During our lifetimes, we have all witnessed major industries transform, reinvent themselves, and consolidate to remain competitive. Beginning with Orville Wright’s diary entry dated October 9, 1903—“We began assembly today”—the airline industry has dramatically changed: from the past, where many companies using propeller-driven, short-haul planes transported at high prices the relatively few; to now, where several major behemoths carry large numbers of passengers inexpensively in wide-body jumbo jets capable of flying halfway around the world. The nascent telephone industry, which required hands-on operators to connect the few users who had stationary sets, progressed to the situation today, in which most everyone has a phone, if not two or three: stationary in the home, office, or car; and mobile for use anywhere.

Change with increasing complexity is inevitable. Medicine in general and pathology specifically are no different. The days of Bunsen burners and data written by hand into the medical record have changed. Now, systems consisting of highly complex and automated machinery can take a small aliquot of blood and automatically accession it, split it into multiple parts, perform even more tests, and electronically enter the tens if not hundreds of data items into the laboratory information system, which itself electronically speaks with the institution’s information system. And, of course, the data feed the individual patient’s electronic medical record, which may reside in the cloud.

At the heart of all systems are people. To function, manage, or lead, the engaged person must master the system. The leader, to use Peter Drucker’s words, must “do the right thing.” He must be highly proficient in the field and have the vision to plan and lead change, ie, transformation.

The manager must “do things right.” He must stress quality and manage it. At the other end of the spectrum are the trainee and the pathologist new to the job. They are concerned with what is needed to show competence and what will be expected to show success. In the middle is the engaged pathologist, who lives and functions within the system. In addition, all are constantly reminded that their work and behavior must be ethical, legal, and conform to and satisfy the many regulations and laws that touch every aspect of daily life within the world of pathology and laboratory medicine.

Laboratory Administration for Pathologists is an outgrowth of the many lectures the widely respected authors have given over the past decades, heard by so many students of pathology, whether at the level of resident, new in practice, or senior pathologist. In 14 concise, highly readable chapters, any reader, regardless of level of sophistication, will find a comprehensive story about what is needed to manage and perform well in today’s laboratory setting. In particular, those areas of endeavor, such as laboratory computing, that have grown so substantially during the past few decades and are now by necessity inordinately complex, are presented in such an easy-to-follow yet detailed manner that what might be incomprehensible without study becomes quite approachable.

To the reader who wishes to understand what constitutes the world of laboratory medicine, enjoy! This is your guide.

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Major imperatives for pathologists include keeping abreast of a myriad of scientific advances and managing the daunting problems of pathology practice. Diagnostic technology is proliferating explosively; the therapeutic armamentarium is expanding and the economics of medicine are being continually overhauled. The anatomic pathologist is enhancing pattern and image recognition with molecular and genetic analysis utilizing digital and computer science to provide more precise and relevant patient information; the clinical pathologist is utilizing emerging technologies and informatics to create and integrate meaningful, clinically useful information for patient care. At the same time, the comprehensive guiding role of the pathologist in the laboratory is coming into question and is being challenged.

The American Society for Clinical Pathology assessed Pathology’s Future in a stakeholder discussion in June 2010. It was concluded that pathology and laboratory medicine must serve as the resource for test appropriateness, for result interpretation, for ensuring cost and value, and ultimately for ensuring patient safety and protecting public health. The key element necessary to enable the establishment of this new paradigm of pathology practice, one that will ensure that pathology and laboratory medicine remain relevant in the practice of medicine, is leadership. Developing future leaders was deemed the most important and most immediate course of action necessary to exact the needed changes for the profession to survive. The initiative for transforming pathologists is the College of American Pathologists’ response to the challenges and opportunities facing the specialty. This will be a multiyear campaign to foster new and enhanced roles for the pathologist and greater recognition of the pathologist as a physician and a critical member of the patient care team.

In September 2007, the Centers for Disease Control and Prevention hosted an Institute addressing the critical issues in laboratory medicine. The Institute agreed that the essence of pathology and laboratory medicine is the generation of data from multiple scientific and technologic sources and the analysis and integration of that data into clinically useful information for patient care. Among the “quality gaps” identified was lack of proactive pathology leadership and inadequate communication. Proposed action plans to bridge the gaps included educational initiatives on leadership and communication skills. The leadership gap has resulted in the loss of directorial control, loss of autonomy, and marginalization of pathologists. Hospital and commercial laboratories are now being directed by medical technologists or MBAs, with pathologists serving as “piece-workers,” not as leaders or directors. Only by re-establishing the pathologist as the Director of the Laboratory, not merely the “Medical Director,” will the gap be closed. But this requires pathologists who are interested in and understand management, and are skilled and are willing to devote the time needed to truly “run the lab.” Validating the need for management training, both the Program Directors Section of the Association of Pathology Chairs and the Academy of Clinical Laboratory Physicians and Scientists have recently issued model curricula and suggested competencies in laboratory management.

