26 SHASTA FACULTY PRACTICE

PHYSICIAN EXTENDER ANALYSIS

SHASTA FACULTY PRACTICE (the Practice) is the not-for-profit corporation that controls the clinical operations of the medical faculty of Shasta University. The Practice provides all physician services for Shasta Health System (the System), which consists of six hospitals plus supporting services that, in total, provide the entire continuum of care. The main inpatient facility is a 650-bed tertiary care academic medical center, although the System also owns two rural 50-bed hospitals, one 125-bed community hospital, and a 250-bed long-term care facility. In addition to inpatient facilities, the System owns multiple outpatient clinics and has established joint ventures with several other outpatient providers.

The Practice's vice president for outpatient services, Dr. Rudy Mason, is exploring the use of physician extenders in the clinics as a way of enhancing physician productivity and, ultimately, the Practice's profitability. In recent years, the role of physician extenders has evolved to the point where they are having a considerable impact on the delivery of care in many different settings. For example, physician extenders can perform more than 80 percent of primary care physicians' patient care duties, including taking medical histories; performing physical examinations; diagnosing and treating illnesses; ordering and interpreting laboratory tests; and, in most situations, prescribing medications. Although the term *physician extender* remains widely used, other terminology applied to such individuals includes *advance practice professionals, mid-level providers,* and *nonphysician providers* (NPPs).

The use of extenders allows physicians to treat more and higher-acuity patients, therefore expediting patient flow and increasing revenues. Also, because compensation for physician extenders is less than that for physicians, costs per patient visit can be lowered. In addition to the obvious productivity and economic benefits, studies indicate that patient satisfaction improves when physician extenders are used. In essence, they are willing (and often able) to spend more time with each patient than physicians usually do. This extra attention typically results in better quality of care (real or perceived) and higher patient satisfaction.

However, as the role of physician extenders expanded, it was inevitable that some conflicts would arise. The increasing recognition by third-party payers that extenders are as acceptable as physicians in providing many services means extenders are a potential source of direct competition for physicians. Still, physicians at many solo and group practices are using extenders to supplement and complement their work. (The Medical Group Management Association reported in 2010 that 92 percent of physician-owned practices use extenders. Furthermore, these practices reported higher median physician compensation.) Adding to the extender-use trend, predicted shortages in primary care physicians (roughly 65,000 by 2025, according to the Association of American Medical Colleges) means that extenders will have to fill the physician void to prevent reduced access to primary care.

The two main types of physician extenders are advanced registered nurse practitioners (NPs) and physician assistants (PAs). Although NPs and PAs often perform similar tasks, their training and certification requirements differ. NPs must be licensed in the state in which they practice. To acquire such licensure, an individual must be licensed as a registered nurse (RN), meet additional education and practicum requirements that historically led to a master's degree, and pass a national certification examination in one of several specialized areas. Now, however, most nursing schools that offer nurse practitioner education are transitioning to programs that lead to doctor of nursing practice (DNP) degrees. This trend has created an expectation that, at some future date, the DNP degree will become a requirement for certification. (For more information on NPs, see the website of the American Association of Nurse Practitioners at www.aanp.org.)

PAs must graduate from an accredited physician assistant educational program and then obtain certification by the National Commission on Certification of Physician Assistants. The educational training

for a PA is similar to that of a physician, but much shorter—historically only two years. Although PA programs traditionally offered either associate or bachelor's degrees, most programs today are at the master's level. (For more information on PAs, see the website of the American Academy of Physician Assistants at www.aapa.org.)

Although it may appear on the surface that NPs and PAs are perfect substitutes for one another, the differences in educational background create differences in philosophies of care. Because NPs follow the nursing model of care, which focuses on health education and counseling as well as disease prevention, they typically have a special concern for the overall health and welfare of patients. PAs, on the other hand, generally follow the medical model of care, which focuses on diagnosis and treatment. Of course, these are generalizations that do not necessarily apply to specific individuals. Although most NPs and PAs practice in primary care settings, others specialize in such areas as dermatology, pediatrics, geriatrics, anesthesiology, surgery, and emergency medicine.

