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Obstetrics in Rural, Critical Access Hospitals: Is It Feasible?

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> Health care providers . . . face the challenge of squaring a circle when required by law to provide more access, equal- or higher-quality care, and lower cost.
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> –Frank Rothaermel (2013)

In October 2012, nearly a year and a half had passed since Thomas Sullivan became the chief financial officer (CFO) of Bayou Side Hospital (BSH),[1] a parish-government owned, critical access hospital in a rural town with a population of approximately 8,000 residents in South Louisiana. As a rural hospital, BSH always put its community's needs first when considering which services to offer, and its financial status never forced the healthcare facility to compromise its mission: "To promote and offer exceptional healthcare services which meet the needs and surpass the expectations of our patients in an environment of dignity and respect." However, as CFO, Sullivan realized that BSH was also a business that needed adequate earnings. One of the hospital's highest volume services was labor and delivery, but the viability of the department was in danger because of looming political changes on the near horizon that had the potential to greatly impact profits for this department.

The hospital's board asked Sullivan to compile his recommendations to navigate the coming years; the board would struggle with the balance between the hospital's bottom line and its mission. Sullivan knew that as a rural hospital, BSH's management had always felt a larger responsibility to serve its community than to increase its earnings, but he also was aware that, "if there's no margin, there's no mission." He feared that the time would come that the hospital would have to leave a significant healthcare need of its community unmet. He contemplated ways to prevent this from happening. However, he also wondered whether it was inevitable, and if it was, he considered how he would convince the board to shut down labor and delivery.

Several financial pressures existed that discouraged rural, critical access hospitals nationwide from offering obstetrical services; accordingly, these hospitals were much less likely to do so. In a multi-state study, researchers found that the percentage of critical access hospitals offering obstetrics was nearly half that of other rural hospitals. In a particular study of one Midwestern state from 1990 to 2002, seven hospitals in

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rural towns with populations smaller than 10,000 residents discontinued their obstetrical services. In towns where these hospitals were located, the number of low-birth weight babies increased by 27 percent the year after the hospitals discontinued offering obstetrical services (**Exhibit 1**). This change was significant because low-birth weight babies were at increased risk for morbidity, mortality, increased hospitalizations, and overall lower long-term quality of life. When researchers asked why the hospitals had discontinued these services, the hospitals cited the declining percentage of family physicians who were willing to perform deliveries, rising malpractice insurance costs, an aging population, an increasing number of patients on Medicaid, and escalating costs associated with staffing and outfitting a fully functioning obstetrics department.[2] Similar trends were affecting the Southern United States, and only two of the twenty-seven critical access hospitals in Louisiana offered obstetrical services in 2012.

Hospital Revenues

Sullivan knew that one side of profitability was revenue, yet hospital revenues depended on the volume of services provided and how payment was received for those services. Unlike typical businesses that charged flat rates for specific products or services, hospitals received different payment amounts for the same services depending on which entities made the payments. Hospital payment was a complex topic, and payment services and rates varied within and among states. Despite these differences, certain aspects of payments were common to all hospitals. Hospitals received payment for healthcare services from one of the following entities: Medicaid, Medicare, private insurance, uninsured patients, or private pay patients.[3] For BSH's payments, see **Exhibit 2**.

Medicaid

Medicaid was a government program that received joint funding from state and Federal governments. Prior to the Affordable Care Act (ACA), this program mandated coverage for certain groups of low income Americans including pregnant women and children living in poverty. Under the Affordable Care Act, which was passed in 2010, Medicaid eligibility was supposed to be expanded to include more Americans starting in 2014—namely, all individuals younger than sixty-five who had a household income less than 133 percent of the poverty level. In 2011, Medicaid provided health insurance to 60 million low-income and disadvantaged Americans.[4]

Medicaid paid hospitals in one of three ways, depending on the type of service provided. In the first way, hospitals received diagnostic-related group (DRG) payments based on predetermined fees according to patients' diagnoses when they were admitted to the hospital. In the second way, hospitals received a set amount of dollars per day that a patient was in the hospital (per-diem payments only used for inpatient procedures). Finally, hospitals could receive a specific fee for service provided to patients (fee-for-service or FFS payments). Usually, Medicaid payments were much less than the costs the hospital incurred to provide the services.[5]

In Louisiana, Medicaid had two special designations to help the profitability of hospitals that served a large number of Medicaid patients. The first was a rural hospital designation that the Louisiana Rural Hospital Preservation Act had established in 1997.[6] The act stipulated that Medicaid would reimburse 110 percent of costs for outpatient procedures and pay a per diem rate for inpatient procedures. Second, for

any cost that hospitals incurred on inpatient procedures that exceeded the per diem rates, hospitals would receive a disproportionate share payment (DSH payment) from the federal government to cover the uncompensated costs. These designations were necessary because rural areas usually had a relatively large population of sick, elderly, and low-income citizens who often needed procedures that exceeded the Medicaid per diem rate. BSH was eligible for both of these programs.

Because of policy changes stemming from the ACA, the government eliminated DSH payments for the 2012 fiscal year and thereafter. The Federal government's initial reason for eliminating the DSH payment was to fund the expansion of Medicaid, which increased the number of insured people, thereby decreasing hospitals' dependency on DSH payments.[7] The Federal government attempted to force states to expand Medicaid by threatening to withhold all Federal support for Medicaid if the state did not comply; however, in the case of National Federation of Independent Business versus Sebelius in July 2012, the Supreme Court ruled that this ultimatum was unconstitutional coercion because states could not survive a budget decrease of such magnitude. Therefore, while the expansion was still mandatory, the Federal government could not enforce it, and several states, including Louisiana, opted not to expand Medicaid coverage.[8] Despite the Supreme Court ruling, the cuts to DSH payments were still in full effect. These changes had the potential to result in a larger number of uninsured patients, lower Medicaid reimbursement rates, with no DSH payment to make up the difference.

