

Controlling and Allocating Resources

Learning Objectives

- Understand the importance of control in HSOs and HSs
- Explain a control model and show its application
- Comprehend the basics of human resources management and its role in control
- Appreciate risk management and its importance in control
- Learn how HSOs prepare and organize for various types of emergencies
- Understand and apply various control methods
- Comprehend how project management is organized in HSOs
- Learn the methods and tools used to support project management

Discussion Questions

1. Define control. What are the major elements of control?

Control is defined as gathering information about and monitoring the HSO's activities, comparing actual results with expected results, and intervening to take corrective action by changing inputs or processes. The important elements of control are standards, measurement, comparison, appraisal, and intervention/change.

With this question, the instructor can incorporate discussion on the need for control that is presented in the chapter. The main points are the following:

- Control involves monitoring use of input resources, functioning of organizational and work processes, and results achieved.
- Control is necessary to ensure that work results (i.e., outputs and objectives) are desirable. It is how managers ensure the organization is reaching its objectives and carrying out associated plans effectively and efficiently. Control and planning are the conjoined twins of management—the standards and desired results used in control are derived from the HSO's objectives and operational plans.
- Control is important to problem solving. Specifically, the standards used to control show the presence of deviation and help define the problem. Control is important to continuous quality improvement (CQI); without information that is gathered with control and without the standards used in control, it is impossible to determine if processes are functioning as expected and/or how they can be improved.
- Control is important because HSOs are coming under greater public scrutiny with regard to resources utilized and results achieved. Control is essential for both.

Figures 11.1 and 11.2 show generic and expanded control models, respectively. Budgets and ratio analyses are emblematic of the control model and are standards against which actual results are compared. Managers use several methods to monitor and control at the input, process, and/or output points. Risk management (RM) is an example of a structured, programmatic control method. Other examples are budgeting, case-mix accounting, operational activity ratio analysis, financial ratio analysis, and network programming.

Everything that happens in an HSO can eventually be expressed in numbers. Examples are average length of stay, percentage occupancy, patient mix, volumes of services/tests, revenues, expenses, personnel turnover, meals served, and nursing hours per patient.

2. What are the three monitoring and two intervention points for control? Why are management information systems (MIS) important to control?

All control systems are information based. Figure 11.1 is a generic control model that identifies monitoring (control) and intervention points. Control involves collecting information at three monitoring points: 1) input utilization, 2) functioning of conversion processes, and 3) outputs. If results at these three monitoring points are inconsistent with standards/expectations, intervention and change occur at input and/or process points. Intervention and change cannot occur at output because inputs plus process yield outputs. Therefore, the only way to affect outputs is by changing inputs, process, or both.

The conceptual similarities between Figure 11.1 and the management model in Chapter 5 (Figure 5.7) should be highlighted:

- *Inputs* Conversion (process), including integration of structure–tasks/technology–people
- *Outputs* Including individual work results and the sum of individual work that yields desired results and accomplishment of organization objectives

The change component of Figure 5.7 that links with conversion; that is, process in the control model and inputs is the same as intervention at process and/or inputs in Figure 11.1.

3. *Review the control model in Figure 11.2, and give examples of situations for each of the control loops. What are the similarities between the control model (Figure 11.2) and the problem-solving model presented in Figure 6.4?*

This question asks students to follow the logic in the control model in Figure 11.2. They can be asked to describe situations in which each of the control loops applies. Students should identify standards/expectations (input, process, or output), measurement, comparison (input, process, or output), and appraisal, and which loop they are in (“in control,” “positive control,” “acceptance control,” or “required change control”), along with pertinent elements (cause, deviation acceptable, cause controllable) for that loop.

Examples (descriptions of situations) will vary with the mix of students. Examples may come from health services, school, home, or work. It is important to have students understand the logic of the model and its loops, as well as the importance of the dash-enclosed CQI cell. HSO-related examples of each loop have been given in the text chapter; they should serve as a guide.

There are similarities between the control model in Figure 11.2 and the problem-solving model in Figure 6.4. In fact, the control model is a variant of the problem-solving model. Both compare actual with desired results; thus they have standards, monitoring, and appraisal activities. Both ask why when there is deviation (symptoms and definition in the problem-solving model, and cause in the control model). The problem-solving model includes consideration of alternatives, as does the control model—*change* in the “required change” control loop and “improvement possible” cell.

Another area of discussion is the considerations in designing a control system—classified as managerial and design. *Managerial considerations* include the following: Where is control focused? What types of measures are used for standards and monitoring results? Who has authority to establish standards? How flexible should standards be? Who has access to control system information? Who is responsible for intervention? *Design considerations* are that control should be prospective (feed-forward control) when possible; be realistic and understandable to users; be accurate, timely, and reliable; have significant and/or economic/quality benefit; and be information appropriate.

4. *How does CQI relate to control? Specifically, what control point is its focus, and how does this affect the control model (see Figure 11.2)?*

Control at the *output point* is the most familiar type. Control in HSOs focuses on quality and quantity and on output at levels ranging from individual and departmental to overall organization results. In all cases, standards/expectations denote desired results, often in numerical terms.

Input control is also common in HSOs. Examples of resources used are nursing hours per patient day, materials and supplies consumed, ratio of staff to beds, and equipment and facility utilization rates. Another method of input control is credentialing and licensure, which are means to control the quality of human resources. Education, training, and licensure of RNs, licensed practical/vocational nurses, MDs, and registered pharmacists give them presumptive characteristics and qualities. However, reliance on input control alone cannot substitute for control of process.

Control at the *process point* involves assessing and understanding the process, developing standards, monitoring, and evaluating the efficiency and effectiveness of processes—the activities that convert inputs to outputs.

CQI seeks improvement of all processes, including inputs used. CQI's primary focus is on the process control point (see Figure 11.1[B]). CQI affects the control model in Figure 11.2 because, as processes and/or inputs to processes are evaluated and improved, new standards and expectations result. These standards and expectations become the measures against which future results are compared, as denoted by the dash-enclosed CQI cell.

5. Describe the purpose, structure, and process of RM and QI. From the perspective of control, why are both important to HSOs/HSs?

The purposes of RM and QI are similar but not identical. RM protects the organization from exposure to costs (financial, mission, public image, ethical standards) that may result from clinical and nonclinical injury to patients, injury to visitors and employees, damage to property, and business interruption. QI focuses on improving performance of professionals and processes, thus protecting patients in terms of quality of care. In an integrated, coordinated program, facets of QI are included in RM; the most obvious example is clinical injury.

The structures of RM and QI have similar elements. These elements are shown in Figure 11.4. Although the terminology developed by the American Hospital Association is somewhat different, generic elements are similar: 1) some standards or criteria, the deviation from which is a risk or a problem; 2) some means of surveillance (data system, reporting mechanism) that alerts staff to the presence of a risk or problem; and 3) corrective action that minimizes or eliminates the problem. In surveillance, analysis and evaluation permit a more precise remedy (corrective action) to be taken. The best structure includes evaluation to determine whether the action taken actually solves the problem.