The practice status of physician extenders has been, in large part, driven by state law. Historically, some states allowed NPs to practice independently, while others mandated some physician involvement (collaborative or supervisory). With PAs, most states required that a physician be physically present (or electronically available) when a PA treats a patient. In addition, many states allowed NPs to prescribe all medications independent of physician supervision, while the ability of PAs to prescribe medications was much more limited. However, the Balanced Budget Act of 1997 removed many of the limitations imposed by individual states. Now, both NPs and PAs are allowed to practice without the immediate availability of a supervising physician. Note, however, that NPs are allowed to practice under their own licenses, while PAs must practice under the license of a physician.

The reimbursement of physician extenders, like all reimbursement for healthcare services, is complicated by the fact that there are many different third-party payers using different payment methodologies. For purposes of this case, assume that all payers use the same system as Medicare, which recognizes several different situations in which extenders provide services.

In general, Medicare pays extenders in all settings 85 percent of the physician's fee schedule. Thus, if an extender provided a service that would result in a $100 payment to a physician, the payment would be $85. However, there are two important exceptions to this rule. First, if the extender and physician both see the patient during an office visit,

the combined work of both the extender and physician is reimbursed at 100 percent of the physician fee schedule. But if the patient service is a procedure (as opposed to a visit) and the work is done primarily by the extender, the 85 percent rule applies. Second, extenders are paid at a 100 percent rate if the service provided is "incident to" a previous visit or service provided by a physician. This provision requires that the physician be physically on-site and that the service provided by the extender be related to a diagnosis made earlier by a physician. Note that "incident to" billing only applies to services provided in offices and clinics as opposed to services provided in hospitals. In effect, these rules mean that the majority of extender billings in offices and clinics is at the 100 percent rate, so average extender reimbursement falls closer to 100 percent than to 85 percent of the physician rate.

The impact of extenders on physician costs and revenues is highly variable. After some acclimation time, which is required for the extender to become fully productive, several financial impacts are realized. First, the physician becomes more productive (sees more patients) because the extender can provide the service for a portion of the visit that is billed by the physician. On average nationwide, this increase in the number of billed visits by the physician is estimated to be 10 to 15 percent. Second, the physician's average reimbursement amount increases because the extender is handling the less complex cases. The national average impact on physician billing amount is estimated at 5 to 10 percent. Finally, the extender can see patients independently and bill for those services. On average, extenders see 10 to 20 percent fewer patients than do physicians. Also, because some of these visits are joint with the physician and billed by the physician, the extender can only bill for the remaining visits, which represent 85 to 90 percent of the visits. Of course, the extent to which these synergies are realized depends on demand (volume). The greater the demand for physician services, the faster an extender can become fully productive and the greater is the impact on physician productivity and reimbursement amounts.

At this point in time, the Practice does not use extenders. However, Dr. Mason believes that extenders can play an important role in many, if not all, of the Practice's clinics. As a start, three clinics have been identified for evaluation: the outpatient surgery pre- and post-op clinic, the internal medicine (family practice) clinic, and the eldercare clinic. Dr. Mason then developed the selected data regarding each clinic's physician staffing, productivity, revenues, and costs (shown in Exhibit 26.1). For example, the outpatient surgery pre- and post-op clinic has 2.5

physician FTEs (full-time equivalents) who handle 7,560 patient visits annually, which generate $842,481 of revenue (collections). Annual compensation for the physician FTEs totals $485,000.

Assume that you have been hired as a consultant by the Practice to look into the use of physician extenders. Specifically, Dr. Mason has asked you to (1) estimate the financial impact of using one physician extender at each of the three clinics and (2) recommend the type of extender that is most appropriate for each setting. **These tasks are not trivial and might require assumptions and information to supplement the data presented in the case.**

As a start, you conclude that the national financial impact data presented earlier must be modified to reflect the actual impact on physician productivity in the three settings. Next, you plan to estimate how many additional visits might be generated at each clinic if one extender is employed. Then, the impact on costs and revenues must be examined. Of course, it might be possible to use an extender to reduce the number of physician FTEs rather than to increase volume. This outcome should be explored if appropriate. Regarding physician extender costs, annual compensation for both NPs and PAs falls into the $80,000 to $100,000 range, depending on geographic location, clinical setting, and work experience.

