

San Vicente's Big Problems

a case study in lean healthcare transformation

In 2011, the San Vicente County Medical Center merely broke even, which is par for the course for many organizations in the healthcare industry. Then in 2012, San Vicente lost \$1,000,000. In 2013, the organization forecasts it will lose \$1,475,500. This is a worrisome trend. Obviously, the organization should increase its margin, either by increasing revenue (from public and private sources) or cutting cost, or both—but how? On top of this, the company has a number of “burning platforms,” i.e., pressing quality and safety problems that must be fixed right away, no matter what. A very expensive labeling error in the lab (or was it in the hospital?—the root-cause analysis is still in progress) and the persistence of retained objects in surgery recently caused CMS to raise the possibility of decertification.

Although a \$1,475,500 loss is not a disaster for a \$1 billion healthcare organization, San Vicente's Board of Directors has made it clear that it wants the organization's compass reset to “true North”. Thoughtful healthcare leaders are beginning to discuss the need to lower the unit cost of healthcare by as much as 30% in order to survive in the emerging world of healthcare reform, in which government and private payers will refuse to reimburse healthcare organizations for poor quality. The Board has tentatively suggested the dissolution of the organization's Kaizen Promotion Office, which—noted one Board member—spends enough money each year to put the organization in the black.

The Board has asked senior leadership to present a concrete strategic plan of improvement before the next Board meeting in mid-August. The CFO has forecasted improvements in throughput and revenue in all service lines except the hospital, based upon improvements in the value-added ratio and corresponding service production lead-time reductions in most service lines. In the hospital, the CFO expects that improvements in the value-added ratio will result in increased time at bedside, which has been shown to improve nurse-sensitive indicators and other measures of quality and patient safety.¹

As is the same for almost every major healthcare organization, a major opportunity lies in San Vicente's cost of poor quality (COPQ). San Vicente has a number of certified six-sigma master black belts who estimate that the cost of poor quality may be more than 30% or even 40% of revenue. Statistically speaking, San Vicente operations have improved beyond a quality level

¹ Similar improvements in the value-added ratio may not necessarily result in improved revenue because of inconsistencies and confusion in the reimbursement practices of CMS and other payers.

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of “2-sigma,” but are not yet at “3-sigma” (the magic number at which San Vicente can stop “fighting fires” and start thinking about prevention). While San Vicente leaders find it hard to imagine that they are losing even 10% of revenue to poor quality, they have nevertheless attempted to quantify a number of obvious defects for each service line. These defects and their financial consequences appear by service line on the CFO’s improvement planning schedule.

All of this is very important, because in 2010 San Vicente County launched its own health plan (health maintenance organization) and aims to offer a commercial health plan to employer groups in 2014. Enrollments in the plan have grown rapidly in the past two years. This is causing something of a crisis in the outpatient clinics, as new patients try to make their first appointments with their new primary care physicians. The establishment of the health plan reflects vast changes underway spurred by healthcare reform, particularly accountable care organizations that pair hospitals with physician networks and insurance products. Healthcare reform encourages doctors, hospitals and other care providers to work more closely together to manage the total health needs of patient populations, including the quality and cost of care.

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Burning platform: San Vicente Memorial Hospital.

San Vicente Memorial Hospital is a 400-bed facility and is recognized as an area leader in cancer care, cardiovascular services, maternity care and neuro-rehabilitation medicine. More than 1000 doctors have privileges (half are employed by San Vicente) at San Vicente Memorial Hospital and provide personalized care and treatment to residents of the county and nearby communities.

The hospital has many quality and safety problems, including (in 2013):

- The average LOS (length of stay) is 4.5 days.
- Fifteen ventilator-acquired pneumonia (VAP) cases @ \$40,000/case. (The number has grown at a rate of 5% over the past three years.)
- Twenty pressure ulcers @ \$40,000/case.
- Thirty falls @ \$6,000/incident. (The number has fallen by 1% over the past three years.)
- Thirty CHF readmissions @ \$7,000/case. (The number has been stable over the past three years.)

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Burning platform: San Vicente Emergency Department

San Vicente Memorial Emergency Department is open 24 hours a day, 365 days a year, to treat medical conditions that range from life-threatening or traumatic injuries to minor illnesses. The center experiences 50,000 to 60,000 visits per year. The ED has its share of problems:

- The average LOS is six hours. ED doctors complain that hospitalists and residents are very slow to consult about admissions to the hospital, and sick patients sometimes wait in ED hallways for up to eight hours.
- 360 ED diverts @ \$3,500 / case. (The number has grown by 4% over the past three years.)
- Naturally enough, most of the 30 “defective” readmissions enter the system through the emergency department. But while the emergency department is prepared to deal with minor cuts and bruises as well as severe trauma, it is not designed to deal with keeping people healthy in their own homes.