Medicare

Medicare, a social insurance program, received funding solely from the Federal government; the program insured 48 million citizens in 2011.[9] Medicare's focus was to ensure that the elderly (sixty-five years of age and older) and the disabled received medical care. Medicare typically reimbursed hospitals a flat fee per patient based on the patients diagnoses upon admission (DRG payments). For example, hospitals received the same payment for all patients admitted to receive a hip replacement with no expected complications regardless of the costs each individual case incurred. Historically, hospitals fought to keep this rate about equal to the average cost of each procedure, but Medicare reimbursement was usually below hospitals' costs.[10]

As part of the Balanced Budget Act of 1997, Medicare created the Critical Access Hospital (CAH) designation to improve the financial health of rural hospitals because they serviced large populations of elderly patients.[11] The act stated that if a hospital acquired CAH status, Medicare would reimburse the hospital at a rate of 101 percent of allowable costs. To be eligible for CAH status, a hospital had to be a current participant in the Medicare program; be a rural hospital; have a staffed emergency room 24-hours a day, 7-days a week; have no more than twenty-five beds; maintain an average annual length of stay of ninety-six hours for acute, inpatient care; and be at least thirty-five miles from another hospital.[12] Historically, conversion to CAH had positively correlated with a hospital's financial performance.

Private Insurance

Each private insurance firm negotiated its own specific terms with individual hospitals to determine what rates the insurance company would pay. When hospitals provided services to a patient with private health insurance, the patient paid a predetermined deductible and the insurance company paid the remaining balance. Private insurance

paid a much higher proportion of hospital bills than Medicaid or Medicare, but did not pay rates as high as the uninsured/self-pay patients because the size of private insurance companies gave them bargaining power.

Uninsured and Self-Pay Patients

Hospitals billed patients without insurance the full market rate of services rendered, including a premium to cover services the hospital provided to others who had Medicaid or simply failed to pay. Many uninsured patients paid their bill in full; however, a subset of uninsured patients could not afford insurance and had the least ability to pay. When uninsured patients failed to pay, it was written off as bad debt by the hospital and referred to as uncompensated care.

Managing the Payer Mix

The percentage of a hospital's patients who fell within each category was its payer mix; usually rural hospitals had payer mixes that were largely made up of Medicaid and Medicare patients. Specifically, 55 percent of BSH's gross revenue currently came from either Medicare or Medicaid. Sullivan knew he had to take this factor into account when recommending which services to provide because he knew that different services attracted different payer mixes. Even if a service was in high demand, a payer mix heavily weighted with inpatient Medicaid patients would result in extremely thin margins. However, if BSH's payer mix was not representative of its community, this disparity would be an indicator that BSH was not meeting the community's needs. Sullivan had to find a way to protect the hospital's margins while maintaining BSH's Medicaid and Medicare payer mix.

Company Background

BSH's Founding and Growth

Prior to the opening of BSH, a clinic and health unit served the community. In 1950, the local government established BSH as a political subdivision and as a "component unit of the [parish] Police Jury." Because it was an extension of the parish government, it was tax-exempt. Government officials intended the hospital to be the sole hospital for the town of less than 10,000 residents. BSH had the same purpose as the clinic and the Health Unit—to offer whatever services the community needed the most. The site for the hospital was on donated land, and BSH opened its doors in June of 1953 with twenty-five patient beds and the potential to expand to double its capacity. The hospital was state-of-the-art for its time: BSH had some of the latest medical equipment and was one of the first hospitals to have year-round air conditioning. The hospital was more than sufficient to fulfill the basic healthcare needs of the community, including labor and delivery with eight nursery beds and an incubator for premature infants.[13]

On the day of BSH's dedication, 700 people showed up in support to hear about the new hospital, its staff, and its services. The exciting event ended with the dean of doctors, Dr. Horton, proclaiming the hospital's mission, which was inscribed above the doorway. It read, "For the Glory of the Creator and the relief of man's estate." BSH began serving the community's needs the day it opened its doors and doctors delivered the first baby at the hospital just three days after it had opened.[14]

BSH underwent two expansions in 1966 and 1985; however, in the late 1990s the hospital went through a five-year period in which it consistently operated with a negative net income before extraordinary items (revenues or expenses that were infrequent or atypical in nature). During this time, revenue BSH had derived from inpatient services exceeded the hospital's outpatient revenues by an average of about $2 million, and by as much as $4 million in 1999; further, inpatient revenue was the largest source of hospital revenue. At the start of the twenty-first century, BSH realized it needed to make a change. The hospital followed the trend of the healthcare field and shifted more attention to outpatient services. In fiscal year 2001, BSH's inpatient revenues exceed its outpatient revenues by only $500,000, and the hospital achieved a positive net income for the first time in years. This trend continued, and as outpatient revenues grew to exceed inpatient revenues by $2 million in 2003, net income grew, as well. By adapting to changing times, BSH successfully restructured its services to return to profitability.

Conversion to Critical Access Status

Although BSH's financial condition was improving in the early twenty-first century, net income was still relatively low at about $400,000 on $12 million in operating revenues in 2003, primarily because of low Medicare reimbursement rates. That year, BSH's payer mix was as follows: 51.9 percent Medicare, 23.0 percent Medicaid, 18.0 percent commercial insurance, and 7.1 percent private pay.[15] At the time, BSH qualified for rural hospital status, so it received 110 percent of costs for Medicaid procedures, but they received Medicare payments based on DRGs. Because rural communities were often underserved by primary care physicians, these populations had higher rates of illness and their health conditions had progressed by the time these patients sought hospitalization. Therefore, the hospital's cost to treat these patients frequently exceeded the flat rate Medicare paid, which resulted in net losses on Medicare services.