The purpose of this text is to provide pathologists in training, young pathologists beginning their careers, and practicing pathologists with an overview of the fundamentals of management and leadership. The book evolved from, and is an expansion of the management seminars which two of us (Horowitz and Wagar), together with Wesley Y. Naritoku, MD, PhD, developed for the residency training programs in Los Angeles and encompasses the recently proposed curricula. The book addresses all aspects of laboratory management but emphasizes the specific role and responsibility of the pathologist in directing the laboratory. It is not intended to make pathologists into accountants, attorneys, human resource specialists, purchasing agents, or health care administrators. But because pathologists have to deal with a variety of administrators, it is essential to become familiar with their unique areas of expertise and nomenclature. Our intent is that this text be used by pathology residents as a primer and also by practicing pathologists as a manual or “how-to” guide to the fundamentals of laboratory administration.

Reference
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History of Management

Although viewed as a “modern” phenomenon, complex work activities occurred in antiquity. The Egyptians were noted for planning, organizing, and controlling the activities of many workers. The role of work as described in biblical texts became inculcated into Judeo-Christian belief systems through the stories of Joseph in Genesis and Moses in Exodus. Similarly, ancient Chinese society established numerous control systems and worker descriptions as early as 1100 BCE. During Greek and Roman times, however, work was still performed by the lower classes to support the elite. During the Roman Empire, work became well organized, allowing the spread of Roman culture across Europe. In the 1400s, the Arsenal of Venice, which employed more than 1000 people, created personnel management, practiced inventory control, established accounting systems, and built assembly lines that had interchangeable parts.

Probably the greatest philosophical shift regarding the role of work occurred during the Christian Reformation. John Calvin (1509–1564) was most influential in establishing work as part of a value system. He believed that work was the will of God. This philosophy was transported to the New World during colonization.

Modern management and leadership may have started with Robert Owen in Scotland in the 1820s. Owen identified productivity and motivation as key components of a successful work environment; he also noted the importance of the relationship of the worker to work in establishing a successful enterprise. Joseph Wharton established a course of study for business at the University of Pennsylvania in 1881, and MBA programs such as that pioneered by Harvard University legitimized the study of business and management as academic endeavors and career goals.

A robust approach to management theory began in the twentieth century. Before then, the organization of work and the development of complex work environments were not specifically addressed as rigorous topics within the social sciences. A review of the written works of Peter F. Drucker, one of the founders of management theory, provides many concepts that can be applied even in today’s complex business environment. It was Drucker who described the difference between management and leadership: “Management is doing things right; leadership is doing the right things.” In the second half of the twentieth century, management and leadership theory flourished. Peter Drucker, based at Claremont College, posited four essential features of management: (1) provision of a product/service, (2) assurance of productive work and worker achievement, (3) cognizance of community and societal responsibilities, and (4) making a profit. These four principles still apply to most business endeavors despite the sometimes confusing and diluting effects of complex consulting and self-help programs.
Various key management theories have been proposed throughout the last century (Table 1-1). Most of the details of these theories are best covered in formal studies of management. Realistically, an organization’s management will be modeled on the organization’s mission, its leader’s vision, and its formal and informal structure. Various theories or certain elements of a specific theory may be applied at different levels of the organization and at different times. For example, current laboratory quality issues are rooted in the scientific management theories, while current staffing and organizing schemas borrow from various theories, including Maslow’s hierarchy of needs, Theory X and Theory Y, and Frederick Herzberg’s theory, which states that the factors that lead to employee satisfaction must be differentiated from those that lead to employee dissatisfaction (Appendix 1-6).

Pathologists may find systems theory in particular to be an attractive proposition that explains many of the aspects of an organization, including structure (anatomy), function, culture (physiology and chemistry), and malfunction (pathology). Any system, including living systems, is a whole comprising interdependent, interrelated parts that maintain the integrity of the whole to achieve a specific goal. Consistently, any system exhibits features that are not present in its individual components. An important element in any system is the transformation process, by which material, energy, or information is processed and transformed into a new product that is exchanged within the internal or external environments. To maintain its functional and structural integrity and achieve its goal, the system must have a series of positive and negative feedback signals that regulate its inputs, outputs, and internal and external environments. Like cells and organisms, an organization is a living thing with a template that governs its development, progression, behavior, growth, and reproduction.2
Therefore, leaders and managers should understand the anatomy, physiology, and pathology of their organizations. With that concept in mind, they should be able to diagnose, or invite someone to diagnose, the organization’s illness and prescribe appropriate treatment. According to systems theory, an organization is living and learning. Peter Senge articulated this concept in his famous book, *The Fifth Discipline.*³ He proposed system thinking as a tool to develop an ideal organization; according to his thesis, system thinking is part of a set of disciplines, including personal mastery, mental models, shared vision, and team learning, that help an organization adapt, survive, and thrive in an ever-changing environment.