Both RM and QI are important. The manager must protect the patient (for ethical, legal, and mission [goals and objectives] reasons) and safeguard the HSO's tangible (e.g., financial) and intangible (e.g., reputation) assets, as well as its human resources.

A useful exercise is to have students identify various types of problems in different HSOs, categorize them as RM or QI problems, and suggest how they might be resolved by using the elements in the structures. Managerial roles and activities should be identified and stressed.

6. What are the duties of risk managers? How do they fit into the organization of HSOs? HSs?

This question encourages students to think about risk managers as they would about other midlevel line and staff managers. The risk manager engages in planning, controlling, organizing, and the like, although not at the level of senior management. This role is modified because the risk manager is likely to be staff rather than line management. The textbook describes the risk manager's duties as 1) identifying and analyzing risks; 2) developing, implementing, and monitoring the insurance program; 3) maintaining and distributing an RM manual; 4) reviewing existing and proposed contracts and agreements and consulting with legal counsel; 5) supervising claims reporting; 6) assisting in adjusting losses; 7) developing and maintaining reporting and analysis systems for risk and loss; and 8) attending and giving seminars that will improve personal and organizational RM skills. The text notes that the managers may add financial management responsibilities, such as evaluating equipment purchase agreements and joint venture contracts.

Staff or line risk managers should have access to top levels of senior management, preferably at the chief operating officer level. Risk managers may report through full-time in-house legal counsel. In matrix organizations, such as hospitals, risk managers could have line authority for RM across departments and units. Even here, however, risk managers could be considered part of staff, just as is the human resources manager. Contingency theory

should be applied in determining how to best structure the specific relationships of the risk manager.

7. Discuss the concept of insurance. What is the role of insurance in HSO/HS management? How does insurance fit into an RM program?

Insurance is defined as a “contract whereby, for a stipulated consideration, one party undertakes to compensate the other for loss on a specified subject by specified perils.”¹ It is an ancient concept that allows organizations and individuals who have a similar type of risk to protect themselves financially. Those in the risk pool pay a premium against the occurrence of a specific event, such as a fire, wind damage, or a business interruption. Paying a premium provides a certain level of protection (coverage, usually expressed in dollars) for a specified period of time, typically 1 year. At the end of the policy period, the insured must renew (if the insurer accepts the application) or must seek coverage elsewhere. Rarely does this type of insurance policy have residual value.

Insurance has a critical role in management of HSOs/HSs. The textbook notes that dedicated financial reserves may be used to protect the organization’s financial integrity from risks of all types. This requires large amounts of cash, or its equivalent, in reserve and is beyond the means of most HSOs/HSs. Comprehensive insurance coverage is an essential part of an RM program. Insurance may be obtained through a captive insurance company or from commercial carriers. First-dollar coverage is the most expensive, and it is typical for HSOs and HSs to self-insure for the first several hundred thousand or million dollars of loss. The purchase of catastrophic or excess liability insurance protects against major losses, usually to the tens of millions of dollars.

Insurance fits into managing risk as a backstop to prevention. Insurance will protect the organization when prevention has failed. The risk manager must be aware of the potential for loss in all organizational activities. Comprehensive record keeping and analysis of risk and how it will be prevented, minimized, or covered in the event of a loss are key to the risk manager’s job. Some types of risk can be shared with others. A requirement that licensed independent practitioners (LIPs) have adequate levels of personal liability insurance coverage before they are permitted to treat patients in the HSO is an example.

8. What types of issues could be encountered evacuating infant, adult, and pediatric intensive care unit patients? Why would behavioral health be so important during this event?

- Infants should not be separated from their mothers, but not all hospitals can accept infants—even if the infants are well. Adult and pediatric intensive care unit patients require significantly more resources—such as staff, equipment, and supplies—when they are evacuated. These patients *must* be transported by ambulance and go to a hospital providing comparable care.
- Since hospitals are considered safe havens within communities, it is very stressful to move frail patients. Behavioral health specialists can talk with those experiencing anxiety or fear, including patients, family members, hospital employees, and emergency responders.

9. Explain the role of the media during a disaster and how coordination of information between the evacuating organization and the media can improve communications to the public.

If given the appropriate information, the media can inform the public that the hospital is being evacuated. The release can include specific instructions for family members and visitors as to what they should do or where they can call for more information about loved ones. The release can also provide patients with information as to what they should do if they have an appointment at the hospital. It can provide employees not working at the time of the emergency information as to where they should call for instructions about reporting to work.

10. *Describe the differences between a planned, voluntary hospital evacuation—such as the move to a new facility—and an emergency evacuation. Which actions within the plan, prepare, respond, and recover cycle would be effective during either situation?*

A planned, voluntary hospital evacuation is scheduled for a specific time (hours to days). In this scenario, the hospital will plan how it will move patients, document the plan, and test parts of the plan before patients are moved. An emergency evacuation relies on the plan already in place and usually moves patients requiring the least help first so that the majority of patients can be evacuated in a short period of time—usually within hours.

Effective actions for both planned and emergency evacuations include the following:

- *Planning.* The same processes that were developed for communicating with internal and external partners
- *Preparation.* Staff training that may have been completed in command and operational aspects of the emergency operations plans, such as using supplies and equipment available to evacuate patients
- *Response.* Activation of the incident command system
- *Recovery.* Ensuring that patients' needs can be met by the receiving facility (i.e., continuing critical medical treatments suspended during the emergency)

11. *One of the control methods presented is development of an operating budget and related variance analysis. Table 11.5 shows a departmental budget with and without indirect expense allocations. Prepare a written variance analysis of the two budgets. As the department manager, which variances would you investigate first and what steps might you take to control these variances?*

Example A—Direct Expenses Only

Current month: Departmental profit is under budget by \$7,692.

Revenues are over budget, with Inpatient under budget and Outpatient over budget. (*To investigate further/control:* How did number of occupied beds and revenue per discharge and outpatient visits and revenue per visit compare for actual vs. budget? Were all services billed and were payments collected as expected?)

Expenses are over budget, with the main variance being in Salaries and Wages (*To investigate further/control:* Review payroll reports for the department, monitor extra hours and overtime spending.) and the secondary variance in Supplies. (*To investigate further/control:* Review detail reports by supply account, monitor spending.)

Year-to-date: Departmental profit is under budget by \$111,048.

Revenues are over budget, with Inpatient under budget and Outpatient over budget. These trends are consistent with the current month, and should be investigated in the same manner.

