major divisions of the animal facility have been shown. Here again are the three goals described earlier for the animal care division supervisor:

- Goals for the animal care division supervisor:
  - Decrease overtime by 20%.
  - Increase the number of cages washed/day by 10%.
  - Have no more than 1% of cages needing rewashing.

The question we now ask is: "Are these three goals really important to the overall goal of decreasing the subsidy to 25%?" The first goal, decreasing overtime, will almost undoubtedly save money, but the animal care supervisors and others will have to determine if the amount to be saved is of any real significance. If the facility is spending $150,000/year on overtime, then a 20% decrease in overtime will save $30,000 a year. Depending on the cost of all salaries and benefits, that $30,000 might be a substantial savings. On the other hand, if the total overtime cost for the year was about $1500, then a 20% decrease would lead to savings of only $300. This would not have much of an impact for most animal facilities. Therefore, you can see that the concept of having a significant goal must be viewed in the context of your own animal facility.

Another goal, which is based on efficiency, is to increase the number of cages washed each day by 10%. This is linked to the strategy of having a split work shift. The more cages that can be washed per day without overtime will save money. But once again, human beings, not machines, will have to decide if the goal is really important. It will be interesting to see the strategy the cage wash team develops to increase productivity. Maybe they will figure out a way to get more cages through the cage washer in a shorter time, yet maintain the needed level of sanitation.

The final goal, having no more than 1% of cages in need of rewashing, is clearly one based on effectiveness. But there is also an efficiency component, because the fewer cages we rewash, the less time it takes, and the animal facility will save the labor cost, chemical cost, water cost, and so on. But what if normally there are no more than 1.5% of the cages needing to be rewashed? Would it make sense to try to lower that number by another half percent? Probably not, unless the total number of cages washed per day was extraordinarily large. Perhaps this goal is not of much significance and should be discarded.

The bottom line is that people have to make a decision about each subgoal and its importance to the overall goals. There is no way around this.

5. *In order to easily visualize progress toward our goal, can we make our measurements numerical?*

This is not always easy, but almost always possible. Different work groups or different individuals may have to use some different measurements, but

they are all related to the same goal, so here are a few possible measurements. Some are the same as those presented earlier in this appendix.

- Let's look first at some possible measurements used by the animal facility director to gauge progress toward the goal of cutting the total animal facility subsidy to 25%. The director has to see the overall picture, so his key measurements are going to differ in scope from the measurements of the people below him in the animal facility hierarchy. He will measure:
  - Total monthly and year-to-date income (a financial efficiency measurement).
  - Total monthly and year-to-date expenses (a financial efficiency measurement).
  - Total salary versus nonsalary income and expenses, evaluated monthly and year-to-date (a financial efficiency measurement).
  - Results of an investigator satisfaction survey (a nonfinancial effectiveness measurement).
  - Total employee turnover (a nonfinancial effectiveness measurement).
  - Key personnel turnover (a nonfinancial effectiveness measurement).
- Next we will look at measurements used by the animal care division supervisor to gauge progress toward reaching the goals of cutting overtime by 20% and increasing the number of cages washed per day by 10%.
  - Total overtime expense, monthly and year-to-date (a financial efficiency measurement).
  - Number of cages washed per week (a nonfinancial efficiency measurement).
  - Number of union grievances filed (a nonfinancial effectiveness measurement).
- Last, let's look at the measurements used by the veterinary services division supervisor to measure progress toward reaching the goals of decreasing overtime by 20% and increasing fee-for-service income by 10%.
  - Total overtime expense, monthly and year-to-date (a financial efficiency measurement).
  - Total fee-for-service income, monthly and year-to-date (a financial efficiency measurement).
  - Number of investigator requests for fee-for-service work (a nonfinancial effectiveness and efficiency measurement).
  - Number of investigator complaints about the quality of the fee-for-service work (a nonfinancial effectiveness measurement).

6. *Are the data we are collecting reasonable indicators of future productivity (of future efficiency and effectiveness)?*

Just because we *measure* productivity does not mean that there is a *correlation* with productivity. If productivity measurements were always strongly

correlated with actual productivity, then we would not need as many measurements as we use [6]. We will certainly try to develop measurements that have the ability to help predict future productivity, but it may take a while to see if there is a correlation. The various financial measurements used in the above examples would appear to have the ability to do so, but only time will tell for sure. For example, we would like to be able to show that as total overtime expenses decrease, there is a direct correlation with decreasing the total subsidy from Great Eastern University. Likewise, it would be nice if we can link a decrease in the number of union grievances filed to an increase in the number of cages washed per day. If, after a period of time we cannot detect any useful correlation between our measurements and a desired outcome, it would probably be wise to look for a different measurable goal that lends itself to being able to correlate with our needs. We simply have to carefully choose our goals and how we measure progress toward fulfilling those goals.

Getting the Productivity Measurement Process Moving

Hopefully, everything above is interesting to you and makes intuitive sense, but a key question is, how do we get this process moving? Who takes the lead? In general, the leader can be within your organization if he or she is familiar with a Balanced Scorecard type of approach, such as the one discussed above, or you can use an outside consultant (the latter is a potentially costly but worthwhile approach). Yes, you can muddle through it yourself, but if you choose to do so, I strongly suggest practicing with one or two trial groups of people before you do it for real. It's akin to doing a pilot study before doing the full study. There's a learning curve, and jumping in without proper preparation is a recipe for disaster.

Now let's have a hypothetical business retreat for the laboratory animal facility. In it, we will see some typical comments about setting and quantifying goals. To make life a little easier for us, let's assume that John, the animal facility director, has experience in setting and quantifying goals, and therefore is leading the discussion. It's also important to have a senior manager as part of the evaluation process because that person has the overview of the animal facilities resources and vision. The discussion goes something like this:

John: Colleagues. We have a challenge ahead of us to decrease our operating subsidy to 25% while maintaining or even increasing our productivity. Can we do it?

Sheila: The only way I know how to save money is either to cut back on services or increase our charges.

John: Do you mean that you think we're already operating at 100% efficiency?

Sheila: No, I don't know of any animal facility that runs at 100% efficiency, but we can't stand over everybody with a whip and make them work faster

and harder. If we do that, you can be sure that we're going to make mistakes and alienate people.

Lannie: Well, here in the front office, we could get our work done in half the time if we had faster computers and if we had a computerized financial management system. It would also cut back on all the transcription errors we make. Every year we talk about updating, so maybe this is a good time to actually do it.

John: If we save time and make fewer errors, how will that benefit either animals or investigators, and how will the cost be recovered within the two years that we have to decrease our subsidy?

Lannie: It would save money in the long run, cut down on investigator complaints, and the need to redo an animal census.

John: How long is the long run? We have to focus on 2 years, which isn't a lot of time. By the time of our next meeting, can you research the payback period in terms of dollars to purchase a typical system and the time spent learning how to use the system? Also, can you come back to us with details on how this will save us money? For example, will we save enough time that we'll need fewer people in the front office?

Lannie: I can try to do that if nobody kills me first for making the suggestion.

Ethan: Well, for the short range, I have some ideas. To begin with, instead of paying us time-and-a-half for compulsory overtime for cage washing, why not just have a split-shift during the working day, with some people working 7 A.M. to 3:30 P.M., and others from 9 A.M. to 5:30 P.M.? A few of us would like to start a little later and it would keep the machines working for the same length of time. It would save money and have no negative effect on investigators or animals. I like the overtime money, but I don't like working late every other day. I think it's a win-win deal.

Carrie: I agree with Ethan. If the cage wash team wants to cut back on overtime and the number of cages washed doesn't change, why should that be a problem?

John: OK. We'll consider that as long as splitting the shift doesn't mean we have to hire more people to be present in the cage wash room. It's good because we can easily measure the amount of money saved and it will have no influence on effectiveness because the cages are going through the same machines in the same time. Right now, overtime work costs us about $150,000 a year, so your idea has the potential of making a big difference.

Ethan: Here's another idea. Maybe using disposable cages will save us time and money?

John: Fair enough. Ethan, will you work with Bob in the front office to find out if this is a viable option for us? We'll need that information by the end of this month.

Ethan: OK, I'll do that but I have another idea. There are a lot of investigators who use one of their own technicians to manage their mouse breeding colonies, but it's not a full time job for any one person and the PIs would really rather have them in the lab. Why don't we hire one or two additional veterinary technicians and have them cover the breeding colonies of four or five researchers, and we can charge them for the service? We have plenty of seating room for two more technicians and we can set a fee that will cover their salaries and benefits and still have money to spare. The extra income will help decrease the subsidy, benefit the researchers, and give more consistent care to the animals.

John: That's another good idea, assuming that we can quickly and properly train the new technicians. We can easily measure the breeding and weaning success of the colonies we would care for to see if they can be used as indicators of increased success compared to the present breeding and weaning figures. If the breeding figures are better with our technicians than with the investigators' technicians, we can use those numbers as a selling point to provide even more services to the research community. Of course, it's easy to determine if the cost of the service will bring us surplus income. But first, please work with Sue and Jack and formally survey our investigators and let us know by the end of the month if they are really willing to commit themselves to having our people take care of their colonies. I don't want to hire people and then find out that nobody wants to use them. Let's take a break until next week and meet again at the same time.

I'll arbitrarily stop this hypothetical discussion. The key points in the above discussion were:

- John led the discussion but he didn't dominate the discussion and he didn't tell people what goals to set. He did state the overall goal for the animal facility, but then he let others think about the specific subgoals and the strategies needed to reach those goals. This certainly may help motivate people to reach goals that they themselves helped establish. John also made sure that specific people had specific tasks to do. That way, there was accountability for actions. Finally, he set a time for the next follow-up meeting.
- The specific strategies proposed by Ethan were focused on the goal of decreasing the subsidy (increasing efficiency) without a having negative effect on the animal facility's effectiveness.
- All of the proposed strategies were measurable.
- The strategies were in line with the mission of the university and the animal facility. Nobody suggested opening a pizzeria to make extra money.
- The measures for the proposed strategies were balanced, that is, there were some financial measures and some nonfinancial measures.

- There was the potential of using collected data to make future predictions about financial success.

One additional point: Although the suggestion is that we often need measurements to help drive change (to show people where they are relative to where they want to be), there is no one group of measurements that will fit the goals of everybody in the animal facility. I'm the director of an animal facility and it's part of my job to ensure efficiency and effectiveness. On a day-to-day basis, I have to know about overall budget integrity, investigator satisfaction, staff satisfaction, needed staffing levels, equipment needs, and many other general issues. Therefore, if I were the facility director in the example I used above, I might be most concerned about the real need for extra technicians to provide service to investigators and about the fees that I could reasonably charge. One way of measuring this would be to send a questionnaire to investigators to see what additional services they desired and what they would be willing to pay to obtain those services. I could set up a numerical scale of wanted services or a more qualitative scale, but a measurement of some sort could be developed. Similarly, I could very easily get monthly financial reports on overtime and a monthly "best guess" estimate of what our annual subsidy from the university will be.

As we might expect, the people in charge of overseeing the cage washer operation will have different goals than I do, although we are all shooting at the same target of decreasing the subsidy to 25%. They have to be able to measure the effectiveness and efficiency of having a split shift. To that end, they might measure (i.e., count) the total number of cages processed per week to see if there is any difference between the overtime system versus the split-shift system. These measurements have to continue so we can see, at our monthly meetings, the progress being made toward reaching the goal. The cage wash group would also have to report back to us the amount of money being saved by using the new system. The veterinary services supervisor would have to monitor investigator satisfaction with the new breeding colony service (for example, by periodic satisfaction surveys) and also the income from breeding colony activities versus the cost of salaries and benefits. This will be reported at our monthly meetings, which will also include feedback about the entire goals, strategies, and measurement process. Every level of supervisor will have different specific goals and strategies, but all must relate to the goals of people above and below them in the animal facility hierarchy and, of course, to the larger goal of the university.

What happens if everything described above falls into place and the animal facility staff meets their 2-year goal of decreasing the subsidy to 25%? Do they pat themselves on the back and focus on another goal, or do they do something more tangible, such as throwing themselves a party or giving everybody a little financial bonus (obviously, not so much as to raise the subsidy)? Opinions will probably differ, but my vote is to show some form of appreciation, such as a bonus or a party attended by everyone, including senior management. If communicating

appreciation for a job well done is an important part of a manager's job (which it is), and if we understand that people crave recognition for their work (which they do), then a somewhat tangible expression of appreciation goes a good deal further than a simple thank you. At the absolute least, don't forget to say thank you.