Management principles, theories, and ideas provide a framework of thinking that may enable leaders to understand their organization and its context and thus make appropriate management decisions. No one theory is superior to another in organization management; indeed, some theories become fads and fashions that are later discarded. Accordingly, the demand for data-driven, evidence-based management is increasing.⁴⁻⁶ In response, management science has begun to borrow from biomedical science and from the evidence-based medicine movement in particular. The proponents of the evidence-based movement see that the ills that plague decision-making in medicine—the gap between knowledge and practice; the overuse, misuse, and underuse of evidence; and the difficulty in keeping up with information and innovations—are present in management as well. Information systems create an opportunity for obtaining evidence and disseminating it among and within organizations. However, managers may make decisions in span, context, and degrees of uncertainty that differ from those of physicians. In part, managers may make differing decisions due to the fact that decision support is not readily available, leading managers to make decisions based on their personal beliefs and “gut feeling” rather than facts.

In evidence-based management, as in evidence-based medicine, managers formulate problems as questions, review the literature, conduct original research, appraise the evidence, present results, and make decisions. Evidence-based management is currently practiced in total quality management. However, the search for evidence extends beyond the business operations to include strategy, marketing, finance, human resources, and administration. The evidence-based approach represents a new culture. Important concepts in this way of doing business are to maintain the organization as an “unfinished prototype”—to “act on what you know,” as Pfeffer and Sutton⁶ explain—and change the way of doing things with constant experimentation. Mistakes are considered learning opportunities. This concept is similar to what medical educators call practice-based learning.

Still in its infancy, evidence-based management faces the same criticism that once faced evidence-based medicine, including questions about the meaning, context, generalizability, and ranking of evidence. The success of evidence-based practice in medicine attests to the likelihood of its success in at least some areas of management, especially in making short-term decisions that have a direct causal relation to their outcomes. Unlike previous management fads and fashions, evidence-based management should easily translate into the clinical laboratory because pathologists, as physicians, are becoming increasingly aware of the need for evidence-based practice. A current trend is to incorporate management models from industry into the laboratory; this includes Motorola’s Six Sigma model, which aims to establish high efficiency without errors, and Toyota’s Lean management model, which advocates no waste, more value, and less cost.

**Principles of Management**

At the beginning of the twentieth century, Luther Halsey Gulick described administrative management as a service function that handles a variety of organizational needs including planning, organizing, staffing, directing, and controlling activities (the POSDCORB model).⁷ Management represents an institution or organization and enables it to accomplish specific objectives. According to Drucker, management is the means by which an organization defines its specific purpose and mission and manages its social impact and responsibility, as well as the mechanism by which work becomes productive and workers achieve institutional or organizational goals. Management in the marketplace, of course, must put economic performance first. But managing is not a passive activity in all aspects. It encompasses responses to and carries out changes in the economic environment. Work is also defined by management and people, as important resources should be provided with the capacity to grow and contribute. In addition, management assesses an organization’s impact on physical, human, and social environments and its responsibility to adjust such impact, if necessary. For example, the Green Movement is an ex-
tension of management by multiple private and government organizations to better manage the environmental impact of the organizations’ actions. In some cases, environmental protections are legislated. In other cases, industries recognize their negative impact and adapt to the use of cleaner fuels or processes.

Pathologists should be trained in management. The Joint Commission and other accrediting organizations expect the director of a laboratory to “assume the professional, scientific, consultative, and organizational responsibility for the facility.” Pathologists are responsible for virtually all aspects of the clinical laboratory. The pathologist establishes the laboratory’s goals and objectives and determines its organizational framework. The pathologist is involved in the day-to-day operations of the laboratory as well as short- and long-term planning decisions about personnel, equipment, and supplies. Quality assurance, safety, and quality management planning are all the responsibility of the pathologist. The medical-legal interests of laboratory operations are integral to all aspects of health care and are largely represented by pathologists. The overall performance and fiscal integrity of the laboratory are a function of good management by the pathologist. Ultimately, the pathologist is responsible for the success or failure of the laboratory.

In 2007, the College of American Pathologists Practice Characteristics Survey revealed that pathologists spend a significant proportion of their work time on management activities (Table 1-2). Clinical pathology activities—regarded as mostly managerial activities—represented nearly 30% of weekly activities. Assuming that the survey’s “Other” category accounted for management activities related to anatomic pathology, hospital/institutional interactions, and/or social intercourse with the community and other physicians, nearly a third of a pathologist’s weekly work involves management.

A recent white paper from the College of American Pathologists identified the managerial training of pathology residents as a gap in knowledge and skills requiring immediate attention. Residents were found to be least prepared to address regulatory and compliance issues, manage the clinical laboratory, and understand issues related to staffing and human resources as well as billing and reimbursement.8

Laboratories, which represent 5% to 10% of total health care expenditures, are big business in the health care industry and thus must be run in a businesslike manner. Despite the conversion of Medicare reimbursement to diagnosis-related groups (DRGs), clinical laboratories provide a significant source of revenue for health care facilities. Significant resources are also spent on laboratories; for example, the clinical laboratories of a moderately-sized, 300-bed hospital may employ more than 100 people and have a $30 million budget for which the pathologist is responsible. Therefore, it is not only a good idea for every pathologist to be fluent in management, it is a necessity.