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Burning platform: Ocean View Ambulatory Clinics

Whether you need to see a doctor because of illness or to schedule annual checkups, routine eye exams or elective procedures, such as refractive surgery, joint injections, or phototherapy for psoriasis, the Ocean View Ambulatory Clinics can help. The Ocean View Clinics are very productive, experiencing 625,000 patient visits per year at an average reimbursement of \$200 per visit.²

The Clinics have issues of their own:

- The Clinic's major defect is a 15% no-show rate, resulting in lost revenue. (This number has been reduced from 25% over the past three years.)
- In addition, Ocean View has lost several of its younger physicians to a fierce competitor, K-Med, a private sector ACO. The compensation system in place requires most doctors to see twenty or more increasingly complicated patients per day, and often stay two or more hours at the end of the day in order to complete charting and other paperwork.³ Exit surveys reveal that growing physician dissatisfaction stems from the amount of paper work, long hours, and the rising number of aging, chronically ill patients who must be seen without the necessary nursing support. They feel increasing pressure to reduce staffing costs when they believe they actually need more. "No one seems to understand what's needed for us to take care of these patients," complained one doctor. Some physicians, mainly the more experienced ones, confess to a fear of the impending implementation of electronic medical records (EMR) and wonder if now is the time to retire. Studies show that physician productivity may drop as much as 25%, although this drop is expected to last only two months.

² San Vicente operates twelve clinics. One hundred fifty-six providers see an average of 21 patients per day, four days a week, 48 weeks a year.

³ This figure varies according to the physician's area of practice. Most specialists see approximately fifteen patients per day, while dermatologists see forty to fifty patients per day.

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Burning platform: San Vicente Surgical Services

San Vicente Surgical Services is committed to providing patients with high-quality surgical services in a comfortable, caring environment. Surgical Services runs fifteen operating rooms in which San Vicente general surgeons perform more than 7,000 inpatient surgeries each year. San Vicente's surgeons work closely with colleagues in other specialties and recognize that collaboration with referring doctors is an important aspect of patient care. The surgeons are convinced that San Vicente should open more operating rooms with more nurses and support staff to serve robust demand. (The marketing and finance departments have data to confirm the surgeons' intuition.)

Surgery's issues include:

- A small, disgruntled, but technically talented, group of surgeons is openly discussing the possibility of breaking away from San Vicente to open their own stand-alone surgical care unit. Among other things, they complain about the long time it takes to set up operating rooms between cases. "The KPO has demonstrated conclusively that we already have the capacity," says one of these young doctors, "if we will only focus on standardization, parallel operations, and other keys to reducing setup time."
- In 2012 San Vicente has experienced five retained objects @ \$250,000 /per case in associated costs. In 2013, San Vicente has already experienced four such incidences. And these were just the cases that San Vicente actually knows about. As mentioned previously, CMS has hinted that it might consider decertification unless San Vicente takes strong measures to ensure that this will never happen again.
- In 2011 surgery experienced 100 surgeries cancelled on the "day of," and in 2012, San Vicente experienced 110 cancellations. If things don't get better, San Vicente Surgical Services will experience 129 cancellations this year. Apparently, patients show up from the clinic with irregularities in their paperwork, incomplete labs, and sometimes without their H&Ps.

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Burning platform: San Vicente Lab and Radiology

San Vicente is known for its high-quality service and there are a growing number of healthcare institutions that would utilize San Vicente if it could keep up with demand. Thus, San Vicente Lab and Radiology has a market opportunity, assuming that they can improve throughput. Unfortunately, there is no money in the budget to expand either San Vicente's lab facilities or its workforce, so if San Vicente is going to go after the extra business, it will have to do so with existing facilities and staff.

Meanwhile,

- The service line is reeling from a specimen labeling error that cost San Vicente \$1,000,000 to settle with the affected patient and her family. A root-cause analysis is said to have been conducted, but the team has not been able to fix blame for the defect, although the search for scapegoats continues. It appears that there may have been an error made at bedside in the hospital, but the problem was probably complicated by additional errors in subsequent handoffs to and within the lab.
- There have also been a number of repeat MRIs—12 altogether—resulting, apparently, from unclear or mistakenly specified doctors' orders. Each incident costs the service line \$1,250 in lost revenue (\$2,500 billed, reimbursed at 50%) plus \$750 per MRI for contrast and the wages of the radiologist and lab tech.
- There are some confounding issues with multiple, highly specialized information systems, none of which communicate with each other. It's all very confusing.

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Burning platform: San Vicente Cancer Center

Every year, the San Vicente Cancer Center oversees approximately 3,500 outpatient and infusion visits, and directs more than 100 clinical trials at its main campus. Annual revenues are \$100,000,000. The center currently employs 50 doctors and 430 nurses and support staff. Nationally renowned for its expertise in blending research and clinical excellence to treat cancer, San Vicente is uniquely positioned to bring new therapies that prove beneficial and safe in the laboratory into clinical use. During the past decade, its patient volume has grown extensively, creating a need for a new facility. With the completion of the 10-story, 300,000-square-foot Mary Bird Center for Cancer Care targeted for early 2015, San Vicente is on track to upgrade its infrastructure and accommodate growing clinical volume. Current cost projections are based upon the architect's cost estimate of \$250 per square foot. The land for the new center was graciously donated in the will of a former patient.