Expenses are over budget, with the main variance being in Salaries and Wages and the secondary variance in Supplies. It is just as important to investigate negative variances, so a review of the variance in Repair, Maintenance, and so forth, is also warranted as it continued throughout the year-to-date report. These trends are consistent with the current month and should be investigated in the same manner.

Example B— Direct and Indirect Allocated Expenses Only

Current month: Departmental profit is under budget by \$8,512.

Allocated ancillary and facility expenses: Both have a variance that should be investigated. (To investigate further/control: Ask the accounting department for a detailed schedule of allocated expenses.)

Year-to-date: Departmental profit is under budget by \$88,693.

Allocated ancillary and facility expenses: Both have a variance that should be investigated. These trends are consistent with the current month and should be investigated in the same manner.

12. *A hospital has the following financial ratios. Using the benchmarks in Table 11.8, provide a written analysis of each ratio against its benchmark and a summary of the hospital's current financial liquidity, profitability, and solvency.*

Current ratio	4.2
Days cash on hand	60
Operating margin	2%
Debt service coverage ratio	1.1

Current Ratio. The hospital is able to meet its short-term debt by over four times the current amount due. This is a good liquidity position.

Days Cash on Hand. The hospital can meet its operating expenses for only 60 days—this is not favorable compared to the benchmark of 175.7 days. If there is a payment delay with a major payer or a sudden, large expense, the hospital may run short of cash. This is a weak liquidity position.

Operating Margin. The hospital is generating a 2% profit on patient care operations. This is slightly less than the benchmark of 2.7% and shows an average profitability position.

Debt Service Coverage Ratio. The hospital can only meet its debt payment obligations 1.1 times (a number less than 1 means it cannot meet debt obligations and will default on some debt). This compares unfavorably to the benchmark of 4.2 times and shows a weak capital structure/solvency position.

Summary. Hospital operations are generating a profit, but liquidity and solvency positions are weak. The hospital must focus on increasing cash and/or decreasing debt.

13. *Discuss different methodologies that can be used to evaluate new lines of business and/or capital investment based on volume or cost. Identify other information that must be considered along with the computed results when making a decision regarding resource allocation.*

Volume Analysis/Breakeven Analysis. Uses projected annual revenues and costs to determine volume required for breakeven.

Capital Investment Analysis. Uses initial investment amount to acquire an asset to compare various options against each other or to compare one option to specific criteria, such as rate of

return. A simple example is payback period, which uses projected cash flow to determine the length of time required to pay back the initial investment.

Cost–Benefit Analysis. Involves comparing two or more alternatives, one of which may be the current situation. Cost components are required; a revenue component can be incorporated if present, but it is not required.

Simulation Analysis. Involves constructing a detailed, computer-based mathematical model that represents situations and variables. The model is activated by use of a random number generator to represent events, such as admissions, arrival for service, a particular type of surgical case, and length of stay. Simulation models are dynamic. When variables, rules, or assumptions are changed, the model produces the consequences of that change.

Other Information. Nonquantifiable considerations such as effect on mission or strategic plan and effect on customer satisfaction or organizational control may persuade the decision maker to choose an alternative despite its higher costs and/or fewer benefits. In this instance, the decision maker evaluates nonquantifiable considerations and whether they outweigh quantifiable effects.

14. Define suboptimization. Describe how this concept must be incorporated into financial analysis.

Chapter 7 discusses optimization and suboptimization in terms of a system's success; that is, some units must suboptimize themselves (sacrifice performance) to optimize the greater whole, or the larger system. Thus the hospital cafeteria that serves appetizing, wholesome food at a low price must almost certainly operate at a deficit. Having an on-site cafeteria that staff are happy to patronize has numerous advantages, however: Staff join one another for meals and develop better working relationships; eating meals on-site minimizes the lengths of meal times for staff; enjoying a high-quality, low-cost meal adds to the "joy in work" that Deming considers so important; and staff can conveniently meet and conduct business while enjoying a pleasing meal. Managers are foolish if they demand that the cafeteria earn a profit (optimize its performance), because that will contribute to suboptimization of the whole system. It is essential that managers understand how each component contributes to optimization of the system and that they consider the financial aspects in light of this contribution. Thus financial analysis must incorporate the concept of suboptimization of components that make significant contributions to system optimization.

15. Identify the analytical techniques for resource allocation presented in this chapter. Explain how and why they are useful.

Analytical aids (i.e., quantitative techniques) are a systematic method by which information is obtained, organized, arranged, and evaluated. They help decision makers focus on important considerations and compare them with criteria. The results are expressed in objective terms. They are particularly useful in assisting managers in resource allocation decisions.

The depth of discussion of this question will depend on the previous exposure students have had to quantitative techniques. Those described in the chapter are volume analysis, capital budgeting, cost–benefit analysis, and simulation. Students should review the examples given in the chapter. Table 11.9 also describes linear programming, queuing theory, network analysis, and regression analysis.

Students should be referred to the problem-solving model in Chapter 6 (Figure 6.4) and asked how analytical tools are relevant to alternative solution evaluation (they are one of the primary means by which alternatives are evaluated). It should be stressed that, in evaluating alternatives, both quantitative and qualitative (subjective) assessment should be made. For

example, should a new service be established if volume analysis or cost–benefit analysis indicates that costs will be greater than revenues? The quantitative analysis may indicate no, but subjective (nonquantitative) analysis may answer yes to the same question. Important here is the contribution the new service—despite operating at a loss—makes to optimizing the system. Health services are one of the few industries in which subjective considerations are more important than the results of quantitative analysis.

16. What factors explain the increase in use of project management in healthcare? What are the challenges to continued growth?

Increased use of project management is a result of the following:

- Provides quick response to threat or opportunity
- Involves staff to provide operational insight and secures future cooperation
- Takes advantage of the increasing level of staff members' technical training, their greater familiarity with group behavior and dynamics, and senior management's desire to foster increased staff collaboration and cooperation

Challenges to continued growth include the following:

- Unless the project portfolio is carefully monitored and controlled by senior management, project work can interfere with staff availability for direct patient care and the support activities needed for patient care.
- Ensures that the purpose and intended outcome of the project contribute to the organization's strategic direction

17. What unique features are involved in applying project management to healthcare construction?

- Projects are frequently higher profile, more complex, larger, expensive, and often involve a significant amount of debt.
- Failure to achieve promised results is obvious to all stakeholders, and failure is not easily corrected.
- Adding external members makes the project team much larger and tests the leadership and organizational skills of the project manager.
- Construction can be very disruptive to the established flow of patients, visitors, and even staff. It places significant burdens on supply chain, housekeeping, facility maintenance, IT, biomedical engineering, and security.
- Renovation and expansion require careful assessment of the infection risks to patients and staff. In addition to initial assessment, each phase of work must be evaluated and steps taken and documented to mitigate negative effects on patient and staff safety.
- Construction requires securing community financial and political support. It involves extensive interaction with and monitoring by local and state officials.