In summary, the elements of effective management include a comprehensive knowledge of work and the resources (including people) required to accomplish an institution’s goals and objectives. Evidence-based management additionally includes the use of data or facts to generate best work practices.

Specific models can be applied to management. One model is the plan, lead, organize, and control (PLOC) model, which was articulated many years ago by Louis Allen Associates.9 The PLOC model establishes four functional areas in which one or more people, or a team of people, exercise management to achieve intended outcomes. Planning requires forming a concept, performing analyses, setting objectives, aligning resources, assessing strengths and weaknesses, and identifying opportunities and threats to create an operational program and a budget by extension. Leading, which is based on communication and understanding, is concerned with aligning the organization with the stated objectives and motivating and challenging staff to achieve their goals to ensure the continued effectiveness of the program. Organizing is concerned with constructing the means necessary to

### Table 1-2. Pathology Practice Survey (2007)

<table>
<thead>
<tr>
<th>Type of Pathology Service</th>
<th>Average Weekly Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical Pathology</td>
<td>26.6</td>
</tr>
<tr>
<td>Cytology</td>
<td>7.3</td>
</tr>
<tr>
<td>Clinical Pathology Consultation</td>
<td>4.5</td>
</tr>
<tr>
<td>Clinical Pathology Administration</td>
<td>10.2</td>
</tr>
<tr>
<td>Teaching/Research</td>
<td>6.3</td>
</tr>
<tr>
<td>Autopsy</td>
<td>2.6</td>
</tr>
<tr>
<td>Other</td>
<td>9.0</td>
</tr>
</tbody>
</table>

achieve organizational objectives by establishing procedures, policies, teams, operating units, and other systems. Controlling establishes standards and monitors and audits performance. The amount of time a manager spends performing these various activities depends on the management level. For example, lower level managers such as immediate supervisors will spend more time leading and organizing, whereas high-level managers such as executive vice presidents will spend more time planning.

The Primary Leadership in the Laboratory: The Pathologist

The first step in learning the leadership responsibilities of the laboratory director is to review the requirements for laboratory directors as defined by the federal government and described in Clinical Laboratory Improvement Amendments (CLIA) regulations. An excellent online resource is the Centers for Medicare and Medicaid Services brochure that provides an overview of the regulations.10

A laboratory director must have the necessary experience, education, and training. The mandatory minimum requirements for becoming a laboratory director at an acute care hospital are an MD or a DO with board certification. The directors of specialty laboratories (eg, clinical microbiology laboratories) may have a PhD with the appropriate training and board certification. In some states, the regulations may be stricter; for example, California requires that the director of an acute care hospital laboratory must be specifically trained in pathology and be board-certified by the American Board of Pathology.

The laboratory director responsibilities specified by CLIA are daunting. A laboratory director is responsible for the overall operation and administration of the laboratory, including the employment of competent qualified personnel. Although the laboratory director may delegate some responsibilities, the laboratory director ultimately must ensure that all duties are properly performed and that applicable CLIA regulations are met. The laboratory director must also ensure that a quality system approach that provides accurate and reliable test results is in place. However, there are some responsibilities that a laboratory director cannot delegate (Table 1-3). Chief among these nondelegable tasks are controlling test performance, maintaining the testing environment, and mandating the skills, training, and supervision of the technicians who perform the tests.

<table>
<thead>
<tr>
<th>Table I-3. Laboratory Director Responsibilities That Cannot Be Delegated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing systems provide quality services in all three aspects of test performance, preanalytic, analytic, postanalytic phases of testing, and are appropriate for your patient population.</td>
</tr>
<tr>
<td>Physical and environmental conditions of the laboratory are adequate and appropriate for the testing performed.</td>
</tr>
<tr>
<td>A general supervisor (high complexity testing) is available to provide day-to-day supervision of all testing personnel and reporting of test results and provide on-site supervision for specific minimally qualified testing personnel when they are performing high complexity testing.</td>
</tr>
<tr>
<td>The environment for employees is safe from physical, chemical, and biological hazards, and safety and biohazard requirements are followed.</td>
</tr>
<tr>
<td>Sufficient numbers of appropriately educated, experienced, and/or trained personnel are available to provide consultation, properly supervise, and accurately perform tests and report test results in accordance with the written duties and responsibilities specified by you, are employed by the laboratory.</td>
</tr>
<tr>
<td>New test procedures are reviewed, included in the procedure manual, and followed by personnel.</td>
</tr>
<tr>
<td>Each employee’s responsibilities and duties are specified in writing.</td>
</tr>
</tbody>
</table>

The more complex features of a laboratory director’s responsibilities are detailed in Chapter 12, “Laboratory Laws and Regulations.” However, the list of responsibilities (Table 1-3) is impressive in its breadth, covering testing and quality assurance, environment and physical plant safety, and personnel competency and training. These responsibilities require the laboratory director and/or any section heads to whom the laboratory director has delegated responsibility to perform activities that bridge internal laboratory operations and external hospital or laboratory administration.