San Vicente's KPO believes that with the appropriate application of the lean method known as "3P" (which stands for "production preparation process")⁴, capital outlays for the new center can be reduced by at least 10% to 20%, based upon expected square footage reductions. Meanwhile, improvements in building design may be complemented by improvements in process, including reductions in walking distances for both patients and clinicians. Finally, reductions in square footage and capital outlays, it is expected that 3P might reduce design and construction lead time by over 25%.

⁴ 3P is used when demand dictates increased capacity required or new product introduced or when there are process design or service delivery changes.

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Burning platform: San Vicente Home Health

San Vicente Home Health is technically part of the San Vicente County Health System, but operates—or tries to operate—in close cooperation with the San Vicente Emergency Department, where Home Health's clients seem to make frequent visits--*all too frequent*. In fact, the 30-day all-cause readmission rate at the medical center has increased from 12% in 2011 to over 20% in 2013. As the result of CMS's refusal to reimburse for readmissions within 30 days, the Medical Center stands to lose approximately \$7,000 per avoidable readmission. The Medical Center has calculated that it currently experiences 30 "defective" (by CMS standards) readmissions per month, resulting in an "opportunity cost" of \$210,000 per month! Meanwhile, the majority of patients readmitted are chronically ill clients of Home Health, many of whom are diabetic, some of whom have congestive heart failure (CHF), are mentally ill, homeless or all of the above.

Research indicates that if the Medical Center and Home Health (and perhaps other branches of the health system) can work together, the readmission rate could be cut to as low as 7%. St. Vicente believes that it can cut its readmissions in half within a year, assuming that clients receive proper discharge training, have access to their medications, receive a follow-up phone call or even a home visit after discharge from the medical center, and regularly see or at least consult a primary-care provider of one kind or another...

Home Health is willing to play an active role in the Medical Center's initiative to reduce avoidable readmissions, but is plagued by internal problems of its own. Home Health case managers complain that it is virtually impossible to make four assigned home visits per day without working unpaid overtime to return calls and complete all required paperwork. A healthy lunch is normally an impossibility, unless a venti latte and a bagel from Starbucks count as healthy. There has been grumbling about useless morning meetings and the distance between the Health System offices and the county parking garage. One case manager complains, "I have to waste time in line at the gas station every day because the tank is always empty. And I have to drag my equipment to and from the office to the parking garage." Turnover—especially among younger case managers—is already high and getting worse. And now St. Vicente is looking to Home Health to make follow up phone calls after discharge from the ED or the inpatient unit. Who has the time?

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Burning platform: Kaizen Promotion Office.

In the past three years, San Vicente has made a multimillion-dollar investment in creating a Kaizen Promotion Office (KPO). Overall, the kaizen or improvement organization now employs a total of 0.5% of San Vicente's 6,000-strong workforce *full time* in planning and conducting kaizen workshops and kaizen events (not including workshop participants). The Kaizen Promotion Office itself houses ten (10) FTEs. The additional 20 FTEs are housed with their respective service lines and supporting functions.

Incidentally, the entire investment in kaizen has been bought and paid for (with a positive ROI) by improvements to the company's revenue cycle, not to mention other, less well-measured and therefore less well-publicized improvements in healthcare and support operations.

The world of kaizen, however, is not necessarily a bed of roses:

- Last year the KPO experienced twelve projects that failed to deliver forecast benefits. The CFO figures that failed or late projects cost the company \$50,000 per project, based upon the assumption that one additional kaizen event will be needed to deliver on the forecast.⁵
- There are lingering issues concerning the integration of San Vicente six sigma and lean healthcare organizations within the Kaizen Promotion Office.⁶ Initially, six sigma and kaizen were two independent bureaucracies, the separate creations of two charismatic CEOs, and used to compete fiercely for the organization's resources. Ironically, perhaps, the Kaizen Promotion Office now finds itself tasked with supporting the Board of Directors' strategic planning mandate, which will utilize the method of hoshin kanri, which is common to both the "lean" and "six sigma" methodologies...

San Vicente's senior leaders strongly resist the Board's inclination to wind up the Kaizen Promotion Office. It's now time to leverage this investment to tackle San Vicente's considerable challenges.

⁵ \$50,000 is the rough cost of external consultants (plus expenses) and the cost of labor of San Vicente employees engaged in one additional kaizen workshop and subsequent follow-up activity.

⁶ San Vicente has "repurposed" its six sigma black belts and master black belts by putting them through its rigorous lean leader certification program.