BSH's relatively high percentage of Medicaid patients was beneficial to its bottom line, but the hospital wanted to improve reimbursement rates for the half of its patients who were on Medicare. BSH saw an opportunity to achieve this goal by becoming a Critical Access Hospital (CAH). In 2003, BSH had met most of the requirements for CAH eligibility, but it had sixty beds at the time and could have no more than twenty-five beds to qualify as a CAH. The hospital had to decide if the increase in reimbursement would offset the decrease in patient volume. BSH's board decided that converting to CAH status would positively impact its earnings and allow it to continue to serve its community adequately. Accordingly, BSH made the change to CAH status at the end of its fiscal year 2003.[16]

As expected, BSH's gross patient revenue decreased in fiscal year 2004 by over $600,000; however, benefits from BSH's CAH status allowed the hospital to recognize a $500,000 increase in net patient revenue. The hospital's net income nearly doubled in 2004, and the trend continued in 2005 when BSH enjoyed a $600,000 increase in net patient revenue and an 18 percent increase in net income, bringing total net income to $933,000.

For several years, BSH benefitted from cost-based reimbursement for both Medicaid and Medicare procedures; however, in 2006 Medicaid began to reimburse BSH's inpatient services on a per diem rate, complicating the situation once again.[17] BSH would lose money if the costs it incurred within a single day exceeded the Medicaid

per diem rate. Luckily, the state offset the hospital's costs that Medicaid did not cover, or its uncompensated care, with a disproportionate share (DSH) payment. The Medicaid reimbursement changes erased the margins of several of BSH's services, including labor and delivery, but the DSH payments made up for Medicaid's substantial underpayment and allowed BSH to continue to provide service to the uninsured and low-income population of its community.

As a result of its tax-exemption status, cost-based reimbursements, and DSH payments, the hospital's financial performance continued to improve and BSH posted a $3.6 million net profit in fiscal year 2006. The hospital moved forward in ways other than financial, as well. For example, on August 31, 2007, BSH closed the doors of its initial hospital building that dated from 1953 and moved into a new facility. The new hospital had twenty-two beds, including two labor and delivery suites.[18]

Since Sullivan: 2011–Present

Sullivan replaced the eight-year CFO of BSH, James Pfost, in April 2011. Sullivan, a CPA, had worked for ten years at a much larger, urban hospital. He had spent the last few years of his time there as CFO. Sullivan's previous hospital had approximately 2,000 employees, compared to the 160 employees of BSH. Sullivan's new position at BSH presented him with new challenges, however. Not only were the operations of the smaller hospital different from those of the large facility, but the operations of its finance department were different as well. To prepare for his new role, Sullivan had to familiarize himself with the unique reimbursement rules that applied to BSH as a tax exempt rural hospital and as a CAH that was largely dependent on DSH payments. His daily responsibilities were significantly different as well. Sullivan said, "As the CFO at an urban hospital, you're much more big picture. Here I'm more of a working CFO, and I have to do more of my own analytics. I don't have a reimbursement director or a decision support department."

Sullivan inherited the hospital in good financial condition and continued to improve it. In fiscal years 2010, 2011, and 2012, BSH posted net incomes of $1.3 million, $1.2 million, and $1.1 million, respectively. Each of these years, the hospital received between $1.6–2.6 million as DSH payments (**Exhibit 3**). Furthermore, it still enjoyed the cost reimbursement benefits of CAH status.

One of Sullivan's main goals was to improve efficiency throughout the hospital, and he started by challenging his staff to change their ways of thinking. He said, "When I started here the staff would walk up to me and hand me some information. I'd ask, 'What is this for?' and no one could tell me. I'm trying to get my staff to not only ask 'What?' but also 'Why?'" Sullivan's efforts began to pay off quickly. His staff was thinking more critically, and because they were working with the numbers directly and fully understood the meaning behind them, the staff began to identify causes of problems and offer potential solutions.

In 2012, the hospital as a whole improved in both efficiency and quality, and employee morale was high. The hospital won numerous awards for accomplishments such as excellence in patient care and pain control, innovation, improved cleanliness, and communication. The hospital ranked in the ninety-ninth percentile for employee engagement, had 81 percent participation at staff meetings, and was voted in the top 100 best places to work by *Becker's Hospital Review* because of robust benefits, professional development opportunities, and a work environment that promoted employee collaboration and satisfaction. BSH was in the ninety-seventh percentile in

the treatment of acute myocardial infarction, congestive heart failure, and pneumonia. They were also in the ninety-seventh percentile for communication with doctors and ninety-first percentile for communication with nurses.

BSH and Its Community

BSH was integrally tied to its community in legal and social ways. BSH was established by an ordinance of the Police Jury of its parish as a subdivision of the local government "to operate, control, and manage matters concerning the health care of citizens . . ." of the town. Therefore, the seven board members who governed the hospital were appointed by the parish council, the town's governing body; the parish's citizens elected the parish council. BSH was not only exempt from local taxes, but it also received income from its community in the form of an ad valorem tax that was charged to citizens in the form of additional millage[19] on their property taxes; this tax accounted for approximately $2 million annually—about 10 percent of BSH's revenues. The millage was voted on periodically; it had recently been upheld with an 86 percent citizen approval rating. The hospital could not enforce more than the maximum millage approved by citizens, thirteen mills, but it could choose to enforce less if it generated a surplus. BSH in turn provided the community with things such as "charity care" (care for the needy) for which the hospital did not seek compensation. This varied but could account for up to 1 percent of total expenses. It also held health fairs at which it offered free prostate and thyroid exams and cholesterol, blood glucose, and blood pressure screenings. Staff offered handouts to educate the public about all of the services BSH offered at its hospital and in its four community clinics.