I will conclude this discussion by pointing out that measuring progress toward a goal does not always have to be part of a big, department-wide plan. You can develop strategies and measurements for your personal goals. Think of a fairly simple problem, such as getting to work late because you have to take your child to school before your workday starts. You know your boss is unhappy about this. If you routinely get to work late three days a week (even if you stay late to make up the lost time), perhaps a reasonable goal for the first year would be to be late only one day a week. You can develop specific strategies, such as waking up earlier, getting your kid's clothing laid out the night before, preparing his lunch the night before, and so on. There is one specific and easy measurement that can be made, which is the number of days late per week or per month. However, you can also consider other measurements that may or may not forecast future success, such as the length of time it takes from waking up until you leave your house. The choice is yours, but as you can see, the process is basically the same one we used for defining a departmental goal, developing specific strategies, and measuring the success of those strategies toward reaching a goal. I can summarize this entire chapter with the following diagram (Figure A1.2):

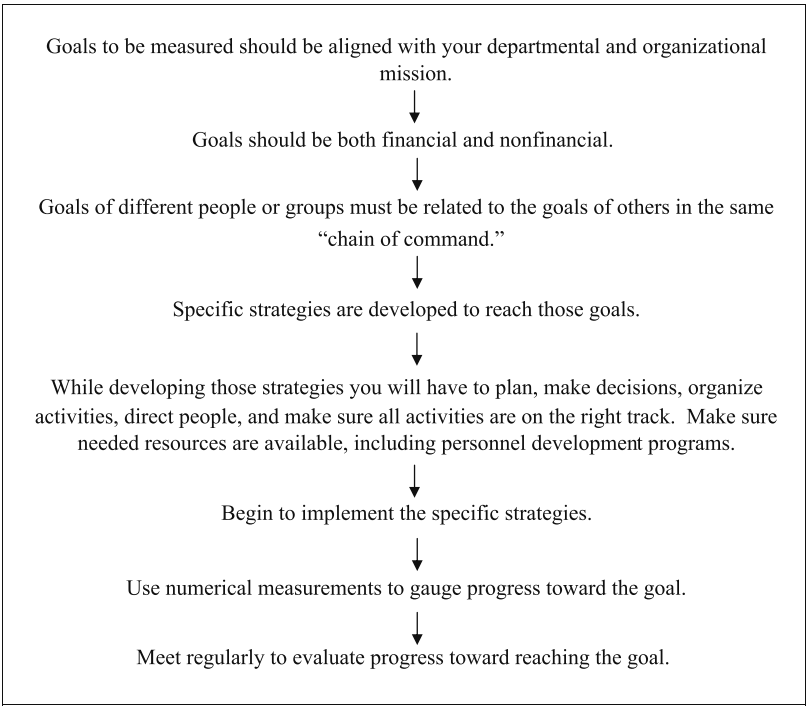

Figure A1.2 Quick Review of Developing Productivity Goals and Strategies That Can Be Measured

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Appendix 2

Setting *Per Diem* Rates

In Chapter 4 (Managing Financial Resources), a *per diem* rate was calculated using one species (mice) and one service (animal husbandry). If that were always the situation, life would be a lot easier for us. Unfortunately, operating an animal facility with one species and one service is more the exception than the norm. In the real world, you will be caring for many species, and, more likely than not, providing two or more services. The problem is to establish *per diem* charges for each species. This is not as difficult as it sounds, and, I am going to make it even easier than in the first edition of this book. A step-by-step explanation of how these calculations are made is provided, with the understanding that it's just to help you understand the process. Even if you have a computer calculate your *per diem* charges, you should still understand the concepts. In all of the examples below, it makes no difference if your census is counted by cages (as most facilities do) or by individual animals. The concepts are exactly the same.

Determining the Number of Animals Housed as Part of the *Per Diem* Calculation

Remember, the basic concept behind establishing a *per diem* rate for any species is to have the cost of all of your activities for that species covered by animal facility services that generate income. Over a 1-year time period, the basic formula for any species is:

$$\frac{\text{Total expenses for species A} - \text{Total revenue for species A from sources other than animal care}}{365 \text{ days}} \div \text{Average number of species A animals housed/day} = \text{Species A } \textit{per diem} \text{ cost}$$

This formula is slightly different from the one used in Chapter 4. It recognizes that there can be nonanimal care revenue generated for a particular species (for example, from a charge to an investigator for administering a drug to a rat). In most institutions, the *per diem* charge is only for animal care and related costs, and the charge for the drug and associated labor and supplies is usually billed directly to the investigator. Therefore, if you directly charge the investigator for the drug and labor, you cannot try to recoup these charges a second time through the *per diem* charge. That means you must exclude the charges for the additional labor when you calculate the "labor" portion of your *per diem* rate and you also must exclude the charges for the drug and supplies (for example, a needle and syringe) you used when you calculate the "supplies" portion of your *per diem* rate. A way to do this will be suggested at the end of this appendix. However, if you find that these additional revenue producing activities are really a very, very insignificant dollar amount when compared to the total *per diem* income, you can just forget about them in your calculations because they will have almost no effect on the *per diem* rate.

First, it is quite important to know how to determine the average number of animals housed per day. You can't develop a *per diem* rate without this information. Please take a look at the following example. It is the same example that was used in Chapter 4.

Calculating the Average Number of Rats Housed per Day, over a Year's Time, in a Hypothetical Animal Facility

1000 rats × 60 days =	60,000	rat-days for Dr. Smith
300 rats × 30 days =	9,000	rat-days for Dr. Jones
150 rats × 365 days =	54,750	rat-days for Dr. Green
Total =	123,750	rat-days

123,750 rat-days ÷ 365 days in a year = 339 rats housed per day, on average

Rather than calculating the number of rat-days for each day of the year, you may wonder if you can get a "close enough" estimate of the average number of rats housed per day (or the number of cages in use per day) by doing an animal head count (or a cage count) once or twice a month and averaging those numbers at the end of the year. The answer, for most laboratory animal facilities, is no. If you are

always filled to the brim with rat cages, you might be able to do this. That procedure is still dangerous, because the number of rats per cage typically changes over the course of time, unless every animal is individually housed. For this reason it is a little easier if you charge your *per diem* rate by the cage rather than by the animal. That's because it's easier to count cages than animals (at least with rodents), but, even here, you would have to assume that the number of cages stays fairly constant over the time interval between cage counts. That assumption usually is unrealistic, and for that reason averaging your cage or animal count is discouraged if you want an accurate reflection of your animal-days or cage-days.

Here's the good news. In a real-world situation, it's not hard to determine the average number of animals housed per day or the average number of cages in use per day. Most laboratory animal facilities already calculate their *per diem* charges by the rat-day (or the mouse-day, cage-day, dog-day, and so forth). These charges originate with the daily animal census form, which is filled out either by the investigator, the animal facility staff, or a combination of both (see the example in Chapter 4), so it should be a relatively small problem at the end of the year to get the total number of animal-days, by species. In larger facilities, this is likely to be computerized information. In smaller facilities, you may just have to do some simple addition. One way or the other, you will be able to get that number. Once you have it, you have to decide if the average number of animals or cages (by species) will be about the same for the coming year, or whether you should increase or decrease it. This is done by surveying your organization's external and internal environment to get an idea of its anticipated growth, possible changes in federal or corporate funding, research direction, and so forth.

When you are calculating a *per diem* rate, you are making a plan for the future. It is a rate you may begin charging in a month, 6 months, or even more, but it's not something you will be charging tomorrow. Investigators need lots of advance notice so they can plan their own budgets, but you have to balance that notice against your need to use current information in your calculations. Whenever possible, I like to tell investigators what the new rates will be about 6 months before the end of our fiscal year.

You can approach your calculations either prospectively (as with a zero-based budget) or retrospectively. The truth is, the calculations are the same, but it's technically easier to do them retrospectively. That's because you already know what your labor and other expenses were for a past time period. Prospectively, you have to do your best to estimate your expenses. Therefore, a method of doing a retrospective *per diem* rate calculation will be described first. *A retrospective per diem rate calculation assumes that the number and percentage of animals of each species will be roughly the same for the coming year and they will be housed about the same (e.g., three per cage). Therefore, if 25% of your animal population was rats this year, it should be about 25% next year.* Why are the above assumptions important? If, for example, you know that next year you will be housing 1,000 more rats per day than during the past year, you very well may have to buy more cages, more water bottles,

more stoppers, more mops, and so on. You will have to budget for these increased expenses and recover their cost through next year's *per diem.* Likewise, you will need more labor to take care of those animals. Sure, you'll eventually recover all or part of your increased labor cost via the increased revenues from the *per diem* charges, but you may be fighting an uphill battle when you try to hire people and there's no "up front" money in your budget. If you foresee these or similar problems, you may as well do a prospective budget and a prospective *per diem* calculation.

What Expenses Should Be Included in the *Per Diem* Calculation?

I would like to tell you to throw in everything, including the kitchen sink, but that's not what really happens. Different institutions include different items, and I can only give you a rough idea of what you should include. Because institutions differ in what is included, it is dangerous to compare *per diem* rates of one institution with another unless you know and appreciate what is or is not included in that rate. As a simple example, many institutions do not include their veterinarian's salary in the *per diem* rate. That salary comes from other institutional sources. Likewise, in many institutions the senior manager's salary is not included in the rate. On the other hand, where I work, my salary and those of the supervisors, the veterinary technicians, animal care technicians, all office staff, all supplies, and even capital equipment and building depreciation are included when I calculate our real *per diem* cost for housing animals.

Every institution includes certain *direct costs* in the *per diem* rate. This usually includes the salaries of animal care technicians and most supervisors, food, bedding, mops, brooms, cleaning chemicals, new cages (in fact, just about all husbandry and medical supplies), travel and housing at professional meetings, and the like. I'm afraid that if you don't already know what your institution includes, you will just have to sit down with the powers-that-be and ask what they want included in the direct costs.

Some institutions include certain *indirect costs* in their *per diem* rates, while others do not (you may also hear this called overhead charges, or facilities and administrative charges). These indirect costs can include part of the cost for heat, electricity, building depreciation, library use, the office of the institution's president, and so on [1]. If you are including indirect costs in your *per diem* rate, you will have to be told what guidelines to follow (see [1]). Remember, though, the more items that are included, whether direct or indirect, the more you are theoretically going to have to recover through your *per diem* charges to balance the budget at the end of the year. The corollary is that researchers want as many costs as possible included in the *institution's* indirect cost, so their *per diem* rates from the laboratory animal facility are (theoretically) lower.

Of course, your calculated *per diem* rate may be so high that no reasonable researcher could afford to pay it. That is why many institutions subsidize the *per diem* charges to investigators (and they *cannot* do that by using other federal dollars they may have received; they have to use nonfederal money for a subsidy). Even if the institution chooses to subsidize part of the *per diem* rate to make it more affordable to the researchers, your job is still to calculate the *actual* rate.

Retrospective Calculation of a *Per Diem* Rate for Future Use

Here are the general procedures to be followed in calculating a *per diem* rate for each species you are housing. *In the example used, any indirect costs have intentionally not been included. This will simplify your understanding of the process needed to calculate the per diem rate.*

Basic Needs for Calculating a Retrospective Per Diem Rate

1. **Have your animal facility's financial (budget) reports with you. You probably receive these on a monthly basis and they provide you with a breakdown of your income and expenses for that month and often for the year-to-date. I am not aware of any institution where these are not available.**
2. **Know the distribution of labor, by species, for you and your staff. This is described briefly in Chapter 4, and in more detail later in this chapter. Labor is the largest part of the *per diem* charge, and you cannot perform a *per diem* calculation without knowing the percentage of labor effort you have to assign to each species you house. Labor has to include all people involved in operating the animal facility, including those not directly working with animals.**
3. **Know the cost of all other items used in animal care, such as food, bedding, cleaning supplies, and so on.**

Before describing how we get this information, let's look at how we will use it. Assume your total animal care facility expenditures for the past year were $500,000.

How do you establish your *per diem* rates for the coming year? The general concept is to assign to each species you house a percentage of the total expense for the past year. You will then take that number, possibly add 4% for anticipated inflation, and divide the resulting number by 365 (this gives you the daily cost for all the animals of that particular species), and then divide the resulting number by the average number of animals housed (by species). This will be the *per diem* charge, by species, for next year. It is the charge to keep one animal (or one cage, depending on how you calculate your *per diems*) for 1 day and it is the information entered into the formula shown at the beginning of this appendix.