One of the keys to the analysis is an estimate of the volumes that could be realized at each clinic should an extender be added. Unfortunately, Dr. Mason has only anecdotal evidence (office watercooler speculation) on future demand. The best estimate is that patient volume at the outpatient surgery pre- and post-op clinic is increasing at a 15 percent annual rate as outpatient surgery volume increases. The situation at the internal medicine clinic is quite different. There is a current several-month backlog in scheduling, and hence a physician extender could be fully utilized in a relatively short time. Finally, volume at the eldercare clinic has been sporadic and growing very slowly, so there is some doubt about whether or not another clinician is needed at this time.

Dr. Mason recognizes that you are working with a minimum amount of hard data. Thus, it is important that you express and support the assumptions used in your analysis very clearly.

EXHIBIT 26.1
Shasta Faculty Practice: Selected Data for Three Outpatient Clinics

Outpatient Surgery Pre- and Post-Op Clinic:	
Physician FTEs	2.5
Physician costs	$485,000
Physician fees (collections)	$842,481
Daily patient utilization	36
Number of days per week	5
Number of weeks per year	42
Annual patient utilization	7,560
Number of visits per physician	3,024
Internal Medicine (Family Practice) Clinic:	
Physician FTEs	2.0
Physician costs	$273,500
Physician fees (collections)	$523,290
Daily patient utilization	30
Number of days per week	4
Number of weeks per year	46
Annual patient utilization	5,520
Number of visits per physician	2,760
Eldercare Clinic:	
Physician FTEs	2.25
Physician costs	$335,000
Physician fees (collections)	$454,219
Daily patient utilization	23
Number of days per week	4
Number of weeks per year	48
Annual patient utilization	4,416
Number of visits per physician	1,963

Note: Most physicians in the Practice receive compensation from the University in addition to the amounts listed in this exhibit.

27 JONES MEMORIAL HOSPITAL

COMPETING TECHNOLOGIES WITH BACKFILL

JONES MEMORIAL HOSPITAL (the Hospital) is an 800-bed, acute care, not-for-profit teaching hospital affiliated with one of the largest public universities in the United States. In addition to serving the primary and secondary clinical care needs of the neighboring population, the Hospital serves as a tertiary and quaternary referral center for the entire region. For the most part, referred patients seek specialty care that requires unique and often costly clinical expertise and treatment that is available only at select institutions. Thus, it is not surprising that specialty care programs provide the Hospital with about 75 percent of its net operating income.

The Hospital's Center for Digestive Disorders (the Center) is one of the most successful of the specialty care programs. It consistently ranks among the best programs in the country in the diagnosis and treatment of disorders of the gastrointestinal tract. The Center's excellent reputation is further evidenced by the extent of its research funding and its ability to attract patients outside the immediate service area.

The 20 gastroenterologists who staff the Center are physicians drawn from the faculty of the university's College of Medicine. Unlike private practitioners, who focus exclusively on the clinical care of patients, faculty physicians pursue a tripartite mission of clinical service, research, and teaching. It is the successful combination of these pursuits that has helped elevate the status of the Center.

The Center provides care that ranges from gastrointestinal screening to the diagnosis and therapy of common and rare disorders to the referral of appropriate patients to faculty surgeons for the treatment

of benign and malignant diseases. The Center encompasses three separate business units: an outpatient clinic, a hospital-based endoscopy suite, and a hospital-based motility (movement) laboratory. Each business unit operates as a separate profit center, and hence each unit maintains its own budget. However, from a patient perspective the care provided is seamless because the Hospital's patient management system expedites patient flow among the Center's three units and to outpatient surgery or inpatient status when required.