The interdependent nature of the hospital's relationship with its community was displayed after a recent attempt by BSH to renegotiate the contracts of two of its physicians. The community perceived this notion as a means to fire the physicians, and many of them attended public meetings of the hospital board and the parish council to express their discontent. Community members demanded explanations for the renegotiations and requested that BSH produce a plan to replace the revenues the hospital would lose with their departure. The dispute escalated and resulted in requests by community members that the parish council remove members of BSH's Board of Commissioners for grave misconduct; a discussion towards this end was put on the parish council's agenda by one of its members but was never held. Several community members called for the removal of the hospital's CEO. She did ultimately retire just six months after assuming the position.

Despite this incident, the community's view of BSH was still positive. BSH's overall patient satisfaction was in the ninety-seventh percentile, and it was above the ninetieth percentile on the Hospital Consumer Assessment of Healthcare Providers and Systems, a standardized survey of patients' opinion of the quality of hospital care.[20]

When choosing which services to offer, the hospital had to consider the community's needs. A recent example was the hiring of a fulltime orthopedic surgeon. The new orthopedic department met a huge need in the aging community, and as a result, its patient volume was booming. Sullivan tried to consider his town's demographics (see **Exhibit 4**) and income by age cohort (see **Exhibit 5**) when making decisions like these.

Industry Trends

Although Sullivan knew what had worked for BSH in the past, the healthcare industry was constantly changing and several trends could help him better predict what would work in the future. Changing industry structure was largely due to rising costs and consisted of several micro trends that included an increase in acquisitions and mergers, an increase in hospital outpatient procedures, an increase in stand-alone outpatient practices, and the rise of "accountable care organizations." Acquisitions and mergers had become necessary for hospitals to gain economies of scale and lower costs. Similarly, outpatient procedures had become quicker and required no hospital stay, which also lowered costs. Accountable care organizations, which were networks of doctors, hospitals, clinics, and other healthcare providers that worked in a coordinated fashion to provide healthcare to the Medicare population, had formed to improve efficiency. In addition, because the federal government had mandated that hospitals use electronic health records (EHRs) beginning in 2011, hospitals and doctors' offices would be able to share patient files seamlessly. This new system could increase the trend of collaboration among nearby hospitals to care for specific populations and allowed collaborators to attain greater economies of scale while increasing their efficiencies. BSH was in the process of implementing an EHR and expected to receive approximately $300,000 in federal grant money as a result.

In addition to these trends, Sullivan knew that other trends were emerging solely among CAHs. The most prominent trend was that many CAHs were discontinuing labor and delivery services. In fact, a 2010 survey reported that an increase in obstetrical beds in a CAH negatively impacted its financial performance.[21] Consequently, the number of CAHs nationally that offered labor and delivery services had dropped to below 40 percent.

Observing hospitals as they transitioned to CAHs was even more indicative of a cause-and-effect relationship. The percentage of hospitals that had offered labor and delivery services two years prior to converting to CAH was 64 percent, which decreased to 54 percent by four years post-CAH conversion (see **Exhibit 6**).

The specific cause for this trend was debatable because CAHs faced multiple obstacles when trying to maintain labor and delivery departments. First, these departments had notoriously high malpractice insurance rates, which could require a $100,000+ premium to cover a doctor that delivered 200 babies. Any lawsuits would bring additional cost (**Exhibit 7**). Also, the department required a certain number of specialized staff 24-hours per day regardless of whether they were delivering babies. As a result, labor and delivery departments had large fixed expense, which would cause problems unless the hospital could achieve economies of scale, which was difficult in rural areas. Lastly, the CAH Medicare cost-reimbursement umbrella did not cover labor and delivery patients, which incentivized CAHs to concentrate their limited resources on services that the umbrella did cover.

Only two of twenty-seven CAHs in Louisiana still offered labor and delivery services. Despite the decline in the number of hospitals that were offering obstetrical services, the number of nursery days among all CAHs nationwide had remained unchanged.[22] While this trend may not have held true in the South, where labor and delivery closures were more prominent, it suggested that those CAHs that were still offering labor and delivery saw a 20 percent increase in births, on average, allowing them to achieve the necessary economies of scale. Many of the CAHs that had

discontinued obstetrics used the freed up resources from obstetrics to provide more outpatient procedures.

BSH's Situation

Sullivan faced the task of assessing the financial stability of BSH and making a recommendation to the board of the hospital, which consisted of local physicians and community members, on the best way to navigate the changing political landscape. Sullivan knew that the overwhelming majority of BSH's peers had chosen to discontinue labor and delivery services, and he had to look into his own organization to see if BSH should, or could, continue to be the outlier. Under the current market conditions and reimbursement rates, BSH had successfully achieved what many CAHs could not—it had continued to offer obstetrics while remaining profitable. This profitability was largely due to local tax revenue and its ability to utilize economies of scale, with BSH on track to deliver about 100 infants in 2012 alone. This volume was only possible because BSH hired a full-time OB/GYN doctor in October of 2010 when it saw that expectant mothers were increasingly bypassing rural hospitals in favor of large hospitals for their deliveries. Having a fulltime OB/GYN on staff stopped BSH's declining birthrates, and as a result, labor and delivery remained the hospital's largest DRG.