For example, let's say you determine that caring for an average of 1,000 rats/day over a 1-year time period cost you 25% of the $500,000 (later on we'll get into the details of how this was determined). Therefore,

$$\$500{,}000 \times 25\% = \$125{,}000 + 4\% \text{ (inflation)} = \$130{,}000$$

In other words, over the past year, it cost $125,000 to care for 1000 rats/day. You estimate that with 4% inflation, it will cost you $130,000 next year. Using the formula given at the beginning of this chapter, the *per diem* cost to your animal facility for rats would be:

$130,000/365 days ÷ 1000 rats/day = $0.36 rat *per diem* cost to the animal facility

To repeat what has just been written, this means that it costs $356.16 to house 1,000 rats for 1 day ($130,000 ÷ 365 = $356.16), or $0.36 to house 1 rat for 1 day ($356.16 ÷ 1000 = $0.36).

General Instructions for Calculating *Per Diem* Rates

Hopefully, you now have the general idea of how to calculate a *per diem* rate for one species. Let's get specific now about calculating *per diem* charges when there are multiple species. It is fairly easy with one species, but multiple species make it harder — not a lot harder, but nevertheless, harder.

Assume your total expense in 2006–2007 for running your animal facility was $500,000. The budget year is July 1, 2006–June 30, 2007. How do you establish your *per diem* rates for 2007–2008 (which will go into effect on July 1, 2007)?

For simplicity, assume that all of your income comes from *per diem* charges. If that's not true, just delete any income that does not come from animal husbandry charges. The general concept is to assign to each species housed a percentage of your total expenses, so by the end of the 2007–2008 budget year, your total income will roughly equal your total expenses.

The question is, "What percentage of the $500,000 total annual expenses should I assign to each species?" What follows is a suggested easy way of doing this. It will not be absolutely exact (no *per diem* calculation is exact), and it doesn't do things the exact way the NIH *Cost Analysis and Rate Setting Manual* [2] does, but it's much easier. It's also much better than guessing wildly or looking at every other animal facility in the neighborhood and setting rates that are someplace in between everybody else's. *It is important to ensure that for your facility, the relative proportion of expenses assigned to each species is correct.* Thus, rat users should not pay an unfairly high percentage of the total cost; otherwise, they might be subsidizing a monkey or rabbit user's research.

Distributing Labor Costs by Species

Because the largest single item in the *per diem* rate is labor, tackle this first. You must have time-motion data to properly track labor effort, at least if you are basing the labor part of your *per diem* rates for 2007–2008 on the labor activity of 2006–2007. The details of doing time-motion studies are shown toward the end of this appendix. In Table A2.1, we will assume that there are two animal care technicians, one veterinary technician, one supervisor, and one veterinarian. For each one of them, the total effort expended with the various species housed adds up to 100%. That doesn't mean that they spend every minute of every working day working directly with a species of animals. That's not possible because there are always meetings, breaks, and so forth. Rather, Table A2.1 simply shows the percentage of time spent with each species when they are actually working directly with animals and their environment (for example, cage changing, medical care, room cleaning). For right now, don't worry how we collected that data. It will be explained later. Table A2.1 shows that, on average, employees spent 16.25% of their time working with rats, 44.75% of their time with mice, and so forth. For example,

For rats, 20% (of the animal care technicians' time) + 10% (veterinary technician) + 10% (supervisor) + 25% (veterinarian) = 65%.

65% effort ÷ 4 groups of people = 16.25% effort, on average, with rats.

What happens if you have an office assistant who spends no time at all directly working with animals? How is that person's salary allocated? The answer is fairly easy. Allocate 16.25% of that person's effort (as shown in the last column of Table A2.1) for rats, 44.75% for mice, 4% for gerbils, and so forth. You do this because (in this example) you have no better way of allocating the salaries of people who don't work with animals, so you are simply making a best guess, based upon what you know is true of the effort expended by those people who *do* work with animals.

Table A2.1 Allocation of Labor by Species

	Animal Care Techs' Effort	*Vet Tech Effort*	*Supervisor Effort*	*Veterinarian Effort*	*Average Effort*	*Total % Effort to Allocate for People Not Directly Working with Animals*
Rat	20%	10%	10%	25%	16.25%	16.25%
Mouse	70%	40%	60%	9%	44.75%	44.75%
Gerbil	5%	5%	5%	1%	4.00%	4.00%
Rabbit	3%	20%	15%	15%	13.25%	13.25%
Monkey	2%	25%	10%	50%	21.75%	21.75%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table A2.2 Distribution of Salaries for Animal Care Technicians

	Effort by Species	*Salary plus Benefits*	*Salary Distribution for Animal Care*
Rat	20%	$60,000	$12,000
Mouse	70%	$60,000	$42,000
Gerbil	5%	$60,000	$ 3,000
Rabbit	3%	$60,000	$1,800
Monkey	2%	$60,000	$1,200
Total			**$60,000**

Let's assume that during the fiscal year 2006–2007 the total of salary and fringe benefits for everybody in the animal facility was $235,000 and for the two animal care technicians alone it was $60,000. (We can get the basic salaries from payroll records and for most institutions fringe benefits are around 25% to 30% of a person's salary. Your business office should be able to give you the exact figure.) We know from Table A2.1 that 20% of the cost of the animal care technicians' salaries and fringe benefits went for work with rats, 70% with mice, and so on. Therefore, we will allocate 20% of $60,000 = $12,000 for caring for rats. Let's do that for each species in Table A2.1. It will now look like this for all of the species we house (Table A2.2).

When there is more than one person in a labor group (such as two animal care technicians) we use the *total* salary plus benefits, not the average salary plus benefits. We can duplicate Table A2.2 for veterinary technicians, supervisors, veterinarians, and even the office assistant, but I'll save you the time and show you in Table A2.3 how it will look when summarized. In the example, I will use total salaries plus fringe benefits as follow:

Animal care technicians (2)	$60,000
Veterinary technician (1)	$35,000
Supervisor (1)	$40,000
Veterinarian (1)	$70,000
Office assistant (1)	$30,000
Total	$235,000

Therefore, from the last column in Table A2.3, the estimated total labor cost, by species (with a total salary plus benefits cost of $235,000), is:

Rat:	$41,875
Mouse:	$99,725
Gerbil:	$8,650
Rabbit:	$29,275
Monkey:	$55,475
Total	$235,000

This is your best estimate of the labor cost, by species. Because salaries and benefits account for about 60% to 70% of all total expenses in most budgets, you can see why it is critical to correctly allocate labor by species. To put it another way, if you stopped all your *per diem* calculations at this point, you would probably be someplace near 65% accurate if you allocated all other costs at the same percentage you did for labor.

As a secondary issue, if you wanted to calculate just a labor *per diem* rate (that part of the total *per diem* rate that includes only labor), all you have to do is divide the labor cost for a species by 365 and divide the resulting number by the average daily census. If there is an average of 339 rats housed each day, the labor *per diem* for rats would be:

$$\$41{,}875 \div 365 = \$114.73 \text{ (cost to house 339 rats for 1 day)}$$
$$\$114.73 \div 339 = \$0.34 \text{ (cost to house one rat for 1 day)}$$

In this example, it costs $0.34 in labor to house one rat for 1 day.

Table A2.3 Summary of Salary and Benefits Distribution, by Species

	Animal Care Techs	*Vet Tech*	*Supervisor*	*Veterinarian*	*Office Assistant*	*Total*
Rat	$12,000	$3,500	$4,000	$17,500	$4,875	$41,875
Mouse	$42,000	$14,000	$24,000	$6,300	$13,425	$99,725
Gerbil	$3,000	$1,750	$2,000	$700	$1,200	$8,650
Rabbit	$1,800	$7,000	$6,000	$10,500	$3,975	$29,275
Monkey	$1,200	$8,750	$4,000	$35,000	$6,525	$55,475
Totals	**$60,000**	**$35,000**	**$40,000**	**$70,000**	**$30,000**	**$235,000**

Distributing Labor Costs for Cage Washing

There always will be unique situations, and sometimes there is no perfect answer to allocating labor costs. For example, if you have a cage wash technician who

never handles animals, how is that person's labor effort distributed? We can, of course, estimate that person's effort the same way we did for the administrative assistant in the example used above, but that often does not work because rodent cages may have to be filled with bedding, monkey cages may require special handling, and rabbit cages may require scraping. One way of handling this problem is to have the cage wash technician estimate, on his time-motion activity forms that are described later in this chapter, the approximate amount of time he spent working with mouse, rat, gerbil, rabbit, and monkey cages. This is the easiest way to do it. But what if you use the same cage for rats and gerbils? How can the cage wash technician decide the amount of time to record working with cages that housed rats and those that housed gerbils? Fortunately, the cage wash technician usually can tell which is which, but sometimes it's necessary for a supervisor to proportion the rat-gerbil labor time based upon the average daily rat and gerbil cage census.

For example, assume that during the time-activity recording period about 90% of the rat/gerbil cages housed rats and the remaining 10% housed gerbils. All other cages were for mice, rabbits, and monkeys. When it comes to reporting the time spent cleaning rat/gerbil cages, the technician reports 90% of that time as being with rats and 10% as being with gerbils.

Food Cost Distribution by Species

Labor is your largest expense. Two other items that you can allocate to a given species, with reasonable ease, are food and bedding. Right now we will talk about food. Your job is to estimate the percentage of your total food expenditures to assign to each species. For monkeys and rabbits, it's easy, since all monkey food goes to monkeys and all rabbit food goes to rabbits. (This is assuming that all monkeys are of the same species and all rabbits are roughly of the same size.) But what about rats, mice, and gerbils? They all may eat the same food. How do you figure things out?

To equitably distribute the cost of food you must know your average daily animal population. Knowing the average daily *cage* population usually is not enough, because the number of animals per cage varies in most facilities. Nevertheless, for simplicity, many animal facilities make certain assumptions, such as a mouse cage typically contains 3.5 mice. The key is to "change" all rodent species into rats (or any other rodent species you work with). Let me show you what I mean (see also [2]) [3].

Assume your average daily rodent population for the year 2006–2007 was 2,000 mice, 1,000 rats, and 100 gerbils. Rats eat about 3 times as much food as mice and about 1.5 times as much food as gerbils. Therefore, in terms of food consumption:

1 rat = 3 mice, therefore 2,000 mice =	2000 ÷ 3 =	666 rats
1 rat = 1.5 gerbils, therefore 100 gerbils =	100 ÷ 1.5 =	67 rats
1 rat = 1 rat, therefore 1,000 rats =	1000 ÷ 1 =	1,000 rats
	Total =	1,733 rats

If your total food bill for the year was $10,000, and $2,500 of that was for primates and $2,500 was for rabbits, then $5,000 remains for rodents. To get the proportionate rodent cost by species (total rodent food cost is $5,000),

Mice 666 ÷ 1733 =	38.4% × $5,000 =	$1,920
Gerbils 67 ÷ 1733 =	3.9% × $5,000 =	$195
Rats 1000 ÷ 1733 =	57.7% × $5,000 =	$2,885
	Total =	$5,000

Of the $10,000 spent for food in 2006–2007, the approximate expenditure for each species is shown in Table A2.4 along with the total labor cost.

Table A2.4 Summary of Labor and Food Cost Distribution, by Species

	Total Labor	*Total Food*
Rat	$41,875	$2,885
Mouse	$99,725	$1,920
Gerbil	$8,650	$195
Rabbit	$29,275	$2,500
Monkey	$55,475	$2,500
Total	**$235,000**	**$10,000**

Bedding Cost Distribution by Species

Bedding is another item that is relatively easy to assign to a particular species. We will assume that rabbits have no direct-contact bedding, but paper pads are placed under their cages. Let's assume that monkeys have no bedding at all. Finally, assume that the three rodent species all use the same type of bedding (hardwood chip).

If your animal facility is like most others, the technicians put about the same amount of bedding into the same-sized cage whether it contains one mouse, ten mice, or three rats. Of course, when cage sizes differ, the amount of bedding put

into a cage will probably differ as well. It then can be a little trickier to try to figure out the cost of bedding, by species, when different cage sizes are used, but we can do it. A simple way to estimate the cost per species is to "change" all animals to rats, the same way we did when distributing food costs by species. This is based upon the typical amount of space required by each species, as noted in the *Guide for the Care and Use of Laboratory Animals* [4].

Based on the information given in the *Guide*, an average rat requires about 4 times as much floor space as an average mouse, and about 1.5 times as much floor space as a gerbil (I used the average floor space for a hamster to make the gerbil estimate).