Although the motility lab generates less than 5 percent of the Center's total net patient service revenue, it is a vital component. The lab currently performs 600 manometry tests per year. These tests measure the pressure (flow) along the gastrointestinal tract, which assists in the diagnosis of gastrointestinal disorders that cannot be diagnosed visually. The prevalence of disorders such as noncardiac chest pain, dysphasia, gastroesophageal reflux disease, and small bowel motility disorders make manometry testing beneficial to significant segments of the population.

Each test involves the insertion of catheters (probes) into a patient's gastrointestinal tract that relay data back to a computer workstation for analysis. Two technologies are used in motility testing: water perfusion and solid-state. The Center currently has three water perfusion workstations dedicated to motility testing, each of which is used to perform roughly 200 tests per year.

Both water perfusion and solid-state technologies provide relatively reliable data for diagnosis. Furthermore, net reimbursement averages $250 per test regardless of technology, and the current per test operating costs are identical: $150 for labor, $30 for medical supplies, and $15 for administrative supplies.

However, there are distinct differences between the two technologies, the most important of which is patient venue. Water perfusion technology requires the patient to spend one day as an inpatient, while solid-state technology can be done on an outpatient basis. Thus, each test using solid-state rather than water perfusion technology frees up one bed-day for other purposes. In general, the space that is freed up by new projects or technology is called "backfill space," so any beds that would be made available for other purposes by replacing water perfusion with solid-state technology are called "backfill beds."

Although the Center is known for its state-of-the-art technology, its motility laboratory currently has some dated manometry equipment. The Center's medical director, Dr. Carl Forsyth, has made proposals

in the past to update the equipment, but more pressing capital investment needs within the Center have kept the proposals from being funded. However, one of the workstations is becoming increasingly unreliable, which has inconvenienced patients and created backlogs. In addition, manometry demand has grown to the point where some patients are being referred to other providers to ensure timely testing. These factors have prompted the Center's administrative director, Edith Hargrove, to seek immediate approval for the acquisition of one new manometry system.

To begin the capital expenditure request process, Edith is currently reviewing quotes from various manufacturers of manometry equipment. Her research on quality and cost has narrowed the field of competing manufacturers to one: Digestive Diagnostics, Inc. A water perfusion workstation, which Edith favors, would cost $25,000, while the nine catheters needed to properly equip the workstation would cost $500 each. The new generation of water perfusion systems, but **not** solid-state systems, has lower per test supply costs: $15 for medical supplies and $10 for administrative supplies.

On the other hand, Dr. Forsyth believes that the Center should purchase a solid-state technology workstation. Regardless of the technology purchased, the existing unreliable water perfusion workstation would be "junked," as it is no longer capable of providing satisfactory service.

Edith, who is a clinically trained nurse, questions the clinical necessity of solid-state technology, especially in light of its higher cost. Although the cost of the workstation is the same ($25,000), the cost of the catheters is substantially higher: $6,000 for each solid-state catheter versus $500 for each water perfusion catheter. Nine catheters are required for both technologies, so the total cost for catheters would be $54,000 for solid-state technology versus only $4,500 for water perfusion technology. In addition, solid-state technology has higher operating (supply) costs than does the new water perfusion technology.

Dr. Forsyth agrees with the capital and operating cost estimates, but he argues that the higher cost of solid-state technology is justified for the following reasons:

1. Solid-state technology enables a technician to perform two tests in the time it takes to do one using water perfusion; rather than performing 200 tests per workstation per year using water perfusion, 400

tests could be performed with solid-state. This would shorten patient wait time for appointments, decrease the four-month backlog for motility testing, and potentially increase overall volume for the Center from 600 to 800 tests.

2. The current water perfusion technology requires close observation and correct body positioning during testing to ensure accurate data collection. As a result, each patient is kept in a hospital bed as an observation patient. Conversely, solid-state technology enables the tests to be performed on an outpatient basis. This point is of particular interest to the Hospital because under current operations every test using water perfusion is a bed-day that cannot be filled by a medical/surgical patient. Each bed-day for a "true" inpatient yields an average contribution margin of $520, whereas the bed-day contribution margin for a motility test patient is only $40.
3. Solid-state technology is quickly becoming the standard of care; not offering it would damage the Center's reputation.
4. Solid-state technology would enhance the teaching curriculum for residents and fellows and would provide additional opportunities for research funding.