Sullivan knew that if the economic and political environments had remained unchanged from 2010, BSH would not now be considering the possibility of closing the labor and delivery department, but soon after he had taken the reins as CFO, uncertainty began to engulf the healthcare field in the wake of national healthcare reform. Because the Affordable Care Act cut DSH payments and Louisiana subsequently had refused to expand Medicaid, reimbursement rates were in danger once again. These payments had represented a $2 million boost to BSH's net income, which in 2011, was only $1.2 million (**Exhibit 8**). Luckily, a $2.5 million Rural Upper Payment Limit stipend from the state was expected to offset the loss in 2013. All Sullivan knew about the UPL payments was that they were instituted by the Louisiana State Government to reconcile the loss of the DSH payments, and they were intended to support rural hospitals that served poor communities. However, DSH's permanence was questionable, and Sullivan doubted that he could count on it indefinitely. At the hospital's 2011 level of Medicaid inpatient uncompensated care, this cut would subtract $2 million from BSH's bottom line, leaving it with nearly a $1 million deficit.[23]

Labor and delivery represented BSH's largest inpatient revenue stream, and 90 percent of those patients were Medicaid participants. Sullivan had the feeling that too much of the hospital's risk was concentrated in a department that could lose profitability based on what seemed to be inevitable change in a dynamic government policy. Sullivan provided the following perspective on the issue:

> Without the DSH payment, the hospital loses money on each delivery, and with the DSH payment the hospital barely breaks even . . . Labor and delivery is our largest DRG, and 80–90 percent of our deliveries are for Medicaid patients that we aren't even reimbursed enough to cover our costs. If the DSH payment gets cut, and nothing replaces it, we will be in trouble.

Despite much uncertainty, Sullivan's ideal goal was to keep the labor and delivery department viable and profitable for the long term. He said:

> Shutting the labor and delivery department would not only have huge effects on the hospital, the doctors, and the nurses, but it would also affect the community. Those employees would no longer be contributing to the economy of the town. Mothers would have to drive somewhere else for OB services, and would probably find pediatricians in the cities where they delivered. Also, labor and delivery is the number one DRG of our hospital. I would have to find another service to takes its place just to continue covering my fixed costs. As a rural hospital, you have to service the needs of the community as long as you can afford to. Now, if we can't cover our costs, then we have to make a decision.

Sullivan worried about exactly that issue—the possibility that BSH would eventually be unable to afford to offer labor and delivery services—but he had several ideas to increase efficiencies and reduce the hospital's dependency on DSH payments (see **Exhibit 9**). If he could accomplish that goal, then BSH might remain profitable, despite cuts in reimbursement. One possibility was in the emergency department. Because the ER staff had failed to collect all required information from patients on several occasions, Medicare had refused to reimburse BSH for services it had provided.

To ensure the hospital received all fees, Sullivan trained the ER staff to gather the necessary information and changed how the ER operated so that staff obtained all information immediately after they had completed the initial patient assessment, but before they provided any further treatment to the patient. Through other refinements similar to this one, Sullivan set a goal to increase reimbursements by one percent of gross revenue (before contractual adjustments of approximately 44 percent) in the fiscal year 2013, which equated to about $400,000. He also planned to improve other collection processes to decrease uncompensated care from individual payers by making patients pay up front for non-emergency services. In this way, he believed he could lower the hospital's bad debt expense[24] that was currently eight to nine percent of gross revenue, compared to five percent for other CAHs in BSH's area. For every percentage point he could lower BSH's bad debt expense, the hospital's bottom line would increase another $400,000. However, despite these goals, BSH could only become so efficient, and Sullivan wondered if these improvements would be enough to replace the DSH payment.

Sullivan knew that no other department could fulfill the need that the labor and delivery department met in the community, but he wondered if another department might be able to replace its revenue. The most viable option seemed to be orthopedics. In October of 2011, BSH had hired a full-time orthopedic surgeon, and the department was growing quickly. Orthopedics was a highly needed service in the area, and, compared to the labor and delivery department, the orthopedic department served a much larger number of Medicare patients. This distinct Medicare patient group benefitted the hospital in two ways: it better positioned the hospital to meet the needs of the aging population in the community, and a large portion of this patient group fell under the umbrella of CAH, cost-based reimbursements. One option for expansion was to staff a second operating room and expand BSH's orthopedic practice from one day a week to five.

BSH's orthopedic department was far less dependent upon Medicaid patients than its labor and delivery department. Nevertheless, Sullivan knew that he could continue to service Medicaid patients for outpatient procedures through its orthopedic department because Medicaid reimbursed BSH 110 percent of costs for Medicaid outpatient surgeries. In this way, BSH would get cost based reimbursement for almost all orthopedic procedures it performed. Sullivan knew that the hospital and community would

still miss the labor and delivery department, but if he could not cover his costs he had no other choice.

BSH had a number of other avenues of potential expansion. Several hospital executives had noticed a need for an otolaryngologist, a gastroenterologist, and a pediatric specialist. Further, the hospital was about to begin construction on a new office building that would have enough capacity to house four new physicians. All of these options required relatively little fixed costs by utilizing the operating rooms and office space already available and would provide needed services at attractive reimbursement rates.

Unlike not-for-profit hospitals that had to conduct community needs assessments and incorporate their findings to maintain their tax-exempt statuses, BSH had no obligation to follow that same rule because the hospital had achieved tax-exempt status as a political subdivision. Sullivan knew that a labor and delivery department at a larger hospital that was a 40-minute drive away could offer quality care to BSH's expectant mother community. It had a greater capacity, with 165 beds, and delivered more than 400 infants annually. However, the most needy citizens might not have transportation to neighboring towns because neither taxi service nor a bus system was available. Further, seeking care at the larger hospital would not be as convenient for expectant mothers, which could result in decreased compliance with prenatal care appointments. One viable option in relinquishing labor and delivery services could be to establish a cooperative relationship with this nearby hospital and coordinate obstetrical care in some fashion. If BSH provided prenatal care, shared information fluently with the nearby hospital, and sent its patients there to deliver, it could potentially provide uncompromised care to its community while still offering more profitable services.