Once again, assume your average daily rodent population for 2006–2007 was 2,000 mice, 1,000 rats, and 100 gerbils. Your records show that your total bedding expenditure was $5,250. Of that, $250 went for rabbit pads, and there was no bedding expense for primates. That leaves $5,000 to distribute for bedding, by species. Therefore, in terms of floor space required:

2,000 mice =	2,000 ÷ 4 =	500 rats
100 gerbils =	100 ÷ 1.5 =	67 rats
1,000 rats =	1,000 ÷ 1 =	1,000 rats
	Total =	1,567 rats

Using the same logic we used for distributing food costs, of the $5,250 spent for bedding in 2006–2007, the approximate expenditure for each species was:

Mice =	500 ÷ 1567 = 31.9% × $5,000 =	$1,595
Gerbils =	67 ÷ 1567 = 4.3% × $5,000 =	$215
Rats =	1,000 ÷ 1567 = 63.8% × $5,000 =	$3,190
	Rodent subtotal =	$5,000
Rabbits =		$250
Monkeys =		$0
	Rabbit and monkey subtotal	$250
	Grand Total	$5,250

Table A2.5 shows a summary of where we are so far.

All Other Supplies and Equipment

As I mentioned previously, labor, food, and bedding are relatively easy to assign to a particular species. However, there are always large amounts of supply and equipment items for which there is no logical way to assign expenditures to a given species.

Table A2.5 Summary of Labor, Food, and Bedding Cost Distribution, by Species

	Total Labor	*Total Food*	*Total Bedding*	*Labor, Food, Bedding Total*
Rat	$41,875	$2,885	$3,190	$47,950
Mouse	$99,725	$1,920	$1,595	$103,240
Gerbil	$8,650	$195	$215	$9,060
Rabbit	$29,275	$2,500	$250	$32,025
Monkey	$55,475	$2,500	$0	$57,975
Total	**$235,000**	**$10,000**	**$5,250**	**$250,250**

Pens, pencils, many cleaning supplies, truck repairs, and a long list of other items may fall into this category. (Of course, if you can assign one or more of these items to a particular species, you should do so by adding additional columns to Table A2.5.) But, to establish a *per diem* rate, we somehow have to transfer the expenses for these items to potential income-producing activities, such as animal care. The income, of course, will be derived from the different species we house. Again, we can only estimate the appropriate amount. We do this by adding together all the species-specific expenses we previously calculated, and use the same percentage for all of these other supplies (Table A2.6). The concept is no different from assigning the secretary's salary to the various species housed.

Table A2.6 Distribution Percentage of Other Supplies and Equipment Based upon Known Distribution of Labor, Food, and Bedding

	Total Labor	*Total Food*	*Total Bedding*	*Labor, Food, Bedding Total*	*Percentage of Total to Be Used for Other Supplies and Equipment*
Rat	$41,875	$2,885	$3,190	$47,950	$47,950 ÷ $250,250 = 19%
Mouse	$99,725	$1,920	$1,595	$103,240	$103,240 ÷ $250,250 = 41%
Gerbil	$8,650	$195	$215	$9,060	$9,060 ÷ $250,250 = 4%
Rabbit	$29,275	$2,500	$250	$32,025	$32,025 ÷ $250,250 = 13%
Monkey	$55,475	$2,500	$0	$57,975	$57,975 ÷ $250,250 = 23%
			Total	**$250,250**	

We are assuming that our total expenses were $500,000 for the 2006–2007 fiscal year. To date, we have accounted for $250,250 of that $500,000. Therefore, the remainder for "other supplies and equipment" is:

$$\$500{,}000 - \$250{,}250 = \$249{,}750.$$

Our "other supplies and equipment" expenses, by species, are distributed as follows:

Rat	19% × $249,750=	$47,452.50
Mouse	41% × $249,750=	$102,397.50
Gerbil	4% × $249,750=	$9,900.00
Rabbit	13% × $249,750=	$32,467.50
Monkey	23% × $249,750=	$57,442.50
		$249,660.00

The total does not add up to $249,750 because of rounding of numbers. Table A2.7 shows you all of the costs for running the animal facility.

You can make another column for major equipment if you want to, but I have not given an example since much of the major equipment you purchase (for example, a cage washer) is a capital budget expense. The money to purchase that equipment is usually obtained directly from other institutional funds, not from your operational budget. You do not recover this money with the *per diem* charges because the money never came from your operational budget to start with.

Calculating the Actual Per Diem *Rate*

The actual *per diem* charge is simply the total amount spent for each species over the year divided by 365, and the resulting number divided by the average number of animals housed per day, by species (see the formula at the beginning of this Appendix). Therefore, for the five species we house, assume we have an average daily population of:

1,000	rats
2,000	mice
100	gerbils
200	rabbits
30	monkeys

If we just look at rats as an example, we see that, for those animals, labor, food, bedding and other supplies cost $95,903 during 2006–2007 (see Table A2.7). On

Table A2.7 Total Animal Facility Costs and the Calculated *Per Diem* Rate

	Total Labor	*Total Food*	*Total Bedding*	*Total Other Supplies and Equipment*	*Total Cost per Year*	*Total Yearly Cost/365 (A)*	*Avg. Number of Animals (B)*	*(A) ÷ (B) = Per Diem*
Rat	$41,875	$2,885	$3,190	$47,953	$95,903	$262.75	1000	$0.26
Mouse	$99,725	$1,920	$1,595	$102,398	$205,638	$563.39	2000	$0.28
Gerbil	$8,650	$195	$215	$9,900	$18,960	$51.95	100	$0.52
Rabbit	$29,275	$2,500	$250	$32,468	$64,493	$176.69	200	$0.88
Monkey	$55,475	$2,500	$0	$57,443	$115,418	$316.21	30	$10.54
				Total	**$500,412**			

a daily basis, it cost $262.75 to house 1,000 rats for 1 day, or $0.26 to house one rat for 1 day, which is the *per diem* rate for rats. You will also note that the total cost of everything to run the animal facility for 1 year was about $500,000, which are the total expenses we had to account for. (The extra $412 is due to rounding of numbers.)

What you have calculated is the actual *per diem* cost to you (not to the investigator) for the *past* year. If you anticipate 4% inflation, then increase the amount in the "total cost per year" by 4% (if that hasn't already been factored into your calculations), which will give you the *per diem* rate for 2007–2008. Of course, your institution may subsidize part of the *per diem* rate so that an investigator pays less than what it costs you to care for her animals. That's an institutional decision only. Your job is to know the actual *per diem* cost to the animal facility.

Prospective Calculation of a *Per Diem* Rate

We just calculated a *per diem* rate for a future time period, based on figures we generated from a past time period. What do you do if you don't have any past history to use? The answer is, you perform a prospective calculation of a *per diem* rate. The information you need to do a prospective *per diem* calculation is not substantially different from the retrospective procedure. The variation is that, with the prospective calculation, you must estimate what you will need to care for each species, whereas, with the retrospective calculation, you do not estimate but instead use the actual expenses of the past year. This was discussed in Chapter 4, under the heading of zero-based budgets.

Why bother to take the time to do a prospective calculation when the retrospective one is inherently easier? First, remember that the retrospective calculation assumes that the number of animals, the percentage distribution of each species, and the method of housing will be about the same for the coming year as it was for the past year. If any of these parameters will be changing significantly in your animal facility, you may have to estimate the number of animals, by species, for the coming year. The second reason is that a prospective *per diem* calculation gives you a much clearer understanding of exactly what is happening financially, because you are forced to examine and question everything you put down on paper.

Labor

The actual labor calculations for a prospective *per diem* rate do not differ from those made with the retrospective one. If your housing method will change, then clearly you are going to have to estimate if there will be any increased or decreased time for animal care, and its associated cost for that species.

One thing should be obvious. You will have to do time-motion studies (described later in this appendix) whether you are calculating a retrospective or prospective *per diem*. If you do not have current data on how long it takes to care for animals, you can either do a little pilot study of your own to find out, or make a best guess. The pilot study is safer.

Food

The cost of food is not necessarily the same on a per-animal basis if your housing system changes, such as changing from group housing animals to individual animal housing. Very often, animal care technicians will feed one animal the same amount of food they give three animals, and then dump the remaining food in a few days. A lot has to do with the way you care for your animals, but you will have to see if the amount fed per animal will change.

Bedding

The same comments made for food are also true for bedding. Fortunately, this problem has already been considered under the discussion for retrospective *per diem* calculations.

Other Supplies and Equipment

For a prospective *per diem* calculation, there's more work to do. If you know the approximate average number of animals of each species that will be housed each day, you can usually get a very good estimate of what food and bedding will cost. But for office supplies, cleaning equipment, surgical supplies, and so forth, it can be harder to estimate your total costs for the coming year. At this time, you need not record how much they will cost you, just list the items. You should be able to obtain almost all of this information from your current expense budget. If you are just opening your animal facility, look at a budget sheet and monthly expense reports from another animal facility, just to be sure you are not forgetting anything.

From this point, the path you have to take is obvious. You will have to estimate all of your costs for the coming year and do the same calculations described for the retrospective *per diem* rate. If you can possibly put your supplies into categories for a given species, you should do so. For example, you can have a column called "environmental enrichment," if you know that certain objects are only for rats, certain ones only for mice, others only for monkeys, and so on. Wherever possible, assign items to a given species. That way there will be far fewer items in that lumped-together category of "other supplies and equipment."

Computer Calculations of *Per Diem* Rates

Computer software that calculates your *per diem* rates operate much like what was explained above. They calculate the rate using information you provide about labor, supplies, small-equipment purchases, the size of your laboratory animal facility, cage sizes, and your average daily census of each species. Rather than *you* specifying the percentage of each expense that will be allocated to a species, a typical computer program makes certain assumptions about how the allocations will be made, often based on the amount of total facility space occupied by a particular species. For example, rather than turning all animals into rats, as done above for calculating food and bedding costs, a computer program, based on your input, might determine the amount of space taken up by one mouse cage out of the combined size of all of your animal holding rooms. Then, integrating this with census figures you supply, the computer allocates a portion of all expenses to mice.

Computer generation of *per diem* rates certainly helps make life a little easier. I use a simple spreadsheet computer program that I put together myself, using the concepts I described for a retrospective *per diem* calculation. It took me more time than I would like to develop it, but then again, I am borderline computer illiterate. Remember, though, any computer program used for *per diem* calculations requires data input from you. It will do the calculations for you, but either directly or indirectly, you still have to feed in the raw data.

Tracking Labor through Time-Motion Records

A time-motion study, in the context of *per diem* calculations, simply means recording which species people work with and how much time they spend with each species. This information is crucial to calculating *per diem* charges, because labor is about 60% to 70% of most *per diem* rates.

Time-motion records are typically obtained in one of two ways. The easiest way, as you might have guessed, is the most expensive way. If you want to know who is in a particular animal room at a particular time, you can use a computer-linked key card (or a radiofrequency identification chip) that records when a person enters and exits that room. It really doesn't matter what the person is doing in the room, since all we want to know is how much time is spent with a particular species. Computer key cards may be appropriate if one species is housed in the room. There will be times when you enter a room but have no intent of working with a species. For example, if you go into a room to look for a person or to see if you left something there the day before. For practical purposes, those instances are relatively quick and minor and will lead to no significant problems when calculating *per diem* rates.

Activity Logs

Most animal facilities use manual recording of time-motion on an activity log. A sample form for keeping such records is shown in Table A2.8. All employees fill out their own forms. Notice there is no space for a person's name. That's intentional, and it helps drive home the point that an activity log is not used as a punitive device to see who is or is not doing their job. You may have to work hard making your staff understand that the logs are used to help calculate *per diem* charges. You will also notice on the sample log that people are asked to enter the month that the log was filled in. Empirically, I have found that asking people to fill out the logs for 1 week out of a month is adequate to get a reasonable picture of work activity, as long as you do not use the same week of the month each time. For example, in January you would record activity in week 1, week 2 in February, week 3 in March, and so on. It's important to be able to identify a person's job title because as you saw earlier in this appendix, we use the total salaries and benefits in a job title to help calculate the *per diem* rate.