18. Why is hands-on experience in project management important for young managers? Why is the project management credential valuable?

- Good way to introduce managers to details of complex issues and actions encountered in the healthcare environment
- Enhances leadership and group management skills by requiring selection of team members, securing their cooperation, and achieving stated performance requirements

- Demonstrates that the manager can successfully handle multiple responsibilities
- Shows that the manager can apply skills and techniques learned in the academic program
- In a competitive marketplace, clearly shows the manager's commitment to continued learning and understanding and mastering highly valued skills

19. What key factors contribute to a successful project?

- Thorough planning
- Effective leadership
- Team cohesion and effectiveness
- Effective and frequent communication with internal and external audiences
- Creates a logical, comprehensive work program that achieves the project scope and operates within the constraints of schedule and budget
- Shows ability to organize and manage meetings that are highly participative and efficient in use of members' time

Case Study 1

Admitting Department

The case study examines the generic control process and its elements (apply standards, monitor and collect information, appraise, determine cause, and change, if necessary). Issues involved include standards, sampling, and cause.

1. What should York do?

York should not intervene but should continue to monitor and collect data. The "sample" was only one 2-hour period. Standards are averages developed and are meant to measure activities over time. Thus 2 hours of data collection will vary from standards, but the activity/process could be in control. There are insufficient data to understand the process. More data are required; one means of gathering them is a control chart composed of many observations over a period of time.

2. What is the control point (input, process, or output)?

The control point is *output* for Shemenski, Turner, and Underwood. Intervention, if warranted, would occur at the *input* point (Shemenski, Turner, Underwood [skill, training, motivation]) or *process* point (the system, sequence of activities, work methods) for processing/admitting patients. It can be assumed that York is looking primarily at output. CQI focuses on improving the process.

*3. What kind of information should York obtain relative to Turner and Underwood?
What might be some of the "causes" for the deviations?*

Referencing the control model in Figure 11.2 and presuming that the data for work results are valid, students should think through the logic in the assessment component [2] in Figure 11.2 (standards/expectations, measurement, comparison, appraisal):

- For Shemenski, the flow is through the "in control" loop; in Deming's terms, Shemenski's output is almost certainly common cause variation—it is within the upper and lower control limits of the process.

- For Turner, the flow is through the “positive” control loop. This assumes that results exceeding standards are appropriate. If not, the analysis would flow through the “acceptance” or “required change” control loops, depending on whether the cause was controllable. Students can be asked why Turner’s results may be inappropriate (processes 16 but makes errors; may process patients quickly by being rude).
- For Underwood, the flow is through either the “acceptance” or the “required change” control loops, depending on whether the cause was controllable.
- For Turner (16 patients processed in 2 hours; standard is 14) students should ask, Are results desirable? If yes, then York should determine the cause, which could be either input or process related (e.g., better training, altered/improved work methods [process], natural talent, different technology or equipment, or easier and less complicated admissions). Depending on the cause, York may reinforce (praise) and use Turner to assist Shemenski or Underwood with improving performance. That is, determine why results exceed expectations, and apply them elsewhere (improvement).
- For Underwood (11 processed; standard is 14), York should determine the cause and whether it is controllable. If it is uncontrollable, York should do nothing; if it is controllable, she should intervene and change either input (e.g., more training for Underwood) or process.

Causes of results less than standard include a faulty standard; more complicated admissions; less training, inappropriate placement, or little organizational support; concurrent special duties; illness; having one’s mind on home/personal problems; lack of experience; equipment malfunction/failure; or inappropriate process design.

Case Study 2

Centralized Photocopying

This case should cause students to think about the managerial and design control considerations in the chapter. Examples of the former are, Where is control focused? What measures are used? Who has authority? How flexible are they? Examples of the latter are that control should be prospective, realistic, understood, accurate, timely, reliable, and significant and have economic/quality benefit.

1. *What is the focus of control in this situation?*

The focus of control is output. To control personal photocopying, the process was centralized and a gatekeeper was appointed. There was no consideration of input resource utilization or input control (the idle time of Rath and others).

2. *What dysfunctional results have occurred from centralizing photocopying?*

In this case study, control is focused primarily at the wrong point—personal use (output). The wrong measure of control—photocopies made—is used. The focus should be on inputs (resources consumed) and processes that permit the most appropriate use of inputs (workers’ time) to improve productivity. Certainly the secretary’s, Rath’s, and Snook’s idle time (wasted time and forced misuse of inputs) are lowering productivity. An issue is being made of something relatively insignificant (photocopies and personal copying), and controlling it has little economic or quality benefit.

Dysfunctional results of centralized photocopying include the following:

- It costs hundreds of dollars in staff time (Rath’s and others’ idle time, walking time, time waiting in line, and interruption of productive work) to save \$10 per week in unauthorized

personal use of the photocopier. Control by changing the process (here, centralizing photocopier use) makes no sense.

- An organizational barrier—the empire Smith has created—inhibits and detracts from others' productivity. Should any employee have to spend 10 minutes to convince Smith that a photocopy of an isometric drawing is job related?

Case Study 3

Barriers to an Effective QI Effort

The case describes a number of problems that will interfere with implementation of quality improvement (QI). The CEO, W. G. Lester, is facing an emergency department (ED) admissions decline from unknown causes, ED nurses who are discontented with their status, the hospital's relationships with emergency medical technicians (EMTs), the lack of a full-time physician ED director, and second-class professional staff organization (PSO) status for ED physicians. These causes of instability and uncertainty of future developments raise barriers to the stable and predictable environment required to undertake an effective QI effort.

1. *Use the problem-solving methodology described in Chapter 6 to define the problem facing Lester. Which alternative solution should be implemented? Why?*

The problem could be stated in several different ways. A broad statement of the problem is this: In what ways can we become involved in solving the problem(s) in the ED? A narrower problem statement is this: In what ways can we establish effective management and leadership in the ED so that it will continue to be a major source of inpatient admissions? A much narrower problem statement is this: In what ways can we solve the problem(s) with the ED nurses, improve relationships with the EMTs, and enhance the concern about the ED on the part of ED physicians and the PSO, generally?

Problem statements should identify the big picture and reflect an understanding that problems in the ED have several interconnected elements. The solution preferred for each element should be justified. Students should be asked to identify the decision criteria they used in selecting the solution.

2. *Describe the relationship between inpatient census and ED admissions. Outline a strategy to educate the members of the ED physician staff as to the relationship and importance of the ED to the financial good health of District Hospital.*

The data show clearly that District Hospital's (DH's) inpatient census depends heavily on persons first seen in the ED. Data about payment status and percentage of uncompensated care would be very important in understanding the full effect of inpatient admissions through the ED.

Any strategy proposed should include data feedback regarding the percentage of inpatient admissions through the ED, the importance of inpatient census to DH's continued economic health, and the value of service to the community and the resultant goodwill and strengthening of elective inpatient admissions.