Discontinuing labor and delivery services could free up physician salaries and resources that BSH could use to expand into the more appealing and much needed services that did not require fully staffed departments or that would expand departments that were already staffed thereby spreading fixed costs over a larger volume. In addition to labor and delivery, the hospital's existing services included the following: inpatient and outpatient surgery (including general, orthopedic, and colonoscopy screening), emergency department, laboratory, intensive care unit, outpatient and inpatient therapy (physical, occupational, and speech therapy), nutritional services, respiratory therapy, cardiovascular rehabilitation, radiology services, breast cancer screenings/mammograms, and wound management services.

In addition to reimbursement for services and the DSH payment, BSH had a third income stream that could offset the loss—local property tax. Although citizens seemed to be comfortable with the current tax rate, using the tax to replace the DSH payment would necessitate doubling it, and any increase in millage would have to be approved by the parish council and voted on by citizens. This would result in an increase of $130 per household per $100,000 of home value. While this would lead to some wealth redistribution within the community—allowing citizens with more expensive homes to pay for the uncompensated care of the more needy—it still put the financial burden on the relatively poor community, as opposed to receiving funding from the federal or state government. Further, if the hospital operated at a surplus, it could, and had in recent years, decrease the millage rate it levied on citizens.

BSH's Decision

Sullivan had just completed the budget for fiscal year 2013[25] and announced higher than expected profits for the fourth quarter of 2012 and the year, but he was unsure about the hospital's future. The projected budget predicted $518,357 in net income for the coming fiscal year with just over $18 million in net revenue and almost $23 million in operating expenses. To offset its typical deficit, BSH was set to receive $2 million in tax revenue and $2.5 million in UPL payments, which was intended to replace the DSH payment. Sullivan hoped that the state realized the importance of its rural hospitals and continued the UPL payments, but with the state's current budget deficit that led to funding cuts to state colleges and hospitals and with the state's plan to build a $1 billion medical center in New Orleans, nothing was certain.

Sullivan knew that the board of the hospital would not want to deviate from BSH's mission, and, after only eighteen months as CFO, he wondered how receptive they would be to his ideas. But, he also knew that without adequate earnings, the hospital would be unable to continue to operate, and all the needs of the town would go unmet. He wondered if the hospital had chosen the right path thus far by doing the opposite of what the overwhelming majority of its peers had done, and, if so, whether its current path would continue to be the correct one. In a time when government cuts threatened Medicaid inpatient reimbursements, Sullivan believed he would be imprudent if he failed to take action to protect BSH by further shifting its revenues to more stable reimbursements such as CAH and rural hospital cost-based reimbursements.

BSH had survived sixty years while sticking to its mission. Although, Sullivan knew the history of the hospital well, BSH was entering into a business and political environment that was new and drastically different than that of the past. Sullivan wondered, "Will staying the course lead to continuously smaller margins and missed opportunities? Or, will the hospital continue to meet the needs of its community, surpass its expectations, and thrive?"

Exhibit 1: Changes in Number and Rate of Low Birth Weight Births from Year before Obstetrical Service Closure to Year after Closure

	Year Before		Year After			
	Number	Rate	Number	Rate	Change in Number of LBW Births	Percent Change in Rate of LBW
Town 1	7	4.4%	8	5.2%	1	15.4%
Town 2	15	4.1%	20	6.0%	5	31.6%
Town 3	17	7.5%	19	9.0%	2	17.6%
Town 4	49	6.1%	68	8.0%	19	23.8%
Town 5	53	7.1%	55	7.4%	2	4.1%
Town 6	92	5.9%	116	7.4%	24	20.3%
Town 7	8	7.1%	11	8.5%	3	16.5%
Cumulative data	241	5.4%	297	7.4%	56	27.0%

Source: Sontheimer, 2008.

Exhibit 2: BSH's profit margin by insurer

	2011	2012	Average
Percentage of accounts receivable			
Medicare (%)	22	22	
Medicaid (%)	13	18	
Other (%)	65	60	
Value of corresponding operating expenses			
Medicare ($)	4,536,407	4,927,390	4,731,900
Medicaid ($)	2,680,604	4,031,501	3,356,050
Other ($)	13,403,020	13,438,336	13,420,700
Percentage of net service revenue			
Medicare (%)	28.3	27.6	
Medicaid (%)	7.9	5.5	
Other (%)	63.7	66.8	
Value of net service revenue			
Medicare ($)	6,006,717	6,619,494	6,313,066
Medicaid ($)	1,681,549	1,329,431	1,505,490
Other ($)	13,506,586	16,008,533	14,757,560
Doubtful Accounts			
Medicare ($)	829,685	942,876	
Medicaid ($)	232,266	189,363	
Other ($)	1,865,613	2,280,245	
Total ($)	2,927,565	3,412,485	
Net service revenue minus doubtful accounts			
Medicare ($)	5,177,032	5,676,618	5,426,825
Medicaid ($)	1,449,283	1,140,068	1,294,675
Other ($)	11,640,972	13,728,288	12,684,630
Profit Margin			
Medicare	1.14	1.15	1.15
Medicaid	0.54	0.28	0.41
Other	0.87	1.02	0.95

Source: BSH's 2012 financial statements

Exhibit 3: Net income, Ad valorem tax income, and DSH payments, 2009–20012

	2009	2010	2011	2012
Net Income ($)	279,383	1,293,792	1,216,921	1,061,047
Income from ad valorem taxes ($)	2,562,262	2,249,772	2,210,461	2,358,843
Income from DSH payments ($)	1,734,954	2,622,163	1,646,240	1,991,531