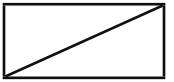
A few explanatory points are in order. First, I ask for the time spent at lunch because I want to be sure that people clearly understand that every hour has to account for 60 minutes (the only exception is when people start or end work on the half-hour). Next, I make it clear that I'm not interested in anything but time that is directly related to working with animals (including cage changing, cleaning the animal room, environmental enrichment, and so forth). The "Other" category includes meetings, breaks, talking to investigators, cleaning hallways that serve rooms housing many species, and similar items that cannot be attributed to one species of animal. Finally, in some facilities, there is a different *per diem* rate charged for working inside and outside a barrier area. You can set these activity logs up in any manner you choose. If you charge differently for different size cages, you might include that on the log. Once you finalize your *per diem* rates as explained earlier in this appendix, you can make a percentage adjustment in the charge based upon a pilot study that you performed to determine how much additional time it took you to work with large cages versus small cages, or multiple-housed versus single-housed animals. No, it's not perfect, but it saves eons of time and it's a method that seems to work.

One time-saving suggestion that you might consider is to computerize the activity log so that the raw data can be entered electronically rather than manually. This is not for a beginner in programming, but at the University of Massachusetts Medical School our Information Services Department developed a very user-friendly program that allows the data to be entered and collated electronically. It literally saves me hours of work every month and is a tremendous time saver when it comes to getting summarized labor data for annual *per diem* rate calculations.

Table A2.8 Sample Time-Motion Activity Log

University Laboratory Animal Resources											
Animal Care Tech ☐			**Vet Tech ☐**			**Animal Care Supervisor ☐**				**Vet Tech Supervisor ☐**	
Enter the total minutes worked that were not directly billed to the investigator.											
	Mouse-Barrier	*Mouse-Regular*	*Rat-Barrier*	*Rat-Regular*	*Rabbit*	*Dog*	*Guinea Pig*	*Monkey*	*Other*	*Lunch*	
6–7 a.m.											= 60 min.
7–8 a.m.											= 60 min.
8–9 a.m.											= 60 min.
9–10 a.m.											= 60 min.
10–11 a.m.											= 60 min.
11–noon											= 60 min.
12–1 p.m.											= 60 min.
1–2 p.m.											= 60 min.
2–3 p.m.											= 60 min.
3–4 p.m.											= 60 min.
4–5 p.m.											= 60 min.
5–6 p.m.											= 60 min.
6–7 p.m.											= 60 min.
Total											
Month_____ Day____ Year _____											

Table A2.9 Section of a Time-Motion Activity Log Used for Recording Both *Per Diem* and Fee-for-Service Activity

9–10 A.M.		= 60 min.

Per Diem *Charges along with Investigator-Billed Charges (Fee-for-Service Charges)*

As indicated earlier in this appendix, it's not unusual for the same animal facility employee to provide more than one service. For example, most of the time a technician may be performing animal care work that is normally included in an investigator's *per diem* charge. However, once in a while that technician may perform fee-for-service work, such as giving an antibiotic injection to an animal. Let's say that injection took 15 minutes. How is that time recorded? Different animal facilities have developed different methods of recording this time. Where I work, nearly 100% of it is recorded electronically (on a computer program) but it can also be recorded manually. Table A2.9 is a small section of Table A2.8 in which the time recording boxes are divided diagonally. The left (upper) section is used for time recording of typical daily activities that are included in the *per diem* charge while the right (lower) section is used to record the time (if any) spent on fee-for-service activities.

When you are doing the calculations needed to develop your *per diem* rates, you subtract the dollar value of the time spent for fee-for-service from the total salaries and benefits of the labor group they are in. For example, assume that the total salaries and benefits for all of your animal care technicians was $100,000. Also assume your animal facility charges $25/hour for fee-for-service work performed by animal care technicians. The animal care technicians recorded 12,000 minutes (200 hours) of fee-for-service work over the course of the year:

$$200 \text{ hours} \times \$25/\text{hour} = \$5{,}000$$

$$\$100{,}000 - \$5{,}000 = \$95{,}000$$

When calculating your *per diem* charges, you use $95,000 as the true salary plus benefits of your animal care technicians because the $5,000 of fee-for-service work was already charged back to the investigator.

Using Activity Logs

In this edition of *Managing the Laboratory Animal Facility* I am making some changes from the first edition that should make the determination of the total time

spent with a species (and eventually *per diem* rate calculations) even easier. Reality dictates that you cannot expect to receive an activity log from each person on every day of the week that the log is supposed to be used. Some people forget to turn them in, some are on vacation, out sick, at a meeting, and so on. How do you actually calculate the level of effort from these sheets? Here is what I do.

1. Ask all people who work with animals to record their time in minutes. I can assure you that you will have far fewer headaches if people record their time by minutes rather than by hours and parts of hours.
2. Add up the total number of minutes all employees with the same job title (e.g., animal care technician) worked with each individual species (e.g., mice or rats). Then add up the total minutes all employees with the same job title worked with all species (e.g., mice, rats, rabbits). Divide the first number by the second number. For example, for animal care technicians:

Total number of minutes/year recorded by two animal care technicians for working with mice	=	122,500
Total number of minutes/year recorded by the same two animal care technicians for working with *all* animal species	=	175,000
$\frac{122{,}500}{175{,}000}$	=	70%

   This means that working with mice constituted 70% of the work of animal care technicians. This is the figure that goes into Table A2.1. Don't worry if somebody was on vacation or out sick. We are looking for a percentage of effort, so a little absenteeism will not have a large effect on the percentage over the course of a year. On the other hand, it is important to try to get all employees to turn in an activity log when they are at work. What would happen, for example, if you had only two people who worked with rabbits and one of them never turned in an activity log? That could make a significant difference in the *per diem* rate.

   You can do this addition of minutes spent with animals monthly or annually, as you choose, but it makes life easier if it is done monthly and then just total everything at the end of the year.
3. If you have two animal care technicians, both of whom work with animals at some time during the day, you would expect a maximum of 14 activity logs in a month (2 people × 7 days in a week × 1 week/month of recording activity = 14 logs). Remember, you only collect logs for one week (7 days) per month. We understand, of course, that most people will not work a 7-day week every week but that will not throw off your calculations. Similarly, in a year, you can have a maximum of 84 activity logs from any one person (7 days/month

× 12 months = 84). Because of vacations, holidays, weekends, and sick days, you will most likely be given fewer than 84 activity logs per person.

4. Disregard any time recorded in the "other" or "lunch" columns. Those columns are only there to make sure that the person recording his time remembers to record 60 minutes for every hour worked (except, as noted earlier, if he did not start or stop work exactly on the hour). "Other" not only includes time spent in meetings or breaks but is also used when a person's labor cannot be assigned to a particular animal species. For example, if a person is mopping a common hallway that is surrounded by rooms housing rats, mice, and rabbits, the easiest solution is to designate that time to "Other" because multiple species are involved. You can, of course, calculate the percentage of cages of each species and proportion the person's time that way, but very few animal facilities will have to go to that extreme.
5. Remember that activity log summaries and calculations are made for each job title, such as animal care technician, veterinary technician, and so on. In the example shown above, animal care technicians spent (on average) 70% of their time working with mice. You take this figure and put it into the "Animal care techs' effort" column in Table A2.1. You have now used an activity log to determine the percent of time that your animal care technicians spend working with a particular species of animal.

References

1. The U.S. Department of Health and Human Services typically requires institutions receiving federal research money (e.g., from a research grant) to have the grant pay for all or part of the cost of the investigator's use of the laboratory animal facility and its services. That payment, which is incurred by all the investigators using your animal facility, is your *per diem* charge. In 1999, the government ruled that certain costs an institution may have previously included in the *animal facility's* indirect costs could now be included in the *institution's* indirect cost. The latter is a figure negotiated with the federal government, is built into each federal research grant, and helps the institution to function (e.g., the library, the dean's office) (Office of Grants and Acquisition Management Transmittal OGAM AT 2000–1, Nov. 15, 1999). Because the institution, not the animal facility, can now assume certain costs, the *per diem* rate may decrease. The indirect costs related to animal facility use that the institution can now assume, if it chooses to, can include many Institutional Animal Care and Use Committee (IACUC) functions, training programs to qualify people to perform certain types of animal procedures, employee occupational health costs, vermin control, certain capital expenditures that can be depreciated, and much more. Since some institutions do not include any indirect costs in the *per diem* charge to investigators, and because the details of this allowance can be complicated, it is important to have a clear understanding of what you should or should not include when calculating *per diem* charges.

2. Office of Science Policy and Public Liaison, *Cost Analysis and Rate Setting Manual for Animal Research Facilities,* NIH Publication 00–2006, Bethesda, MD, May 2000.
3. Some of you may have read the revised cost-setting guide put out by the National Center for Research Resources (NCRR) of the National Institutes of Health, referenced above [2]. That manual uses a different method to reach the same endpoint of food cost by species. There is nothing wrong with that method, I simply prefer my way. For each species of animal housed, the NCRR method multiplies the average daily consumption of food for one animal by the total number of animal-care days (e.g., rat-days) for that species. The NCRR method then uses a simple percentage of total cost formula to assign a dollar value to the cost of food, by species. It uses a similar concept to determine bedding costs.
4. National Research Council, *Guide for the Care and Use of Laboratory Animals*, National Academy Press, Washington, DC, 1996.

Appendix 3

Hiring the Right Person

General Principles

In the first edition of this book, the topic of hiring seemed too "operational" and I was tempted not to even discuss it because my goal was to provide more broad-based concepts. Not only was I convinced otherwise, and subsequently wrote an appendix about hiring for the first edition, but the more I thought about it the more important it seemed to me. In economic terms alone, bad hiring is bad business because of the time and money it takes to train a person. This problem is compounded when we think about hiring senior managers and veterinarians, who are among the higher paid employees of an animal facility. Then, of course, if you hire someone who fits into your organization like a square peg in a round hole, you start with a second strike against you because you may have to deal with morale problems among your coworkers. Managers have enough problems. Hiring the right person makes your life much easier.

As discussed earlier in this book, managers are judged by the decisions they make. Without doubt, some of the more important decisions you will make concern the people you will hire. In some unionized organizations, you may have little say as to who will be placed in certain positions, but in most instances, whether there is a union or not, you will have a major say as to who is hired.

It's not unusual for new managers to become upset when an employee leaves. They may take it as a personal failure and often want to fill the position right away. If you don't do that, maybe your boss will think there is something wrong with your ability to attract new people. Or maybe the rest of your staff will start complaining that there's too much work. My advice is to slow down for a second

and evaluate where you are. Most administrators would rather see fewer employees doing the same amount of work, so there is rarely a need to impress your boss with how fast you can fill a position. In the long run, by hiring the right person — not just any person — you save money and time, and increase the effectiveness of your laboratory animal facility.

Recognize that very few people stay in the same position for their entire working life; therefore, you will always have some employee turnover. So breathe easy and evaluate where you are and where you want to be. What do you think the anticipated workload will be in the foreseeable future? Do you think that the existing staff can handle the workload? Can some of the work be outsourced? I know that outsourcing (using an outside company to do work for you) is a controversial topic in the laboratory animal community, but that's the direction in which some organizations are heading.

Only when you are convinced that you need a new person should you start the hiring process. The same general principles for hiring hold true whether the person to be hired already works for your organization or will be hired from the outside. In this short appendix, the hope is to give you some important help while going through the hiring process.

1. Either by yourself or with your supervisor, *determine the optimal and the minimal qualifications for the position*. This may be a good time to reevaluate its requirements. It's critical for every hiring manager to clearly understand the type of a person that is needed. Your job announcement should unambiguously state what the responsibilities are and what type of a background is needed.

   The qualifications should fit the position and not incorporate hyperbole that is essentially meaningless. For example, if your opening is for an entry-level supervisor, there is probably very little need to make "10 years of supervisory experience preferred" as a preference for employment. Under most circumstances, would you really want to hire a very seasoned manager for an entry-level position? If you are hiring a veterinarian who will be primarily responsible for performing large animal surgery, don't write that "you will be primarily responsible for large animal surgery." Does that mean performing surgery or overseeing surgery? Instead, be specific and write that the candidate must be skilled at performing a large variety of experimental surgical procedures (such as cardiac valve replacements and organ allografts) on swine and other large research animals, and must be experienced in administering large animal anesthesia and analgesia. Add to the job description, if appropriate, that the successful candidate must have the ability to be diplomatic while interacting with biomedical researchers of differing backgrounds and surgical expertise.
2. *Be honest.* Let me be blunt about this. It makes no sense to sugarcoat a job description and make it sound much better than what it really is. I know that it's tempting to do this when there are very few applicants, but you will pay for this deception, in spades, if the new hire is unhappy. You want to start off

with trust; otherwise you are going to have an uphill battle trying to regain it. Under the worst of circumstances, you may have a person who is unhappy enough to sabotage your operations before he quits or is fired.