The laboratory director must have credibility, flexibility, emotional intelligence, positive self-esteem, vision, integrity, humility, self-awareness, and a sense of humor. Flexibility implies the use of a collection of leadership styles, each in the right measure and at just the right time. Different situations call for different ways of leading. As a laboratory director, the pathologist needs technical and human skills and may have to delegate and exert forceful authority. A pathologist chairing a hospital tissue committee must show professional knowledge and emotional intelligence and combine decisiveness with empathy, whereas a pathologist in charge of merging two groups needs to be a sensitive negotiator and a skilled motivator.
Daniel Goleman contends that intelligence and technical knowledge are important, but emotional intelligence is the *sine qua non* of leadership; he studied nearly 200 large companies and found that while effective leaders have a high degree of emotional intelligence, individuals without emotional intelligence cannot be effective leaders, despite their first-class education, exceptional training, and good ideas.\(^\text{11}\)

The five components of emotional intelligence are self-awareness, self-regulation, motivation, empathy, and social skill. Self-awareness means having a deep understanding of one’s own emotions, strengths, weaknesses, needs, and motivations. People with high self-awareness are neither overly critical nor unrealistically hopeful; rather, they are honest with themselves and others. Goleman defines self-awareness as a person’s ability to recognize and understand his or her moods, emotions, and drives. A person with strong self-awareness is self-confident and realistic.

Self-regulation, the second component of emotional intelligence, is having the ability to control or redirect disruptive impulses or moods and the good sense to temporarily suspend judgment—to think before acting. Trustworthiness and integrity are the hallmarks of the self-regulated individual. A comfort with ambiguity and an openness to change are characteristics important to self-regulation.

Motivation is the third element of emotional intelligence. Motivation is an inner desire that enables a person to produce a work product not related to personal status or monetary rewards. Motivation includes other personal attributes such as perseverance and commitment. A motivated individual within the work environment will express optimism and the desire to achieve beyond expectations.

Empathy is a critical component of emotional intelligence; it means thoughtfully considering the feelings of one’s associates and employees, along with other factors, in making intelligent decisions. Empathy requires one to understand and care about the emotional make-up of others and thus treat people with consideration for their emotional needs. The first three components of emotional intelligence—self-awareness, self-regulation, and motivation—concern the management of one’s self. The last two components—empathy and social skill—concern one’s ability to manage his or her relationships with others. Social skill is not simple; it is more than friendliness. (Although people with high social skill are rarely mean-spirited.) Social skill means being able to proficiently manage relationships and build networks, that is, an ability to find common ground and build rapport. Social skill is characterized by effectively leading to bring about change and externalizing one’s motivation and infecting others with it.

Can the skills of self-awareness, self-regulation, motivation, empathy and social skill be learned, or are they in fact innate? According to Goleman, these skills can be both innate and learned. All people have varying baseline levels of self-awareness, self-regulation, motivation, empathy, and social skill, but additional competence can be learned. Almost everyone increases his or her emotional intelligence with age—it is a process we call maturity. If pathologists are to retain or regain their leadership role in the laboratory and in medicine, they must become more effective leaders. Developing emotional intelligence is essential to becoming an effective leader.

Leadership prerequisites must be accompanied by additional competencies, including scientific, technical, and professional expertise (Appendix 1-1). One cannot lead a microbiology laboratory if one does not know the difference between chocolate agar and standard blood agar plates. The leader must have the respect of his or her colleagues and subordinates. Communication skills such as listening and sending clear and convincing messages are essential. The results of a national survey of laboratory directors by the American Society for Clinical Pathology ranked “effective communication skills” at the top of the list of preferred skills for potential employees. Two additional competencies are the ability to motivate and the ability to make decisions (appendices 2 and 3).

A final competency is the ability to delegate. Delegation is the ability to assign or designate assignments to other employees. It requires an understanding of an employee’s skills. Delegation is not easy; most leaders do not do it well. It requires the delegator to give specific instructions, define the expected results, set time lines, establish limits of authority, and describe how the expected results will be evaluated. Delegation also requires the leader to provide the necessary resources to accomplish the task.

Management styles can vary.\(^\text{12}\) Various theories describe the balance of task-oriented and people-oriented management styles. Blake and Mouton described a managerial spectrum ranging from the concern for productivity to the concern for people; high productivity and high concern for people results in a “team” approach, which minimizes conflict between keeping people happy and getting
the job done. Another model that examines task-oriented versus people-oriented manager functions is the Lorenzi-Riley model. This model focuses on change management, including the leadership qualities that allow for the organization of a heterogeneous group of employees in order to effect change. McGregor developed Theory X, in which managers assume a large input for employees’ attitudes and ability, and Theory Y, in which managers have an optimistic set of expectations for workers. The more recently developed Theory Z model suggests that the highly motivated and self-disciplined employee described in Theory Y is cultural and may vary depending on country of origin. However, given the expansion of work to service-oriented, knowledge-based tasks, more employees are effectively independent, interchangeable, and more likely to be Theory-Y based on their unique skills, Radiation technologists and laboratory technologists are prime examples of knowledge-based workers.