Source: BSH's financial statements

Exhibit 4: Bayou Side Hospital's Town Demographics

Year	2000	2010
Population	8,354	7,660
Female (%)	55	54
Under 5 years of age (%)	7.8	7.1
15–45 years of age (%)	40	36
Over 55 years of age (%)	22.5	27.1
Median age (years)	35.2	38.6

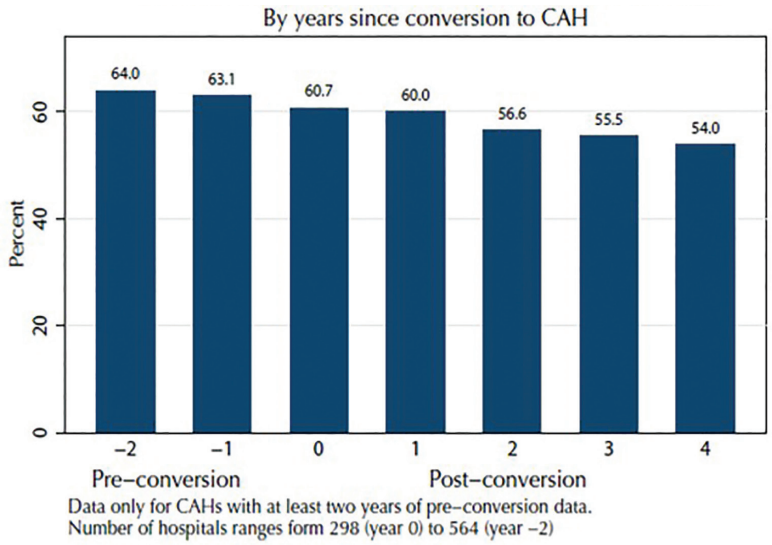
Source: U.S. Census Bureau

Exhibit 5: Bayou Side Hospital's Town Median Household Income by Age

	BSH's town	Louisiana	U.S.
Under 25 years	$8,824	$16,905	$22,679
25–34 years	$22,031	$33,155	$41,414
55–64 years	$35,250	$35,724	$47,447
All ages	$24,844	$32,566	$41,994

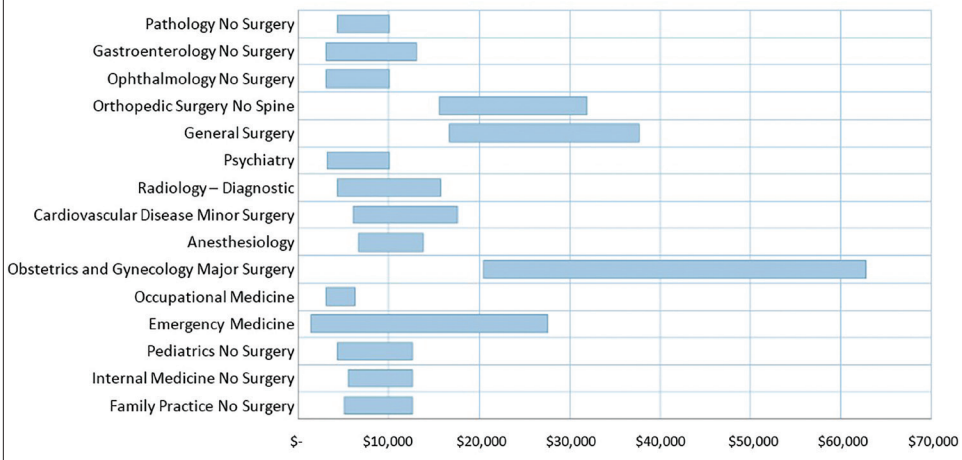
Source: U.S. Census Bureau: 2000.

Exhibit 6: Percent of CAHs with at Least One Nursery Day



Source: Flex Monitoring Program Policy Brief #18.

Exhibit 7: Louisiana Malpractice Insurance Rates by Specialty



Source: Arthur J. Gallagher & Co. (http://www.gallaghermalpractice.com/state-resources/louisiana-medical-malpractice-insurance/).

Exhibit 8: BSH Income Comparison—2011/2012[26]

	2012	2011
Operating Revenues		
Net Patient Service Revenue before Provision for Doubtful Accounts	$23,957,458	$21,194,852
Provision for Doubtful Accounts	(3,412,485)	(2,927,565)
Net Patient Service Revenues less Provision for Doubtful Accounts	20,544,973	18,267,287
Ad Valorem Taxes	2,358,843	2,210,461
Other Operating Revenue	341,461	348,515
Total Operating Revnue	23,245,277	20,826,263
Operating Expenses		
Professional Services	12,579,725	11,078,993
General and Administrative	8,043,718	7,803,781
Depreciation and Amortization	1,773,783	1,737,257
Total Operating Expenses	22,397,226	20,620,031
Net Income from Operations	848,051	206,232
Non-Operating Revenues (Expenses)		
Grant Revenue	613,572	1,490,896
Interest Income	8,746	8,459
Interest Expense	(410,355)	(492,906)
Other Non-Operating Revenue	1,033	4,240
Total Non-Operating Revenues (Expenses)	212,996	1,010,689
Change in Net Position	1,061,047	1,216,921
Total Net Position, Beginning	16,164, 821	14, 947, 900
Total Net Position, Ending	$17,225,868	$16,164,821

Source: BSH's financial statements

Exhibit 9: Probability of Future Cash Flows

	Best Case ($)	Probability (%)	Intermediate ($)	Probability (%)	Worst Case ($)	Probability (%)
Emergency department registration changes	400,000	15	200,000	50	0	35
Decreased bad debt	1,600,000	10	800,000	35	0	55
Future UPL payments	2,500,000	50			0	50