Many of us have seen the problems that arise when the advertised position and the actual position are quite different. I don't know if some people sanction this because they think that every ad is supposed to glorify a position, if they actually believe the position is what they advertised, or if they are being intentionally deceitful just to get somebody hired. One way or the other, it is a horrible hiring tactic. It's beyond logic why you would spend the time and money necessary to find, hire, and train a person who has been deceived into taking a position that is significantly different from the one advertised. Let me give you some examples: If you advertise that a position has "unlimited growth potential" but it has almost no growth potential, you start off with a disgruntled employee who can spread his dissatisfaction to others and is likely to leave the position. If you advertise that an employee is expected to be creative, but the job has almost no room for creativity without obtaining up- and down-the-line approvals, then a creative person taking the position is the wrong one for the job. If you advertise that occasional weekend work is required but the new person is scheduled for every weekend, you have demonstrated that you cannot be trusted. As a final but positive example, the New York State College of Veterinary Medicine at Cornell University teaches its courses by problem-based and case-based learning. This type of educational paradigm may not fit all students (because not all students learn in the same manner), so Cornell makes it a point to let potential students know ahead of time how they will be taught. That way, students can determine if what Cornell offers meshes with what they need.

One can counter that a prospective employee (or student) should sniff around and ask current or former employees about their experiences with their company and the company's culture, but alas, this is not always possible. Indeed, in some companies, current employees who are honest with a prospective employee may become former employees more quickly than they intended. Fortunately, in other companies (and schools), prospective students and employees are encouraged to get honest feedback from current students and employees.

All of this means that the first step toward building trust in the workplace begins with the hiring process. Advertisements should be reasonably correlated to the job and interviewers should be honest with the job candidate. The person being considered should leave with a factual impression of your animal facility. Honesty does not imply that every positive and negative aspect of the animal facility has to be placed on display. Rather, it means that the person being considered for the position has to have a realistic view of the job, the opportunities in your company for advancement, and most important, the general organizational culture.

The first step towards building trust in the workplace is to exhibit honesty during the hiring process.

I don't have any hard figures on what it costs to replace a person in a laboratory animal facility, but my best guess is that it's anywhere from 50% to 100% of a person's annual salary, depending on his or her position. Why? As noted elsewhere in this book, we have to consider the "downtime" when a person leaves, paperwork, advertisements, the time cost for the people who have to cover the gap, and the considerable amount of time for training a new person. It adds up quickly, and it's a strong argument for being honest up-front.

Here is a final thought: For some positions, I have actually developed a detailed job description that states what has to be done daily, weekly, and so on. I send this to applicants I am considering hiring. Most people appreciate this, and, although some will choose to withdraw their application, on the whole, it has worked to everybody's benefit. One downside of this practice is that you can lose some job flexibility and possibly lose a good person. You simply have to decide whether this method will help or hinder you. As a rule of thumb, I would *not* use this technique when recruiting a senior-level person, but I might consider it for people whose work is more technical in nature.

3. Once you have evaluated the requirements, *make sure the position is advertised where it will do the most good, and make sure that individuals in your organization are aware of the new opening*. Throughout this book, the importance of networking has been emphasized, which means getting to know people through your own contacts and through contacts of other people. When it comes to hiring people, sometimes your best candidates come from networking, not from advertisements. For example, if a senior veterinarian is needed, in addition to using advertisements or recruiting firms, why not ask colleagues whom they would really like to hire if they had an opening? Armed with that knowledge, you can contact those veterinarians to determine their interest in moving; if they are not currently available, ask them to suggest others who might fit the position you have open.

   Your own staff may wish to apply or they may know people who fit your requirements. Don't forget, the Internet can be an excellent source for both advertising an opening and for finding resumes of potential employees. Recently, we have also seen video, not just written, resumes on the Internet. This is an interesting phenomenon because it has the potential for leading to discrimination in hiring (for example, male versus female, old versus young, attractive versus average looking, and so forth). Eventually this risk will be worked out to everyone's satisfaction, but for now I have to advise caution with video resumes.

A file of recent applicants who were not hired is always a good source of information. Check through it, as there may be some qualified people still looking for a new job. As a rule of thumb, I keep all applications for any position I advertise for about a year. I also try to keep on good terms with certain key people who have worked for me but have left for another position. Career goals change and there may be a mutual need to work together once again.

4. I suppose that the easiest (and wisest) thing I can say about hiring is to advise you to *hire the smartest people you can find who are qualified* (but not overqualified) for the position, even if that means that person is better than you are at parts of the job. There is no doubt that I would rather have a reasonably intelligent person who needs less care than someone who needs more care. Of course, intelligence is not, and never will be, the only hallmark for good hiring since not every person can excel at every job nor do all people have the self-motivation needed to get themselves up to speed. I have three college degrees; nevertheless, I could not teach a beginning high school math course or build a bookcase if my life depended on it. Therefore, hiring smart people means that you have to find a person who is smart enough for the job you have open, and hopefully, the smartest of all your applicants for that position, but also has the basic qualifications. If a potential employee seems smart enough to be able to operate your cage washer and ensure the cages keep flowing, and can probably also take care of the unique demands of your new zebrafish facility, then you are way ahead of the game. The person's interests and time will determine the best fit.

   When hiring a manager, one of your goals should be to hire people who are more skilled in a particular aspect of laboratory animal science than you are. If, for example, you need to hire a director of animal care, then your goal should be to hire a person whose practical and theoretical knowledge of the subject should be greater than yours. If you need to hire a clinical veterinarian and you're a veterinarian who, like me, has been drifting away from clinical work, then your goal should be to hire a person who knows more about clinical medicine than you do.

5. *Money helps, but it is not everything.* One of the biggest problems some managers face is their own company's policies, which often demand hiring a person at a salary that is no greater than the midpoint of the salary range. You should consider the hiring salary range before, not after, you decide upon your preferred applicant. What happens if you are forced into hiring average people at an average salary? Most likely you will get average people doing average work. In some instances you can hire an exceptional person at an average salary, but in due time you lose these good people to another department or to a competitor who is willing to pay more for a good employee [1]. Nevertheless, although money is certainly important to most of us, many people look for a position where they not only can make a living but where they can feel comfortable with their coworkers and with the overall corporate climate.

This point was underlined for me by a colleague who, during his employment interview, interviewed me and my co-veterinarians as much as we interviewed him. His primary goal in determining where to work was to find a position where his future colleagues were congenial with each other. I'm glad he took the position (and I hope he is as well).

6. I suggest that you *ask for a cover letter and a resume from anybody who is seeking the new position.* This applies to any applicant, no matter what level the position or what level of education it requires. Many human resources departments in larger organizations require this and the days of taking any person who can stand up and breathe are long gone. Cover letters and resumes that are handwritten, on lined paper, have cross-outs, are far outdated, and have other obvious flaws may tell you that this person is not managerial quality. If the person is not applying for a managerial position, less weight is given to style. Do I make exceptions? Sure I do. There are some disadvantaged people who need a helping hand to get started and this often shows through on a written application. But those are the exceptions, not the rule.

   An alternative to having a resume sent in is to have a brief telephone interview. This tends to work best for hiring people with unique skills, such as a veterinarian or a transgenic facility manager who doesn't reside near your animal facility. An initial telephone interview can be helpful in determining if the applicant truly understands the position's responsibilities, if the applicant's qualifications are appropriate, if the person would potentially integrate well with your current coworkers, if the salary range is acceptable, or any other basic issues. If the preliminary telephone interview seems promising, it can be followed up by an interview at your office or by having the candidate fill out a formal application to be sent to you.
7. *When an applicant is interviewed at your place of business, that person should be expected to be neatly dressed and groomed.* I believe that someone who is serious about obtaining a new job will make the effort to be presentable. This is true for any position — managerial or otherwise. First impressions count (as discussed below) and a bad first impression is hard to repair.

   I do practice what I preach. I rejected an applicant for a supervisory position, in part because she arrived for her interview wearing old jeans. As much as I personally like wearing jeans, I would never consider wearing them for an interview. There is a certain amount of tact and common sense needed as a supervisor, and, in my opinion, this woman showed she did not have much of either.
8. *Before the interview, have an idea of what questions you are going to ask.* This advice holds true for both telephone and face-to-face interviews. You should encourage applicants to talk by asking questions about their background, and especially why they applied for the job (even if the reason is obvious). What are their plans for the future (perhaps they plan to go back to school in two months) and what do they expect to get out of the job? Although you may

want a person with animal-related experience, hiring people for laboratory animal facilities without a formal animal-related background may leave you pleasantly surprised. Some of the best people I have hired liked animals, had a pet when they were kids, but had backgrounds in psychology, literature, and the like. In truth, at the entry level it's unusual to find a person who has a background working in a laboratory animal facility. So, look at the entire person and don't assume that a background working with animals is essential. Ambitious, bright people usually pick up on the daily work routine very fast. I'll add just one word of caution. There are positions that do require some experience, whether it's from schooling, hands-on, or both. A supervisor of animal care might be a good example of such a position.

Likewise, there are cultural differences to consider. One of the finest people I ever worked with was Korean and very traditional in his upbringing. He would rarely shake hands and often did not make eye contact when I would talk with him. Nevertheless, it was absolutely clear that he knew his business. It would have been quite a loss not to have had him as a coworker, simply because his actions reflected a different culture.

Should you ask a person if he or she would be able to work in your facility? It makes no sense to do so. You already know what the answer will be. Rather, ask broad questions that don't require a yes or no answer and can potentially show a person's ability to think or act rationally. Some examples are, "How would you approach a dog that is afraid of you?" "What do you think you would do if you found a monkey had escaped from its cage?" I would not even hesitate to ask generic questions about a person's last vacation if it got him to open up a little. I am more concerned about what a person has to say, in general, than a specific answer to a specific question. In other words, who cares if an applicant knows nothing about the details of capturing an escaped monkey? Although there are those who disagree with this line of questioning, I am of the opinion that you want to know how they would approach the problem, not the specifics of how they would solve it.

One of my colleagues has an excellent knack of getting people to talk so he can evaluate their ability to handle new situations. Rather than asking a question that requires a discrete answer (such as, how would you capture an escaped monkey?), he tends to ask much more open-ended questions. For example, when interviewing private-practice veterinarians for a clinical position within our department, he said, "I'll bet you came across some unique challenges in your practice. Tell me about one of them and how you handled it." This type of open-ended question allows the respondent to think about both the situation and an answer, not the answer alone. Using open-ended questions is an excellent technique when the situation is applicable.

You should ask questions that are in line with the job requirements you have established. If initiative is one such requirement, you will not want to hire a person who responds "I don't know" to the question about the escaped

monkey. You would not necessarily expect that person to know precisely what to do, but you should expect an answer that would indicate to you that the potential employee could make a reasonable decision under pressure.

I do have two cautions for you. First, don't assume that an "I don't know" answer is always wrong. Sometimes it's the most honest and best answer you can get from a person, although you should expect some explanation attached to that kind of an answer. Not knowing what to do if a monkey escapes may be a fatal flaw for a prospective animal care supervisor in a primate center, but perhaps not so for a prospective animal care technician who has never before worked with monkeys. The level of initiative required is something you have to think about before the interview.

The second caution is related to the truthfulness of responses. Don't be afraid to probe a person's response to a question to see if he is being honest with you. For example, if you ask a person about the various skills he has, don't be surprised if he can't demonstrate those skills once he is hired. Why? Because he told you what you wanted to hear during the interview process. He may have seen the skill performed by others (e.g., an intravenous injection into a tail vein), and he may have even tried it once or twice, but the needed proficiency is not there. If certain specific skills are needed, consider digging deeper to determine the extent of a person's capabilities.

Having given you some thoughts about asking appropriate questions, I will become a little cynical. Many (perhaps most) people really use the interview to evaluate a person's personality and potential fit in their organization. That might take about 90 seconds or so, because that first impression made by the applicant is hard to change, even over the course of an hour's interview. If that first impression is poor, the evaluation is often poor. Some job applicants recognize this and focus more on how they present themselves rather than on their qualifications. Therefore, do not let yourself be fooled into thinking that a pleasant, articulate person is necessarily the right choice. Likewise, do not base your hiring decision on the appropriate or inappropriate answer to one or two questions. Look at the entire person in front of you and try to determine if he or she fits and is really appropriate for your job and your organization.