3. *Use the principles of CQI from Chapters 7 and 8 to outline a basic effort to improve quality in the ED.*

Figure 8.1 will help to answer this question. Outcome measures (indicators) focus attention on a coordinating body, which here could be established only for the ED—even though a hospitalwide effort is preferable. The coordinating body sanctions establishment of cross-functional QI teams to understand processes and recommend improvements. Intradepartmental teams may be established too. Individual ED workers who are process owners may be assigned to monitor and improve a process. The coordinating body would approve all major changes and

expenditures. Details about The Joint Commission's approach to quality/productivity improvement (Q/PI) are found in the Comprehensive Accreditation Manual for Hospitals.²

4. Analyze the role of the EMTs and their relationship with District Hospital. What should be the role of ED physicians and staff at District Hospital in terms of educating the EMTs? What are the negative aspects of this educational activity? Is there a potential conflict of interest?

The ED physicians should see that they have a general professional responsibility to educate other clinical staff, including EMTs. Better-educated staff are able to provide higher-quality care. It is possible that the education necessary/desirable for the EMTs is beyond what is reasonable to expect the ED physicians to contribute without compensation. DH should encourage the ED physicians to participate in educating EMTs and compensate them, as appropriate.

No negative aspects of this educational activity are apparent. Students might identify 1) malpractice risk (very unlikely that legal theories as currently applied would find liability for DH or ED physicians), 2) infringement of EMTs on ED practice at DH (EMTs provide out-of-hospital emergency service, and there will be no infringement in the normal course of events), 3) that EMTs might be encouraged or led to believe that they can provide treatment that is beyond state law/regulations (this will vary by state), or 4) disruption and interference with ED activities (this can be easily avoided with proper planning and execution).

The potential conflict of interest is that educational activities will be couched in terms of benefit to the community but will really seek to tie the EMTs exclusively to DH. Potential conflicts of interest need not lead to actual conflicts, however. The ED physicians at DH can educate the EMTs and enhance their abilities without tying them into DH. If, as a result of improved relations with DH, the EMTs prefer to bring patients there, this is an incidental side benefit for DH.

5. Identify some control measures that could be used by Lester.

Examples of control measures that Lester could use include output control (ED admissions and discharges, patient satisfaction surveys), process control (times for key quality characteristics from ED process[es], staffing issues), and input control (relationships of ED MDs with EMTs and RNs [RNs have low morale, high turnover, and low retention]). The expanded control model shown as Figure 11.2 can be used to understand application of these control points. Recruiting a physician director of the ED *must* be a top priority because the leadership, decision making, and stability such an appointment will bring should reduce instability considerably. An obvious solution is for DH to contract with an ED group that will be the sole provider of physician services.

Case Study 4

State Allocation Decisions— Centralize or Decentralize³

This case suggests the implications for city and county health departments of the various levels of operational and funding control exercised by the 50 states. These varied relationships raise classic questions of centralization and decentralization of operational authority, and as one would expect, each has advantages and disadvantages. Some managers prefer the predictability and fairness of centralized systems; others want the flexibility to set policy that meets local needs.

1. What risks are present with the Ohio policy that allows local health departments to establish their own bookkeeping systems?

Allowing individual health departments to set up their own financial accounting systems makes it more difficult for the state to track errors, such as intermingling of incompatible accounts or fraud. State auditors would be required to learn many different sets of account numbers, reporting statements, and control systems to determine whether, for example, a state grant for cardiovascular services was partially spent on restaurant inspections or spent in a way that exceeded state limits on per diem travel reimbursement. Local agencies may be required to have annual audits, but local CPAs are unlikely to understand complex state funding streams well enough to provide as clear an assessment as is possible when state auditors review local agencies, all of which have uniform systems dictated by state regulations.

2. Why might some regulated clients, such as home builders and restaurant chains, prefer to have local health department policies and fees determined centrally for the entire state?

Large home builders are frustrated when a local health department requires that new homes have septic systems A or B while the health department in the next county (which may have part of the same new subdivision) requires that they have septic systems C or D. This means losing the economies of scale that are gained by buying septic systems in bulk, and it requires double the amount of employee training or hiring experts to install different systems. Similarly, different requirements and enforcement diligence city by city or county by county for restaurant food safety require complicated training systems for food handlers and make it more difficult for restaurant chains to set chainwide expectations for inspection scores. The costs are even greater when different plumbing requirements (e.g., location and size of hand-washing sinks) or vermin control construction regulations change the blueprints needed to build a new Pizza Hut county by county. Similarly, varying health department fees from one jurisdiction to another makes it difficult to set operatorwide profit margins and causes animosities for departments with higher fees.

3. Why might a decentralized local health department prefer to negotiate its own employees' health insurance package even if it represents a group of smaller size that cannot get as low a premium?

A local health department may wish to design a package with benefits that suit its employees, such as better pregnancy benefits (if it has many employees of childbearing age) or better payments for wheelchairs and other durable medical equipment (if employees and spouses are significantly older than the statewide average for such agencies). Sometimes state benefit packages include benefits that are unacceptable to local employees, such as abortion services or erectile dysfunction drug coverage. Also, state systems may or may not include expensive but lifesaving benefits for preventive services such as sigmoidoscopies, and this may be a concern to the local employees. Regulations that exclude all local hospitals (or all doctors serving on a local board of health) from a statewide list of providers could be a bone of contention. Finally, the decision maker—perhaps a new local health commissioner—may find disadvantages of being in a state system, such as a lengthy waiting period for coverage of a preexisting heart condition. Despite an unethical conflict of interest, the commissioner may prefer to negotiate a contract locally that would avoid such a personal problem, even if it is not best for the other employees of the agency.

4. Based on considerations of centralization and decentralization, would you prefer to be the state health department director in Kentucky, Ohio, or Virginia? Why?

Student responses to this question are likely to be a matter of personal preference. The case provides criteria to be considered. Students who are more self-confident might prefer a decentralized system; students motivated by predictability and statewide consistency of managerial decision making may prefer a centralized approach. Notably, all states have oversight authority when local health departments stray legally or become what the private sector terms bankrupt. In “home rule” states, where local powers are highly regarded, this oversight may

be small. In extreme cases, states can intervene through the state health commissioner (or the equivalent) or via the state attorney general or the courts. In government, there are few places where it could be said, as President Truman did, “the buck stops here.”

Case Study 5

Financial Ratios⁴

General Hospital (GH) is a freestanding 60-bed nongovernmental, not-for-profit HSO. Review the income statement and balance sheet provided here.

Use the financial ratio formulas provided in Table 11.8 to calculate the values listed in the following table.