Several authors have attempted to generalize leadership styles and behaviors and determine how different types of leaders respond to specific situations. In one analysis, the three main categories of leadership style are authoritative, democratic, and laissez-faire. Authoritative behavior is a “telling” approach to leadership. Authoritative leaders tell others what to do after a problem has been assessed. Although the authoritative style is effective when time is limited and employees have limited skills and rarely work as a group, the style does not work when the employees are knowledgeable and work as a team. The democratic style is a “consulting” approach. The leader gives people a chance to influence a decision from the start, and the leader selects a solution that is likely to be successful. This style of leadership works well when plenty of time is available and people have some group skills and are motivated, but it does not work when the group is unmotivated or conflicted. The laissez-faire leader is a “joining” leader and basically works as another team member. This style of leadership works when the group is highly motivated and is familiar with each other—that is, working well as a team. However, laissez-faire leadership does not work if a team is not present or the group expects to be told what to do.

Finally, competent leadership requires actual work—and hard work at that. Leaders set goals, priorities, and standards for an institution. A leader motivates (motivation strategies are provided in appendices 1-1 and 1-2). A leader also incorporates an institution’s mission into his or her decisions by cross-checking the decision with the institutional mission, and helps employees internalize high standards and aspire to perform above these standards. Workers should feel as if they become better people by adopting the leadership’s expressed goals, priorities, and standards. A truly effective leader also regards the leadership role as a responsibility rather than an honor granted by a position of rank and privilege.

The Primary Planning Procedure: The Strategic Plan

The essence of planning is the strategic plan: an ongoing management activity designed to provide the data, analytical components, and decision elements required to continuously manage an organization. The strategic plan is a fluid plan with multiple built-in feedback loops that allow or demand that everything from the organization’s budget and projects to its goals and purpose be continuously updated. A strategic plan is also essential when implementing a major new or modified business activity, such as developing an outreach program for anatomic pathology, bringing in a new array of tests or instruments, or planning a separate off-site laboratory for outpatient services. The strategic planning template is shown in Figure 1-1.

The defining documents of a strategic plan are the mission statement and the vision statement. The mission statement clearly declares to the public: “This is who we are. This is our business. These are our customers, and this is what we will do to meet their needs.” Before the mission statement can be used to formulate goals and directions, the critical exercise of prioritization of business activities is necessary. Laboratories do not have one or two types of customers, but many types, including doctors, nurses, patients, health insurance providers, hospital administrators, hospital employees, and pathology residents. Similarly, there are many aspects to consider when assessing the needs of laboratory customers. Doctors want immediate results, nurses want easy-to-read reports, insurance providers want inexpensive services,
Figure 1-1. Strategic Planning Template. Definition: SWOT, strengths, weaknesses, opportunities, threats.
hospital administrators want a positive bottom line, and pathology residents want to perform as many tests as they can to gain experience. Owing to such conflicting needs, the first task in implementing the strategic plan is setting priorities by identifying the most important customers and which of their demands can—or cannot—be met.

The second defining document of a strategic plan, the vision statement, is an internal organizational statement regarding the organization’s goals for the future, for example: “To be the dominant, most comprehensive, and most highly respected testing service in the region.” Both the mission statement and the vision statement are vital to the development of the organization’s directions and goals. However, before implementing those directions and goals, it is essential to perform some assessments and analyses.

The three initial assessments that are required in any strategic plan are the assessment of the internal environment, the assessment of the external environment, and the assessment of the “market.” An assessment of the internal environment should include a review of the available personnel, including their talent profile and current productivity. Also important is an assessment of facilities space and equipment. Financial resources should also be evaluated. If the laboratory is hospital-owned but managed by an independent pathology group, input from financial and administrative leaders should be obtained. The organizational structure and current testing capacity should also be part of an assessment of the internal environment.

The assessment of the external environment may include aspects outside of the laboratory but within the institution. However, any strategic plan should also consider the environment beyond the hospital or free-standing laboratory. Regardless of the scope of the external assessment, the political structure, the socioeconomic environment, and the technological and scientific advances that affect the clinical laboratory should be considered. The scope of the assessment may, for example, consider changes in Medicare at the federal level, the use of automation in the clinical laboratory, and/or scientific advancements in biomarker development.

The third assessment is the market assessment. In large-scale outreach planning, this activity may need to be more comprehensive and might require professional or consultative assistance. Marketing elements, including any changes in customers’ needs, should be thoroughly reviewed; for example, whether new distant clinics require specimen management should be determined. Good market research regarding the anticipated billable procedures and market share is also required. The competition should also be assessed. Other key aspects of the market assessment include product planning, pricing strategy (third-party billing), and the management of sales and service, along with a needs assessment for key operations such as informatics/computer support (bidirectional) and courier services.