9. *Try to determine if the person you are interviewing will mesh with your existing staff.* Even the best of people may present a problem if she just will not fit in. My basic philosophy, which I share with others [2], is that a person's ability to work harmoniously with others is of high importance when lower levels of technical or managerial skill are needed, but as we hire people for more advanced positions, such as high-level managers, that person's personality remains important, but not as important as her skills as a manager and leader.

   Some managers try to hire a qualified misfit when they are trying to make changes in the type of personnel they hire, especially if they are "upgrading" (trying to improve the quality of employee skills or behaviors). If you

are doing this, be very careful and make sure that person knows what your intentions are. To hire this person and just hope for the best is an invitation to disaster.

It's not unusual for me to ask a potential employee to meet with all or some of the people with whom he will be working (or even supervising). I know that many people disagree with this, but I believe it is helpful. Afterward, I solicit and use the feedback of the animal facility people. Depending on the circumstances, I may even have the entire staff vote on the person they would like to see hired. Staff involvement has a dual benefit: you get feedback and you involve others in making a decision that can directly affect them.

Sometimes, if I *really* want a specific person, I will ask him or her to meet with upper management. Doing this sends a clear message to the job applicant that "You are really important and wanted." Let's not forget that a person's sense of importance in her work is one of the basic requirements of motivation, and, if you initiate that process with sincerity while that person is being interviewed you can enhance your potential to hire her. More on this below.

10. *You should always check references.* If a person you believe should be contacted is not listed as a reference, get the applicant's permission to contact that person. Although business and academic references are quite important, don't dismiss personal references. Many managers assume they are valueless, because the applicant carefully chose those references, and they will probably say nothing negative. Nevertheless, I have had a number of personal references give an honest opinion of an applicant's suitability for a job. I assume that happens because I point out to the reference that I am confident they would not want a friend to fail in a new position, and therefore an honest evaluation of that person's potential for success was very important.

    Don't forget networking. If someone is working at one facility and is looking to come to yours, it's often appropriate to call the manager of the first facility and "get the scoop" on the candidate. There are times, of course, when you cannot do this. The most obvious is when a person has not told his current supervisor that he is planning to leave, or has specifically told you not to contact that person. If you call up the supervisor, you may be giving a kiss of death to your applicant at his current job, and you can be sure he will not look favorably upon ever working with you. Yet you can always ask a candidate if he has told his current supervisor of his intent to leave, particularly if the current supervisor is not listed as a reference to be contacted.

    Checking references can be an art in itself. Put together a list of questions you want to ask, particularly those that are important for the job. If punctuality is important to you, don't be afraid to ask about the person's arriving late or leaving early. Ask about strengths and weaknesses. If the person you are speaking to is a current employer who is giving a very positive reference, ask if he tried to hold on to the applicant. If not, why not? Some people will

not give you much (or any) information over the telephone, and, if that is the case, get another reference if possible. One thing is for sure — always check more than one reference.

11. *Consider the possibility of interviewing an applicant at his or her place of business.* This obviously makes the most sense when the person is working in another laboratory animal facility and it would do no political harm to you or the applicant if you went to that facility. If you are able to do this, you can observe for yourself the applicant's area of responsibility and work habits. Going to a person's place of business is not usual, but if you can do it, much valuable information can be gained.
12. *All individuals who have responded to an advertisement or an announcement should be contacted*, one way or another, to inform them of the status of their application. Most of us have felt the frustration of applying for a job and never hearing anything from the hiring company. It's good business to respond, and in the future, you may have a need for that person's services.

Summary of the Hiring Process

- **Determine the optimal and minimal qualifications for the position.**
- **Be honest with yourself and any applicants about the requirements and opportunities of the position.**
- **Advertise or network as needed to uncover potential applicants.**
- **Go after the smartest person who is right for the position.**
- **Be prepared to offer a salary commensurate with the abilities of the applicant and the needs of your organization.**
- **Get a cover letter and resume. Consider a telephone interview.**
- **Appearances count. An interviewee should be dressed neatly.**
- **Before the interview compile a list of open-ended questions.**
- **Ask yourself if the applicant will mesh with your current staff.**
- **Always check references.**
- **Consider the possibility of interviewing an applicant at his or her current place of business.**

Hiring the "Hot Prospect"

Before ending this appendix I would like to say a few words about hiring a specific person who has identified herself as being interested in your open position. More important, this is a person whom you would very seriously consider for that position. Maybe you know about her personally, through her publications, the strength of her resume, or other means, but one way or the other you're happy to see her application. Now what happens? To begin with, perhaps you and your coworkers can give yourselves a pat on the back for establishing the basic culture that would attract such a person. Next, consider yourself on equal footing with her because at this stage of the game you are willing to seriously consider each other for employment. Third, invite the person in for a chat, not necessarily a formal interview, even if you have to pay travel expenses. If you cannot do that much, then maybe the position isn't quite as important as you think or perhaps you can make do with a less qualified individual. Having that person come to meet you and your colleagues is akin to a salesman getting his foot in the door. A face-to-face meeting is often worth its weight in gold, particularly since you have to consider that there are others out there who may want to hire the same person.

Just as you might want a person who will fit in with your existing group, she wants to fit in as well. She wants, as you already know, a fair salary, good working conditions, respect, and a feeling that her work is going to be appreciated. Are these things you can really provide, or are you going to fool yourself into believing you can provide them? You are going to have to be dead honest. If the salary is fine but the benefits are weak, there's no need to emphasize the weakness of the benefits, but all benefits can be discussed informally so there is no shock factor later on. If you need somebody to help you build cohesiveness within the group, you have to talk about that as an opportunity for growth and accomplishment, not by laying out all of your gripes. But you have to be honest.

You also have to talk about her goals. We'll assume her talents match your job opening, but are her goals aligned with what you can provide? What challenges make her happy? What is it that she does not want? If you know, at least in general terms, what she wants (outside of the basics I noted previously), can you provide them? There's no need to talk in detail about a salary when it is early in the hiring process, but do you have to shy away from the subject? I would say, no. If the tenor of the early discussion seems positive, then toward the end of the discussion see if the two of you can agree on a ballpark range, even if it is quite a wide range. If the candidate is adamant that she cannot accept less than $100,000, and you know you simply cannot come close to that, then you can part friends early on rather than waste each other's time. I will grant you that there are times when a candidate's insistence on a high salary is nothing but a negotiating point, but you are not yet in salary negotiations; you are just trying to see if there is even a chance of finding common ground.

Nowadays, people under the age of 30 (the so-called Generation Y) look at employment somewhat differently than they did 15 or 20 years ago. The need for positive social interactions holds a great deal of weight, as is the desire to have sufficient free time for personal enjoyment. People are defining themselves by the music they listen to, not by their political or business views. As Nadira Hira wrote, "Nearly every businessperson over 30 has done it: sat in his office after a staff meeting and — reflecting upon the 25-year-old colleague with two tattoos, a piercing, no watch and a shameless propensity for chatting up the boss — wondered, What is with that guy?" [3]. We now have a consumer generation that has many choices, and our job opening is looked at as if it was just one of ten different cars. In addition to salary and benefits, the new young generation of employees wants honesty, respect, and an opportunity to do good things for people and animals. What does this mean to you if you are recruiting that special younger person? It means if she was born sometime after about 1980, and you're somewhat older than she is, don't expect her to be you. The hiring game has changed and we have to consider being more flexible with working hours, more concerned about interpersonal relationships at work, being able to provide a choice of benefits, an opportunity to incorporate community service into the workplace, and a basic understanding that salary and benefits remain important, but they are not the keys to successful hiring.

So now that she is at your place of business for an interview, it's important to take her to an informal lunch with some of the core people she is going to interact with in the animal facility. She wants to see if there is a potentially good social network. You want to discuss her interests outside of work and how they might integrate with her work. Perhaps you can talk about your interests and find common ground, but overall, we have to understand that a changing work force is here and we have to adapt to it or lose the best and the brightest.

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Appendix 4

Training

Even if a person has the basic skills required to perform a job, a training period may be needed to perfect them. It's important for people to clearly understand what is expected of them in terms of job responsibilities and what constitutes satisfactory performance of their jobs. That's basic and has been emphasized in other parts of this book. You probably want to know (or already know) that same information about your own job. Some people will need more training than others to live up to expectations, but almost everybody will need a little guidance.

Employees have a right to know what is expected of them and what is considered to be satisfactory performance.

Orienting the New Employee

Before describing my thoughts on how to train new or promoted employees, an important question is, "Who does this training?" This is not a simple question. Does the facility manager train a new technician? Is that task delegated to a senior technician, or is there a person whose primary responsibility is training people? Who trains (or orients) the new supervisor of animal care or the new facility director? There are no formal guidelines, but it's fair to say that, although indirectly everybody helps, the primary trainer should initially be a person who is at least one "level" higher than the new person or is the facility's designated trainer.

What is wrong, you may ask, with an operations manager orienting a new veterinarian, even if the veterinarian is to be the operation manager's boss? All she is going to do is give the new person some inside information on how things are done. She will not be teaching him how to be a veterinarian. Isn't that okay? Yes, it is okay to a certain extent. It's expected. But we have to be careful about the limits of that type of training. The new veterinarian will have his or her own opinions on how things should be done, and you don't want to unintentionally engender an adversarial relationship with your new boss by telling her what to do, how to do it, and when to do it. We all try to protect our own way of doing things, and by advancing our own agenda we can easily offend a new superior. Therefore, with a person who is above you in the organization's hierarchy, tread carefully because we don't work in an egalitarian society.

The remainder of this discussion will concern itself with the more typical situation: training a person who, on the employment hierarchy, will be working for you. Chapter 2 discussed the culture of an organization, how it affects your work as a manager, and how you can learn about it. On a new employee's first day, it makes good managerial sense to sit down and discuss the culture of your organization. Describe, in some detail, what your organization does. Does it produce pharmaceuticals, perform biomedical research, or safety-test products? Describe your organization's mission. I suggest that you do this even if your company puts out a six-color brochure that was given to the person before he was hired, because, as I describe below, this information must be emphasized. In my animal facility, we provide new employees with an organizational culture handout, which tells them about our philosophy toward treating animals, working hours, what to do if there are problems and, in general, how we do things in our department.

Assuming the new person will report to you, tell her about your style of management and your expectations. Think back to the discussion on the need to communicate clearly. This is an important time to be clear, because what you say, even little jokes, may be misinterpreted. Don't forget to tell the new employee what's expected in terms of lunch hours, breaks, humane treatment of animals, and the like. Let the employee know who to go to if there are questions or problems. If you believe that close supervision will be needed for a certain period of time, say so. It can be nerve-rattling to a new person to have you constantly looking over his shoulder without his knowing why.

Paint the big picture for your new employees and tell him where he fits in. Introduce him to the other people with whom he will be interacting, particularly if the new person is a manager. This will extend your own authority to your new manager. Since we all want to feel important in our jobs, let your new (and established) employees know what their jobs mean to the organization. Your personal touch shows that you are an interested and caring manager.

I never thought much about the need to communicate to my own staff about activities outside of the laboratory animal facility until one day, over lunch, some of the people I worked with asked me what kind of work was going on in another part

of our building. They all knew we were doing cancer research in the laboratory animal facility, but, after a little questioning, I realized that they knew very little about the functioning of the organization as a whole. They knew almost nothing about the different types of cancer we were studying, that we focused on prevention, that we also had research in the prevention of cardiac disease, and that there was an entire group in New York City that was involved with epidemiology and bringing our research findings to the public. The staff was fascinated. I was surprised. I had personally told this to many of them when they were being interviewed. I learned two lessons that day. First, people remember what they want to remember during interviews, and second, it is often necessary to repeat important information after a person has settled into a new job.

Training Materials

A manual that describes the specific way things are done on a day-to-day basis is often found in laboratory animal facilities. Part of a page from such a manual is shown below (Figure A4.1). This manual is usually called the Standard Operating Procedures (SOPs). In some laboratory animal facilities, SOPs are required or have an implied requirement by law (for example, the Good Laboratory Practice Act and, for some animal facilities, the Animal Welfare Act regulations). Even if not mandated, it's a good idea for you to have SOPs to help train and orient your staff, and to serve as a reference document. Additionally, many research organizations obtain a large percentage of their income through grants from the federal government. If various government representatives visit your organization to evaluate its research capabilities and support programs, you should not be surprised to have these site visitors ask to tour the laboratory animal facility. When that happens, those people who are visiting you are often very familiar with animal facility operations and it can be helpful to be able to refer to your SOPs. They may actually ask to see your SOPs. As one government-site visitor said to me, "If it isn't written down, then it isn't so."