To his credit, Dr. Forsyth is a respected physician with a reputation for providing the very best of patient care and at the same time remaining aware of his responsibilities to do so in the most cost-effective way possible. However, he has been criticized in the past for lobbying Hospital administrators for medical equipment that, in retrospect, could be considered nothing more than "toys" for himself and his colleagues.

Edith listened to Dr. Forsyth's case for solid-state technology. She believes he makes some good points, especially in regard to the clinical efficiencies of solid-state technology. Still, in an environment where resources are limited and maintaining a positive bottom line is increasingly important, Edith continues to believe that the cost of the solid-state catheters is a financial burden the lab cannot afford, especially when reimbursement is the same regardless of the technology used.

The two technology proposals have been brought to the attention of the Hospital's chief operating officer, Belinda Brach, for resolution.

Believing that a detailed financial analysis is the only rational basis for a decision, she has asked you, a recently hired financial analyst, to investigate the situation. Specifically, she has asked you to use capital budgeting techniques to evaluate the two technologies and make a recommendation on which one to choose.

In addition, Belinda provided some much needed guidance. First, assume that the life of both technologies is five years and that it is unlikely that either the workstations or the catheters would have any salvage value after five years of use. Second, there is no good methodology available to estimate the additional number of tests (more than 200) that might result from pent-up demand if solid-state technology is used. Volume might increase by 100 tests (to 300), but it could increase by as few as 50 or as many as 150. Third, it is very difficult to say how many of the bed-days that are freed up if solid-state technology is used would actually be filled by medical/surgical patients. Again, without good data, she suggests that you assume that 100 additional medical/surgical bed-days would result, but this number could be as low as 80 or as high as 175. Fourth, standard practice calls for all capital-budgeting analyses to assume a 3 percent inflation rate in both costs and reimbursements. Finally, the Hospital's corporate cost of capital is 10 percent, and it adds or subtracts 3 percentage points to account for differential risk.

Just as you were about to start the analysis, the phone rang; it was Belinda. She said it was likely that she could put her hands on some additional funding to buy a second system, but the amount would only be enough to buy a water perfusion system. When you asked Edith what the lab would do with the second system—if it, too, should be replaced—she said the Hospital could sell it for about $10,000 because it was only three years old. Edith added, "You might as well crunch the numbers on the potential second system while you're at it."

SANTA FE HEALTHCARE

CAPITATION AND RISK SHARING

32

SANTA FE MEMORIAL HOSPITAL is a community hospital in Green Bay, Wisconsin. Recently, the hospital and its affiliated physicians formed Santa Fe Healthcare, a physician–hospital organization (the PHO). The PHO is close to signing its first contract to provide exclusive local healthcare services to enrollees in BadgerCare (the Plan), the local Blue Cross Blue Shield of Wisconsin HMO. For the past several years, the Plan has contracted with a different Green Bay PHO, but financial difficulties at that organization have prompted the Plan to consider Santa Fe Healthcare as an alternative. In the proposed contract, the PHO will assume full risk for patient utilization. In fact, the proposal calls for the PHO to receive a fixed premium of $200 per member per month from the Plan, which it then can allocate to each provider component in any way it deems best using any reimbursement method it chooses.

The PHO's executive director, Dr. George O'Donnell, a cardiologist and recent graduate of the University of Wisconsin's Nonresident Program in Administrative Medicine, is evaluating the Plan's proposal. To help do this, Dr. O'Donnell hired a consulting firm that specializes in PHO contracting.

The first task of the consulting firm was to review the PHO's current medical panel and estimate the number of physicians, by specialty, required to support the Plan's patient population of 50,000, assuming aggressive utilization management. The results in Exhibit 32.1 show that the PHO's medical panel currently consists of 249 physicians, while the number of physicians required to support the Plan's patient population