Once these assessments are complete, the pathologist or laboratory director should have a fairly good idea of the viable approaches to an initiative. However, before going further, it may be prudent to re-examine the goals of the strategic plan to ensure that they are consonant with reality. For example, although one goal may be to increase expertise in the laboratory by hiring a urologic pathologist, the market assessment may reveal that the predominant managed care organization in the community has a contract with a national commercial laboratory to process prostate biopsy specimens, likely leading to diminished volume in the laboratory, in which case it would not be prudent to hire an additional pathologist.

After evaluating the assessments and validating the goals and directions, but before implementing any changes, the pros and cons of a proposal need to be evaluated. One model that can be used to evaluate such issues is the strengths, weaknesses, opportunities, and threats (SWOT) analysis (Appendix 1-4). Laboratory leaders should consider the strengths and weaknesses of the institution as well as external opportunities and threats and the ways in which they influence the laboratory’s ability to respond to the issues identified in the internal, external, and market assessments. More importantly, laboratory leaders should consider what must be done to implement existing and/or new goals. For example, if one goal is to establish a virus laboratory, and the SWOT analysis shows that no technologist has the necessary expertise, it becomes clear that additional personnel are needed.

An alternative to the SWOT analysis is the five forces analysis (Figure 1-2). Michael Porter developed this model for the detailed analysis of the external opportunities and threats in areas where these forces are more complicated. The five forces are the bargaining power of suppliers, the bargaining power of buyers, the threat of new entrants, the threat of substitute products, and the rivalry among existing entities. For example, a particular market might include four hospitals with clinical
laboratories, two of which have laboratories with outreach testing services. The ability of an additional outreach program to survive may be impacted by the number of rivals already in the market.

Once these analyses of internal factors, external factors, and the market have been completed, one can re-examine the feasibility of previously articulated goals and determine whether the goals need to be deleted or changed. It may also be necessary to prioritize competing or conflicting goals and directions before proceeding to the next step in the planning process, which is to define what needs to be done. A laboratory may choose to continue business as usual or alter their menu and procedures. Likewise, a laboratory may review activities that can be downsized or eliminated. These decisions constitute the revised plan, which can then be separated into current and new activities that need immediate funding, and long-range activities that might require a business plan before funding is provided (see Chapter 9, “Financial Management of the Laboratory”).

The implementation of the strategic plan is essentially the operation of the laboratory (see Chapter 3, “Laboratory Operations”). The evaluation of the strategic plan is an ongoing process. An important part of this evaluation is the variance analysis that is performed on a monthly basis as part of the budgeting process (see Chapter 9, “Financial Management of the Laboratory”).

References

Case Example: How to Lead
Read the following scenario and answers to the questions below.

Dr. Quiet is the Chief of Pathology at a 250-bed hospital. He primarily performs surgical pathology but is also the director of the hospital laboratory, which has 80 employees. The hospital would like to reorganize the laboratory as a Core Laboratory so hematology and chemistry instrumentation can be managed in the same space. Dr. Quiet discusses this possibility with the two supervisors of the existing hematology and chemistry laboratories and asks them for their ideas. The two supervisors do not often work together and cannot come to a consensus. They also distrust each other, each thinking that her job is in jeopardy.

1. What type of leadership style best applies to Dr. Quiet? Democratic.
2. Why is this style ineffective in this scenario? Members of the team are not accustomed to working with each other and are distrustful of the outcome.
3. What recommendations would you make to Dr. Quiet regarding how to lead this restructuring project? This may be a longer project than anticipated. Restructuring one job may affect a score of other jobs. Because you are dealing with knowledgeable supervisors who have never worked as a team, it may be best to build a team approach from the beginning by bringing in other representatives from hematology and chemistry. This would work with Dr. Quiet’s democratic style of leadership. However, such a major operational change requires strategic planning, including assessments, SWOT analysis, the development of specific strategies, a business plan, and a budget prior to implementation.

Challenge Questions

How does SWOT analysis contribute to the development of a strategic plan?
A. It identifies internal weaknesses in the institution.
B. It provides cash flow analysis for business planning.
C. It identifies the key personnel required for a new initiative.
D. It identifies assets and liabilities.
E. None of the above.
Answer: A; see pages 9 and 13.

Which of the following laboratory director responsibilities cannot be delegated according to CLIA?
A. Signing annual reviews of chemistry procedures.
B. Maintaining a quality management plan.
C. Approving a new hemoglobin A1C test validation.
D. Performing annual competencies on laboratory technologists.
E. None of the above.
Answer: B; see page 5.

What is the difference between an organization’s mission and vision?
Answer: See page 7.

Appendix I-1.
Leadership Competencies

Leaders are made, not born. Effective leadership is based on a number of prerequisites and requires a great deal of practice.