Item	Calculated value	Benchmark value
1. Current ratio		n/a
2. Accounts receivable		46.2
3. Average payment period		n/a
4. Cash-on-hand (days)		175.7
5. Operating margin %		2.7
6. Excess margin %		4.4
7. Contractual allowances and discounts as a percentage of operating patient revenue (a)		n/a

(a) Contractual allowances and discounts divided by gross patient revenue.

1. What do you conclude when comparing the calculated values for GH with the benchmark values that are supplied by Standard & Poor's?

Results

- Current ratio
 $\$17,420,000 / \$11,000,000 = 1.6$ average
- Accounts receivable in days
 $(\$11,000,000 - \$2,800,000) / (\$64,300,000/365) = 46.5$ days average
- Average payment period in days
 $\$11,000,000 / [(\$60,700,000 - \$3,400,000)/365] = 70.1$ days weak
- Cash on hand in days
 $(\$4,000,000 + \$2,700,000) / [(\$60,700,000 - \$3,400,000) / 365] = 42.7$ days weak
- Operating margin %
 $(\$64,300,000 - \$60,700,000) / \$64,300,000 = 5.6\%$ strong
- Excess margin %
 $(\$64,300,000 - \$60,700,000) + \$7,400,000 / (\$64,300,000 + \$7,400,000) = 15.3\%$ strong
- Contractual allowances and discounts as a percentage of operating patient revenue
 $\$23,500,000 / \$87,800,000 = 26.8\%$ n/a – internal benchmark

Conclusion

The liquidity position is weak to average. Profitability position is strong. Improving the hospital's financial situation requires reduction in short-term liabilities and debt. This will stabilize its financial situation because cash flow from operations and nonoperations (profitability) are good.

Case Study 6

Healthcare Emergency Preparedness⁵

This case highlights the issues that arise when a hospital must be evacuated. The example is based on a simulated natural disaster that necessitates evacuation of a tertiary-care hospital with a large neonatal intensive care unit. The mock exercise necessitated evacuating 309 patients who required various levels of care. Emphasize that adult and pediatric ICU patients need more resources—staff, equipment, and supplies—during evacuation. They must be transported by ambulance and go to a hospital providing comparable care.

1. What types of preparedness activities would be needed to successfully evacuate a hospital?

Documenting an emergency evacuation plan includes internal/external notifications, identifying how and to where patients will be evacuated, identifying and purchasing evacuation equipment (stair chairs for example), and training employees to use the evacuation equipment. It is appropriate to share the plan with the local/municipal emergency management agency and emergency medical services (EMS) agencies so they understand what types of assistance the hospital needs during an evacuation. A process for patient tracking is essential.

2. How is the decision to evacuate a hospital made?

This decision is normally made by hospital administration and public safety officials such as the fire department or local/municipal emergency management agency because they must assist with the evacuation.

3. What internal and external communications would be essential during a hospital evacuation?

Internal communications may include notifying the following:

- Hospital administrators with a role in managing the evacuation (incident command)
- Nurses and physicians—to identify which patients must be evacuated and which can be discharged
- Other employees so they know what is happening and can report to their assigned areas to assist with evacuation

External communications may include notifying the following:

- Patient families—especially those of patients who will be discharged early
- Emergency management agency—to alert EMS that the hospital is closed to new patients; coordinate communications among first responders and assist with transportation from evacuating hospital to receiving facilities
- EMS providers—to assist with transportation of those evacuated
- Media—to inform the public that the hospital is being evacuated

- State public health departments and regulatory agencies (e.g., Pennsylvania law requires that hospital infrastructure problems must be reported to the department of health within 24 hours)

Case Study 7

Placing Imaging Services to Support ED Operations⁶

This case asks students to apply some of the principles learned from the discussion of project management. Its focus is ED patients' access to imaging services. EDs are very important to hospitals as a source of inpatients. To improve patient access, senior management decided to provide diagnostic computed tomography (CT) and ultrasonography services either within or adjacent to the ED. Students have been asked to serve on a group to recommend a location for imaging after identifying and evaluating the positive and negative aspects of the two locations.

Assignment: You have been asked to serve on a group to recommend a location for imaging after identifying and evaluating the positives and negatives of the two locations. Prepare your analysis.

The instructor should consider splitting the class into two groups. One group will develop reasons to place imaging modalities inside the ED; the other will develop reasons supporting an adjacent location.

Following the analysis, it is useful to see what recommendation the group as a whole would agree to make and their reasons for the decision.

Additional Facts to Be Provided to the Students

- The imaging space available in both locations is 1,500 square feet (SF). The overall cost (excluding fees) for construction in the ED is $1,500 \text{ SF} \times \$525/\text{SF} = \$787,500$.
- Capital costs for equipment are \$1,020,000 (CT = \$650,000; wireless diagnostic unit = \$250,000, and ultrasound unit = \$120,000).
- Because of concerns regarding excessive radiation exposure from CTs, EDs are beginning to utilize ultrasonography when appropriate. Ultrasound studies can visualize soft tissue and tendon and muscle complaints, and they are particularly useful in diagnosing inflamed appendixes and kidney stones.
- Use of electronic medical records, digital film in imaging, and the expansion of an IT infrastructure and high-resolution screens to the ED and radiologists' offices and homes make rapid interpretation and consultation available 24/7.
- Flexible credentialing of imaging staff permits using them for all modalities except ultrasonography. Radiology technologists receive 2 years of training and supervised practice in an American Medical Association–approved program. This is followed by a national registry examination and award of a state license covering both diagnostic and CT modalities. Ultrasound technicians (sonographers) receive additional training and are examined by a different registry prior to receipt of a state license. Often, however, they have a basic radiology technologist license as well.
- It is not unusual for hospitals to concentrate their nighttime imaging workload in the ED. Use of ED equipment for all studies at night justifies capital and operating costs incurred in a second location.
- The primary concerns of ED physicians are the availability of medical and nursing supervision of acute patients and turnaround time for interpretation of imaging studies. For

example, stroke therapy must be initiated within 20 minutes of diagnosis, and, therefore, transport time, scanning speed, and interpretation results are critical.

- The hospital must have a high volume of ED imaging to justify the additional equipment, space, and staff.

Analysis of Location Options

- Unit in the ED

Pros

Enhances level of medical/nursing supervision

Facilitates performance of two studies

Reduces transport time (but someone—probably the imaging technologist—must retrieve and return the patient)

Improves staff collaboration

Using protocols to screen/order tests can speed patients through triage

Cons

Higher construction costs in the ED

Reduces treatment and storage space in the ED

- Unit Adjacent to the ED

Pros

Less expensive space to renovate

Frees up treatment and storage space in the ED

Easier to expand space for additional equipment in future

Has positive effect on staff collaboration

Keeps nighttime studies out of ED; during the day there is added capacity for outpatient overflow

Cons

Requires more transport time (less transport time could hasten return to ED and eliminate a second transport call)

Reduces level of medical supervision (assumes nursing staff accompanies trauma patients)

Additional Case Study 1: Don's Risk Management

This case allows students to consider the importance of an RM program, the steps needed for establishment, its content, data sources, and the problems of collecting data on risks and risk factors that arise in an HSO. Another benefit is that the case encourages students to think about the ethical, legal, and economic value of having an effective RM program.