Source: BSH's financial statements

Notes

1. Although the case is based on a real situation, the names of the hospital and its CFO have been changed to maintain confidentiality and anonymity. "Bayou Side Hospital" and "Thomas Sullivan" are pseudonyms.
2. Sontheimer, Dan, et al. "Impact of Discontinued Obstetrical Services in Rural Missouri: 1990–2002." *The Journal of Rural Health,* 24.1 (2008): 96–8.
3. Reinhardt, Uwe. "How Do Hospitals Get Paid? A Primer." 2009. http://economix.blogs.nytimes.com/2009/01/23/how-do-hospitals-get-paid-a-primer/.
4. Medicaid.gov. "Medicaid Eligibility." http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Eligibility/Eligibility.html.
5. Reinhardt, op. cit.
6. Louisiana Legislature. Louisiana Rural Hospital Preservation Act. 1997.
7. National Association of Public Hospitals and Health Systems. "DSH Payment Status Update." http://www.naph.org/Homepage-Sections/Advocate/Disproportionate-Share-Hospital-(DSH)-Payments/DSH-Payments-Legislative-Status.aspx.
8. Barrow, Bill. "Jindal Administration Announces Steep Medicaid Cuts; LSU Hospitals Hit Hard." The *Times-Picayune*. July 13, 2012.
9. Centers for Medicare & Medicaid Services. "Critical Access Hospital." 2012. http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/CritAccessHospfctsht.pdf.
10. Reinhardt, op. cit.
11. Louisiana Legislature, op. cit.
12. Centers for Medicare & Medicaid Services, op. cit.
13. "Hospital Featuring Latest Equipment." The *Bayou Side Tribune*, June 4, 1953.
14. "Bayou Side Hospital Dedication." The *Bayou Side Tribune*, June 2, 1953.
15. Hospital Service District no. 1. Bayou Side Hospital, 2010.
16. Ibid.
17. Ibid.
18. McConnell, Barbara. "[Bayou Side Hospital] Ready Now for the Future." 2008. http://www.louisianamedicalnews.com/[Bayou-Side-hospital]-ready-now-and-for-the-future-cms-1065.
19. In an ad valorem tax structure, the millage rate is multiplied by the assessed value of a property to determine the property taxes owed. In BSH's parish, if fair market value of a home was $100,000, the assessed value would be 1/10 of that—$10,000. 13 mills (13/1,000 or .013) multiplied by $10,000 would result in this household owing $130 in additional property taxes annually.
20. Centers for Medicare & Medicaid Services, Baltimore, MD. http://www.hcahpsonline.org. Accessed 6 September 2016.
21. Holmes, Mark, Saleema Karin, and George Pink. "Changes in Obstetrical Services among Critical Access Hospitals." Policy Brief #18 Vol. Flex Monitoring Program, 2011.
22. Ibid.

23. Ibid.
24. Bad debt expense refers to the amount of uncollectible charges in a given period.
25. BSH's fiscal year spanned from October 1st to September 30th.
26. Ibid.

References

American College of Obstetricians and Gynecologists. "Health Disparities for Rural Women (Committee Opinion no. 429)." 113.2 (2009): 256.

BKD, LLP. *Critical Access Hospital Medicare Legislative & Regulatory Update*. 2010.

Carlson, Peter, and Ellen Russ. *Health Care Industry Trends*. National Center On Education and the Economy, 2006.

"MedicareProgram—General Information."http://www.cms.gov/Medicare/Medicare-General-Information/MedicareGenInfo/index.html.

Dalton, Kathleen, et al. "Choosing to Convert to Critical Access Hospital Status." *Health Care Financing Review,* 25.1 (2003): 115–32.

"Health Unit Provides Comprehensive Service to Residents of the Parish." *The Banner Tribune*: 6. May 26, 1953.

Hearns, G., Klein, M. C., Trousdale, W., Ulrich, C., Butcher, D., Miewald, C., and Procyk, A. (2010). "Development of a support tool for complex decision making in the provision of rural maternity care." *Healthcare Policy*, 5(3), 82–99.

Khan, Arshia A. "A Correlational Analysis: Electronic Health Records (EHR) and Quality of Care in Critical Access Hospitals." PhD Capella University, 2012. United States: Minnesota.

Lambrew, Jeanne, and Thomas Ricketts. "Patterns of Obstetrical Care in Single-Hospital, Rural Communities." *Medical Care,* 31.9 (1993).

Peiyin Hung, M. S. P. H., Maeve McClellan, B. S., Casey, M., and Shailendra Prasad, M. B. B. S. (2013). "Obstetric Services and Quality among Critical Access, Rural, and Urban Hospitals in Nine States."

Siegel, Bruce. "Safety Net Hospitals Urge Congress to Reconsider Medicaid DSH Cuts." National Association of Public Hospitals and Health Systems, 2012.

Simpson, Kathleen, Rice. "An Overview of Distribution of Births in United States Hospitals in 2008 with Implications for Small Volume Perinatal Units in Rural Hospitals." *JOGNN: Journal of Obstetric, Gynecologic & Neonatal Nursing,* 40.4 (2011): 432–9.

Sullivan interview 2012. Thomas Sullivan, chief financial officer of Bayou Side Hospital. Recorded interview with A. Coulon, September 28, 2012.

Xu, Xiao, et al. "Malpractice Burden, Rural Location, and Discontinuation of Obstetric Care: A Study of Obstetric Providers in Michigan." *The Journal of Rural Health,* 25.1 (2009): 33–42.