- A leader must have professional and technical expertise. A leader must be trustworthy, consistent, and have unquestioned integrity and the respect of colleagues and subordinates.
- A leader must demonstrate emotional intelligence with accurate self-assessment, self-confidence, and persuasiveness.
- A leader must be able to conceptualize and be visionary.
- A leader must have communication skills in listening and sending clear, convincing messages.
- The most difficult thing a leader must do is to motivate.
- A leader must be decisive, but not impetuous.
- The ability to delegate is one of the things most leaders do not do well. It requires that the delegator gives specific instructions, provide the necessary resources, give the needed authority, define the expected results, establish a time line, and detail how the results will be evaluated.
- A leader must show appropriate humility.

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Appendix 1-2. 
Motivation Strategies

A critical function of leadership and management is motivating employees. The success of an enterprise depends on its workers, and they must be continually inspired and encouraged to achieve goals within the scope of the organization’s mission and vision. What must a leader do to motivate employees?

- Forget money, fringe benefits, parking, and a good cafeteria; these are not motivators. They are expected and are only important if they are not available.
- Employees are often unhappy about low salaries, annoying bosses, stupid rules, or poor working conditions, but changing these things does not satisfy or motivate employees.
- Employees are motivated by interesting work, challenges, and increasing responsibility.
- Employees must have a sense that their job is meaningful and relevant and that their work has a purpose. Tell employees that they are important! Tell them again and again!
- A leader must have high expectations. By way of analogy: If a teacher thinks the students are bright, the students will rise to meet the teacher’s expectations. If a teacher thinks the students are slow, the students will learn slowly.

Appendix 1-3. 
How to Make a Decision

A leader must be able to make decisions in a timely, coherent fashion. One of the keys to effective decision making is to take your time. Other keys to effective decision making include:

- Identifying and articulating the problem
- Verifying that the problem exists
- Determining whether the problem needs to be solved
- Determining whether you want or need to address the problem
- Gathering all the facts and evaluating the information
- Considering alternative solutions
- Exploring the consequences of the various solutions
- Determining how these solutions fit within the strategic plan
- Selecting the best alternative
- Implementing the solution
- Following up and evaluating the outcome
Appendix I-4. 
Performing a SWOT Analysis

A critical component of the strategic planning process is the strengths, weaknesses, opportunities, and threats (SWOT) analysis. Consider the following example regarding the plans for a new, small, off-site laboratory that will serve four new hematology–oncology clinics. The specific areas requiring analysis are quickly identified.

**Strengths**

- Your institution specializes in hematology–oncology and has a hematopathology director and specialists.
- An automated line has been implemented in the main laboratory for a large volume of hematopathology and oncology services, and you have experience with most large-equipment vendors.
- New hematology–oncology clinicians are being hired by the primary existing practice in your hospital.

**Weaknesses**

- The new hematopathology business will require hiring additional technologists because the main laboratory has already met its capacity for testing.
- The clinics and new laboratory will be 15 miles from the hospital, and you do not have a courier system.
- You do not have a distant computer link to the new clinics and new laboratory site.

**Opportunities**

- The hematology–oncology service anticipates hiring 10 new clinicians, resulting in a 50% increase in hematology testing.
- The new laboratory site will be in an area with no other laboratory services, potentially bringing in work for other clinics in that region.
- Expansion of distant computer services may enable the development of an advanced electronic medical records system.

**Threats**

- A cross-town rival hospital has a strong hematology–oncology service that already attracts 35% of the market share.
- Decreasing revenue from the anticipated patient cohort (Medicare recipients) may not fully support an opportunities budget.
- Hiring laboratory technologists is difficult because of the aging laboratory technologist workforce and lack of young trainees.

Will a 50% increase in test volumes justify the anticipated expenses for personnel, information systems infrastructure, and a courier system? How will the anticipated decrease in Medicare revenue over the next 3 to 5 years impact this plan? What will be the start-up costs (variable and fixed) for a new operation? How will the limited pool of laboratory technologists affect a start date that aligns with the opening of the new clinics? What percentage of the cross-town rival’s service is anticipated to cross over to the new clinics? Carefully analyzing each of these areas and assembling them into a strategic plan puts you in a stronger position in negotiating with hospital administration. The strategic planning process is an ongoing process that undergoes continual re-evaluation and reassessment and should be regarded as a flexible instrument that is reformulated and remolded as conditions change.
Appendix 1-5. 
**Maslow’s Needs Categories**

This hierarchy of needs implies that the highest human needs involve self-esteem and self-actualization; these are the needs that leadership must address.

Appendix 1-6. 
**Herzberg’s Satisfiers and Dissatisfiers**

According Herzberg, although the absence of some factors can create job dissatisfaction, the presence of these factors does not motivate or create satisfaction. In contrast, the motivators (satisfiers)—the elements that enriched a person’s job—were associated with long-term positive effects in job performance, while the dissatisfiers consistently produced only short-term changes in job attitudes and performance, which quickly fell back to its previous level.

**Dissatisfiers (important only when absent)**

- Competent management
- Competent technical supervision
- Good interpersonal relations with supervisors, peers, and subordinates
- Salary
- Job security
- Working conditions
- Status

**Satisfiers (the real “motivators”)**

- Achievement
- Recognition
- Advancement
- Growth potential
- Responsibility