Don Phelps is the director of engineering at Sunny Village, a large life-care community located in a semirural area in the Northwest. Phelps has a staff of 19, including electrical and plumbing staff and those who maintain and repair heating, ventilation, and air conditioning (HVAC). There are several utility repair people who do carpentry, locksmithing, and general maintenance. The grounds are maintained by two full-time employees, supplemented by

high school students in the summer. Senior management at Sunny feels lucky to have Phelps on its staff. Phelps is a baccalaureate mechanical engineer and has done graduate work in electrical engineering. He is dedicated, hard working, and genuinely concerned that his department perform efficiently.

Sunny self-insures for all risks, including malpractice liability, up to \$1 million. It has an excess liability insurance policy to \$5 million. Last year, the excess liability carrier recommended that Sunny develop a risk management program but provided little specific information on how to do it. Phelps thinks such a program is a good idea.

Phelps has some data on visitor and resident accidents but has had no time to do anything with them. He has no data on the quality of care provided in the skilled nursing unit at Sunny, but he knows there have been several “incidents” in the past few years. He knows, too, that one of the reasons that Sunny began to self-insure was that there had been dramatic premium increases in its liability coverage because of three large settlements paid by its previous insurance carrier.

Senior management has asked Phelps to organize a risk management program, but he isn’t sure where to start.

1. Should Sunny have a risk management program? Why?

Absolutely. It is ethically, managerially, and legally prudent and responsible to have an RM program. Some states mandate that HSOs have RM programs.

2. Outline the steps that Phelps should take in establishing a risk management program. Which types of people should help him?

First, Phelps should determine what assistance is available from the insurance carrier. It is likely to include consultation and guidelines for establishing an RM program. These should be used to supplement and complement the in-house effort, in which Phelps should 1) ensure that establishing an RM program is supported psychologically and economically by senior management *and* the governing body; 2) establish an interdisciplinary committee to develop policy and provide general oversight (if RM and QI are integrated, there will be more clinical members); 3) obtain assistance from someone expert in RM (train Phelps in RM, hire a full- or part-time risk manager, or use a consulting risk manager [duties are described in the text]); 4) identify potential risks at Sunny; 5) develop an RM data system; and 6) monitor data and take action, as necessary.

3. Identify and describe the types of links, including data collection, that should be present among risk management and quality improvement.

A sense of the links can be obtained by reviewing Figure 11.4, which describes the relationship between RM and traditional QI, even though traditional quality assessment and QI have notable differences. The interdisciplinary RM committee provides the major link between clinical and nonclinical activities. The philosophy of QI stresses that improving processes will have positive effects on outcomes—a concept applicable clinically and nonclinically. Data on key quality characteristics (often process results or outcomes) and process variables show how well a process is functioning and where opportunities for improvement are greatest.

4. Incident or occurrence reporting is considered an important part of a risk management program. Why do staff often regard it as negative? What can be done to change this perception?

Incidence or occurrence reports are filed when something goes wrong; this immediately gives them a punitive cast. They are seen by staff in most HSOs as negative—a basis for disciplinary action, in-service training, or assigning blame.

The old philosophy of management blamed workers for problems that Deming argues are overwhelmingly caused by a process or system. It will take time to convince staff that such reports will be used to identify faults in processes and systems rather than worker errors. It can be done, however. The change will result in a significant increase in the number of such reports and provide management with a new source of data to assist in identifying processes or systems in which there are opportunities for improvement.

Additional Case Study 2: Is This the Most Efficient Way?

This case should sensitize students to the limits of litigation and the value of alternative dispute resolution (ADR), including early negotiation and settlement of cases when liability is clear. Here, a hospital chief operating officer (COO) is giving a deposition, which requires answering questions under oath. HSOs/HSs and their staffs tend to “circle the wagons” when an untoward event occurs and act in ways that alienate the patient. This feeling of abandonment and lack of communication causes patients to become angry—and, as lawyers say, “angry patients sue.”

Joan Vinson, the hospital COO, hated giving depositions. Plaintiffs’ lawyers probed and pushed and leapt at any word that might give them an advantage. When a deposition was over, she always felt wrung out, and there was a lingering feeling, a subtle implication, that somehow she was dishonest.

The latest case involved a claim that an ED triage nurse had misjudged the severity of a patient’s arm injury. Delayed treatment allegedly exacerbated the injury, and the plaintiff had a slight, permanent movement deficit. Usually this would not result in a lawsuit, but he was a semiprofessional stock car driver, and the complaint alleged that the injury would make him less likely to win. The complaint demanded \$50,000 in damages.

The hospital attorney told Vinson that the plaintiff would have difficulty proving damages and that the case would likely settle for less than half the requested amount. He recommended, however, moving as slowly as possible because it was a contingency fee case. Moving slowly would increase the plaintiff’s attorney’s expenses and would make him more willing to settle.

Vinson was certain that the triage nurse had erred. It had been a very busy night in the ED. The triage nurse was working a double shift because her replacement had called in sick. When the plaintiff came to the ED, the nurse had been working for 14 hours and was exhausted.

Vinson wanted to settle the suit, but she felt compelled to follow the attorney’s advice. It just seemed to her that there had to be a better way to handle such problems, especially when liability was not really an issue.

1. What policy issue is present here? Describe the roles of in-house and retainer counsel in a case such as this. Might either have a conflict of interest in terms of settling the case? Why?

The policy issue is whether the hospital should make every effort to settle cases in which negligence is clear. The injured patient has retained counsel, and the hospital is on firm ethical ground in bargaining vigorously to settle the suit as favorably to itself as possible.

Both in-house and retainer counsel provide technical advice to managers as to the legal merits of a case, probability of winning, and estimated costs. It remains for the manager to decide about settling or defending the case. Vinson is uneasy about not working to settle the case because she sees the error as clearly being the hospital’s.

In-house counsel are salaried by the hospital and have no financial gain whether the suit is settled or defended. They may have other types of conflicts, such as interest in enhancing their position, importance, and reputation; justifying more staff; or laying a basis for future employment with an outside firm. Such considerations are fact dependent.

Retainer counsel typically bill by the hour, whether paid by the HSO/HS or an insurance company (malpractice coverage). Counsel who bill hourly for work will benefit from delaying or forgoing settlement, and this raises potential conflicts of interest. Because fees have become an issue, some clients are contracting with law firms for fixed-cost defense of claims. This will stimulate more interest in settling claims but suggests another potential conflict of interest—too little interest in defending a case in which the HSO’s negligence is questionable.