SOPs can include procedures for performing intravenous injections, temperature and humidity standards in animal rooms, frequency of cage changing, and anything else that can be formalized. New employees should be given the SOPs when they are hired. The pertinent SOPs should be reviewed and discussed with the new employees. We have to remember that based on new employees' previous work experiences, their understanding of all or part of an SOP may differ from yours. As noted in a previous chapter, it is often necessary in a laboratory animal facility to do the same task the same way, day after day, year after year, as a means of decreasing research variables. SOPs are one of the information resources you can use to help ensure such uniformity.

SOPs that do little more than list skills that are required by a person are not sufficient for a training document. For example, a training SOP may indicate that

Personal Injury Reporting

All employees will report to the Supervisor of Animal Care or his/her designee any accidents causing personal injury. Persons working with macaque monkeys or in any area that has a biohazard sign posted will also report minor accidents such as scratches.

The Supervisor of Animal Care or his/her designee will record the type of accident (e.g., a cut finger), how it occurred, the specific area of the body affected, where and when the accident occurred and the date of occurrence. This information will be kept in a log book on the secretary's desk in the laboratory animal facility office. The log will also note if medical treatment was provided (see SOP A-30, Employee Medical Treatment after Accidents).

Approved by _____ Date _____

Figure A4.1 Standard operating procedure.

a veterinary technician is supposed to learn how to restrain a mouse and perform a subcutaneous injection (two skills). But is there any outcome assessment (e.g., does the technician know how tight a mouse should be held or how much fluid can be administered)? A well-developed training SOP should always indicate the basic skill to be learned (e.g., restraining a mouse). To this, you might consider adding the details of how a mouse is to be restrained (although adding this amount of detail may be frowned upon by some trainers). But if there is one thing that I believe the SOP has to include, it is appropriate outcome assessment criteria. Therefore, before a person can be certified as being "trained" in mouse restraint and subcutaneous injections, he must do two things. First, he must show the trainer how to restrain a mouse and perform a subcutaneous injection, and second, he must describe to the trainer how he will prevent harming the animal by not using too tight of a grip and how much fluid can typically be given in a subcutaneous injection. The last two items are the outcome criteria.

You might also want to consider two types of training SOPs: one for the training of a new employee and one for continuing training (e.g., an annual training refresher). Long empirical experience tells us that people have to be retrained, or at least reevaluated, in many tasks, especially those that they do not perform every day. But even for those tasks that people do perform routinely, there can be a certain amount of unwanted drift into bad habits. For this reason, many laboratory animal

facilities have an annual (or other interval) retraining program for employees. This is strongly recommended, and if you have such a program, you should have an SOP for it that is similar to that used for new employees in that it will describe the skills to be demonstrated and the desired outcome assessment.

Don't look at SOPs as carved-in-granite documents. They should be reviewed annually to make sure they are current. The needs of laboratory animal facilities change and you cannot expect SOPs that were made 10 years ago to reflect your current operations. Similarly, don't rigidly stick to your SOPs if a particular circumstance demands laying them aside. You have to be a little flexible at times, depending on the situation. If your SOP states that rabbit cages are to be changed daily, but a heavy snowfall leaves you with a skeleton staff, are you going to insist that every rabbit cage be changed? As long as it does not affect the well-being of the animal or the research, you may have to bend for that one day. I firmly believe in sticking to SOPs whenever possible. They help keep the consistency in research and are one way to let people know what is expected of them. But nothing drives me as crazy as when someone blindly insists upon following an SOP or another policy simply because it is written on a piece of paper. Even in pharmaceutical companies, where SOPs usually have to be followed very closely because of regulatory requirements, the good manager knows when it's time to back off a little.

Another document that all employees should be given is the *Guide for the Care and Use of Laboratory Animals* [1]. The *Guide* is a standard reference for all people working in laboratory animal science, and all of your employees should have a working knowledge of its information.

If a large amount of written material is to be used for training purposes, I suggest that you give careful consideration to the ability of people to read and comprehend it. There are still many people in this nation who have difficulty with reading. Whether due to inadequate academic preparation, difficulty with the English language, or other reasons, if somebody cannot understand what is written, then the purpose of your training material has been defeated. Therefore, you may want to add pictures, use films, do on-the-job training, or use other means as your primary teaching device. If you do use written materials, write short, clear paragraphs and do not put too much on any one page. The more you fill up a page with words, the less people are prone to read it.

A good trainer will identify a new employee's learning style or simply ask "How do you learn best? Is it by reading, doing things yourself, watching somebody else do it first, or something else?" Just as different managers have differing managerial styles, different people have different learning styles and a trainer who is attuned to a person's learning needs can make a big difference in the quality of training.

Other common materials for training employees include formal lectures, slides, and films. Commercial companies will also come to your facility to train personnel. Laboratory animal facilities are fortunate that American Association for Laboratory Animal Science (AALAS) and other organizations have developed training manuals, slide sets (some of which are available on CDs and DVDs), and related materials.

For managerial training, AALAS offers advanced training through the Institute for Laboratory Animal Management and more recently the Certified Manager of Animal Resources (CMAR) program. There are also online and printed training programs for Institutional Animal Care and Use Committee (IACUC) members and other employees, and short meetings that focus on IACUC issues (e.g., IACUC 101) are also held throughout the country.

Hands-On Training

This section discusses hands-on training for the laboratory animal facility staff, not investigators or their staff. I believe that training requires more time and forethought than most supervisors appreciate. I began thinking about this while watching flagmen at construction sites. It seemed to me that no two of them directed traffic in the same way. One would wave the flag when he wanted you to stop, and another did the same thing when he wanted you to go. Still another waved the flag in a figure-eight motion, and I had no idea what that meant. I witnessed an accident when one poor soul (it turned out to be my secretary) could not understand what the wild waving of the flags meant and moved her car forward when she should not have. It seems reasonable to assume these flagmen should have been better trained. Perhaps someone just assumed that they all knew what they were supposed to do.

People working in the cage wash area require training also, because, like the flagmen's job, this is an important operation. Yet the requirements to perform the job correctly are not obvious. The functioning of the cage wash area can affect the efficiency of your entire staff. Still, for reasons I will never understand, there are some managers who, in their own minds, stratify the positions under them and give the least training to those areas they view as relatively unimportant. These people think that cage washing is one such area. Cage washing is not unimportant or insignificant. I have yet to find an insignificant position in an animal facility. If there is one, train a monkey to fill it, not people. All positions in a laboratory animal facility require thorough training. Let's not forget that the pyramid is only as strong as its base.

I believe that most laboratory animal facility employees should be able to fill in for someone who is on vacation, out ill, or otherwise not at work. This is called being cross-trained. There are some obvious exceptions, but, in general, most facility managers support the concept of cross-training. Nevertheless, I am not in favor of rotating animal care duties on a regular basis. As far as I can tell, and based on feedback from animal care technicians, animals get used to the person who cares for them. Until I am shown otherwise, I believe that a rotating group of animal care technicians can place unnecessary stress on the animals. Granted, this is somewhat anthropomorphic and partly based on my own experience when I was hospitalized and the nurses were always being changed, but many animal care technicians have

told me that their animals become upset when someone else cares for them. Nevertheless, some colleagues do not agree with this position. It becomes somewhat of a trade-off. I think that our employees can handle the stress of not rotating a lot better than the animals can. There is enough stress on the animals on weekends and holidays when an unfamiliar person takes care of them. Needless to say, if you subscribe to my philosophy, I strongly encourage you to let your staff know your reasons for having the same people routinely care for the same animals.

Your training program should include unambiguous examples of what constitutes adequate efficiency and effectiveness. As I noted previously, employees have a right to know what is expected of them and what constitutes satisfactory performance. What is satisfactory performance? You can, for example, explain how the cages are monitored for microbiologic contamination. This might be one way of describing the means by which some of an employee's effectiveness can be measured, or even the effectiveness of the cage washing machine.

Explain the consequences to your organization's effort if a poor job is done. Training is more than telling and showing people how to do a job. It must include a description of the rationale behind, and the importance of, the job.

It will, of course, take more than an SOP manual, the *Guide*, and a pep talk to train most people. A common way of training a new employee is to either train the new person yourself or to delegate this responsibility to another employee. If you delegate the responsibility for training a person, choose carefully, for the future performance of a new employee may depend on the indoctrination received during the first few days on the job. Because so much training occurs informally, the last thing you want is a trainer who says something like, "I know what he just told you, but let me tell you the real way we do things around here." That's asking for trouble. Use a trusted, even-tempered person who takes nothing for granted and who is willing to repeat the training process until the new person understands and can perform what is expected. If you choose to train a new person yourself, you will find it is an excellent opportunity to reevaluate and sharpen your own skills.

Another question to ask yourself, and oftentimes the most difficult to answer, is, "Are you a trainer?" Do you have the ability to train and teach or do you just pass on information and assume you have "trained" someone? Who trains the trainers and evaluates their skills? As previously mentioned, there are many resources in our field that provide resources to improve and sharpen the skills of the trainer (AALAS-offered training, for example).

When training new staff members, explain why their job is necessary and how it relates to the overall operations of the laboratory animal facility and to your entire organization.

I would probably be remiss if I did not remind you that the world is changing. I do not, not for one second, negate the importance of hands-on training. That will always be important. But let's not forget that sitting down and reading SOPs, or a training manual may be getting passé. Computer learning is with us to stay. AALAS is going in that direction and you too should think about ways of using computer-based training for new and existing employees.

Evaluation of Training

You should evaluate whether the training program was adequate for your employee and if it served its intended purpose. When you do this, you are implementing yet another management control system and, as you know, developing and using control systems are one of the roles of a manager. This evaluation should be ongoing, so that the need to correct, change, or modify an employee's responsibilities can be implemented in a timely manner. The easiest method, and a very effective one, is to ask the new employee if he understands what has to be done and whether he knows how to do it. Your observations, and your discussions with the person who is training the new employee, are also very valuable. Some animal facilities have formal evaluation sheets that are filled out by both the new employee and his supervisor. I like these forms. It helps us remain in compliance with certain regulations, such as those of the Animal Welfare Act. Here's part of a form that might be used in a medium-sized animal facility (Figure A4.2). This type of a form can also be used when established employees perfect new skills. For simplicity, any outcome assessment criteria that was discussed earlier in this appendix is not included.

We all have strengths and weaknesses. A good training program should amplify a person's strengths, generate a positive attitude, and to the extent possible, minimize a person's weaknesses. If a weakness cannot be minimized to the point where it has no significant effect on your operations, you should reevaluate your training or consider moving the person to a more appropriate position.

Caring for — and about — Our Fellow Creatures

The final comment about training is certainly not the least important. We can teach people how to handle animals, care for their daily needs, clean rooms, keep records, and the like. We can be taught to develop budgets, establish *per diem* rates, and even to adjust our management style to meet different people's needs. But it's a little harder to teach some people that animals are our fellow creatures, not four-legged test tubes, and that we have to be accountable to ourselves and the public for the well-being of the animals in our care. Perhaps this is not training in the classical sense, but it is training nonetheless. The need to be sensitive toward animals has to come from the senior management of our laboratory animal facility,

Great Eastern University
Laboratory Animal Skills Summary

Employee: Peter J. Taub

Skill	*Date of Proficiency*	*Trainer*
Rat handling	Jan. 4, 2008	K. Jackson
Mouse handling	Jan. 5, 2008	K. Jackson
Change rat cage	Jan. 4, 2008	K. Jackson
Change mouse cage	Jan. 5, 2008	K. Jackson
Primate handling		
Cage washer operation	Jan. 25, 2008	R. Smith
Room sanitation	Feb. 15, 2008	K. Jackson
Mouse blood collection		
Rat blood collection	June 18, 2008	G. Rowan

Figure A4.2 Example of documentation of training proficiency.

and hopefully, from our institution's senior management as well. Remember what I wrote earlier in this book: we have two clients, animals and investigators. It's easy to come to work every day and think of laboratory animal science as a business and nothing else. But that's not true. We care for animals, and animals can feel pain, fear, hunger, and the like. As managers, we have to set the example of truly caring about the well-being of our animal charges, and by doing this, help train all the persons with whom we work to do the same. Yes, laboratory animals are not pets, but they are animals, and as specialists in the field, we must train others to care for them and to care about them.

Acknowledgment

The author thanks Aubrey V.W. Gould, III, for his contribution to this appendix.

Reference

1. National Research Council, *Guide for the Care and Use of Laboratory Animals,* National Academy Press, Washington, DC, 1996.

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