2. Distinguish cases in which HSO staff are clearly negligent from those in which reasonable people could disagree. Identify the negative and positive aspects of contesting all cases, regardless of merit.

Negative Aspects of Contesting All Cases Regardless of Merit

- May increase financial costs
- Consumes psychic and physical energy better spent elsewhere
- Suggests to staff that hiding problems and stonewalling are desirable behaviors (part of the culture), which will negatively affect relationships in the organization
- Poisons relationships with patients, who can understand that mistakes happen but will not understand being treated unfairly when negligence is clear

Positive Aspects of Contesting All Cases

- Minimizes the number of small claims, which lawyers will not take on a contingency fee basis and the costs of which patients cannot afford to pay
- May increase staff interest in minimizing untoward events
- May increase the effectiveness of the RM program
- Establishes the reputation for being a tough adversary and may frighten away potential claimants

3. What recommendations would you make to prevent the untoward event described in this case? Be prepared to support them.

- Review the preparation of the ED nurse involved, especially regarding that type of diagnosis.
- Develop and implement policy about length of uninterrupted duty for staff.
- Strengthen occurrence reporting.
- Improve relevant processes by using quality improvement teams.
- Cross-train RN staff; arrange for float nurses from other units under similar circumstances.

4. Based on personal experience or facts that are known to you, describe an untoward event resulting from interacting with an HSO. What was the result? Did the HSO act ethically?

Responses will vary. If no health services–related experiences are described by the class, the type of untoward events can be broadened to include commercial relationships, especially those with service organizations. Universities, insurance companies, and hotels are prime candidates. It is especially useful to explore with students their reactions and feelings regarding these events, whether they were stimulated to take action, and if not, why not.

Additional Case Study 3: The Orthopedic Surgery Group Practice

This case suggests the importance of analyzing the composition of a clinical staff, whether it is a formally organized PSO, such as that in a hospital, or, as here, the physicians in a single-specialty group practice. Beyond understanding the information that a set of numbers (data) conveys, the exercise addresses the importance of strategic management of a clinical staff, an issue of utmost importance to health services executives.

Your executive assistant prepared the following data about the 15-member orthopedic group practice at which you were recently appointed administrator.

- Membership status in the PSOs at the four community hospitals at which the 15 members of the group admit patients for surgery: Active members: 6; Associate members: 9
- Board certification: Board certified: 8; Eligible to take boards: 3; Failed boards twice: 4

- Age distribution: Average age: 59; Range: 34–68
- Surgical procedures performed:

	2011	2012	2013	2014	2015	2016 (proj.)
Surgery Type						
Major	3,351	2,801	2,922	2,545	2,300	2,340
Minor	3,911	4,265	4,198	4,077	4,100	4,150
Total	7,262	7,066	7,120	6,622	6,400	6,490

1. Prepare an analysis of these data that will be given to the management committee of the group practice.

- *Management status in PSOs.* Only 40% of members of the practice are active members of the PSOs in the hospitals at which they admit patients for surgery. This may result from hospital-specific PSO requirements, such as number of patients admitted. Also, members of the practice may be avoiding active status because that entails committee membership (and meetings) and other PSO-related activities, such as taking ED call, that decrease the time they have for patients in the practice.
- *Board certification.* Just over half of practice members are board certified. Board eligibility is not a useful criterion in judging competence/qualifications. The Joint Commission specifically addresses the marginal usefulness of this criterion. However, it is disturbing that four members of the practice have failed the boards twice. This may mean that they are ineligible to take them again without additional formal training, such as a residency or fellowship. It may also reflect the quality of care that they can provide and should be a focus for further investigation.
- *Age distribution.* The average age of 59 is high. That at least one member of the practice is 68 may or may not be a problem, depending on physical and mental status. Strategic management of the group must include data on levels of clinical activity, retirement planning, and a recruitment plan, including attention to the potentially marginal orthopods who have not passed their boards.
- *Surgical procedures performed.* The activity trends are disquieting, as is the ratio between major and minor procedures. Major procedures declined by 806 (more than 24%) between 2011 and 2014, with projections for further decline or no significant increase. Minor procedures increased by 189 (approximately 4%), but minor procedures almost certainly generate far less revenue.

2. What recommendations will you make?

- Perform a thorough analysis of all aspects of the group practice
- Develop vision and mission statements
- Identify/develop organizational goals and objectives
- Undertake personnel (physician) strategic management
- Undertake strategic management to achieve the goals and objectives

3. What additional data should you seek?

- *Financial data.* Complete financial data are needed, including balance sheets, profit and loss statements, and accounts payable and accounts receivable data for several preceding years.
- *Membership status in hospital PSOs.* Data about practice members' relationships with the hospitals at which they admit patients must be obtained. This information should be used in staff development and strategic management.

- *Board certification.* A much better understanding of practice physicians' board certification is needed. It is essential to know whether those eligible to take the boards plan to do so; this should be encouraged by practice leadership. It is especially important to review the clinical records of those who have failed the boards twice. This may help explain why nine members of the practice are associate members of the PSOs at hospitals at which they have privileges. Although not conclusive, failing the specialty boards may indicate quality problems that should be investigated through the practice's internal quality assessment activities.
- *Age distribution.* Much more detail is needed about the age distribution of practice members. It must be determined if those who are older plan to retire. Age is an important factor in strategic management for the practice. Concomitantly, health status should be determined.
- *Surgical procedures performed.* These data should be subjected to a more discrete analysis. Types of procedures performed by each practice member should be determined, for example. Numbers and types of procedures may be limited by hospital privileges, which in turn are a function of board certification and the demonstrated current competence of practice members. Alternatively, members may not be performing state-of-the-art procedures because they lack training or because of hospital affiliation, and this may be causing a decline in referrals. Such inquiries can be answered through data analysis.

Notes

1. Black, Henry Campbell. *Black's Law Dictionary*, 5th ed., 721. St. Paul, MN: West Publishing, 1979.
2. The Joint Commission. *Comprehensive Accreditation Manual for Hospitals, Refreshed Core*, HR-1. Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, January 2007.
3. Case study and answers to the questions were written by Gary E. Crum, Ph.D., M.P.H., District Director of Health (retired), Northern Kentucky Independent District Health Department. Used with permission.
4. Case study and answers to the questions were written by Joy Volarich, MBA, MHA, CHFP, an Adjunct Instructor at The George Washington University.
5. Case study and answers to the questions were written by William M. Smith, Senior Director, Emergency Preparedness, and Kathleen Criss, CBCP, Director, Preparedness Operations, University of Pittsburgh Medical Center.
6. Case study and answers to the questions were written by Neal McKelvey, M.Sc., MA-HCA, a retired senior hospital executive, who has led several large teams on hospital replacement and expansion projects. Mr. McKelvey is a Lecturer at The George Washington University.

