Breaking Down Silos

BY PAMELA R. PROMAN, MBA, RTT; WILLIAM D. JAMES, MHA;
AND NANCY H. JOHNSON, MSM

Revenue cycle tiers increase efficiency and reduce waste

Silos in healthcare delivery are marked by a longstanding history of creating system waste, reducing quality of care, and resulting in poor utilization of resources.[1] The danger inherent to the silo mentality within corporate structure relates to the barriers surfacing around knowledge sharing of best practices and innovations for change. Though not always intentional, silo mentality in departments, groups, and subgroups within an organization presents as operating in isolation without system thinking. The silo impact pushes departmental changes onto other areas of the health system. The isolation often results in the following:

- *Workflow fragmentation.* Individuals and departmental teams function within workflows that naturally tend to follow their "ideal" practice. When people are operating in silos without consideration of system connectedness, multiple workflows of varying efficacy develop and processes can become confused, especially when responsibilities change and people are asked to incorporate new elements into their workflow or integrate processes across departmental and group boundaries.

- *Communication barriers.* Notably, silos promote misunderstandings, diminish collaboration, and increase system waste with respect to efficient utilization of resources.[1] If groups do not know (or understand) the job functions or responsibilities

> Although healthcare delivery systems are complex, sometimes seemingly insignificant changes and lack of standardization create a domino effect with respect to errors, misinformation, and quality within clinical and financial systems.

of other groups, achieving tasks and goals becomes far more difficult. Additionally, groups need to understand how they connect with the overall system in order to foster improvements in information sharing and integration of services.

- *Lack of intellect sharing.* With silos come the segmentation of expertise. For any given problem, someone in the organization may have the solution, but the problem may not be solved if the individual with the problem is unaware of who

to ask for help. Opening communication between departments and individuals fosters knowledge translation and best practice sharing, an elemental driver for organizational success.

Although healthcare delivery systems are complex, sometimes seemingly insignificant changes and lack of standardization create a domino effect with respect to errors, misinformation, and quality within clinical and financial systems. Simple data entry errors, such as incorrect patient demographic information, substantially impact a health system's revenue cycle and may corrupt a patient's electronic health record (EHR). Additionally, the lack of information sharing impacts the ability of the clinical teams to function effectively with timely patient care. For example, in some cancer programs, palliative care providers may not have access to the same information that is available to radiation oncologists or medical oncologists. This discrepancy results in the duplication of patient assessments, wasted time, and patient dissatisfaction.

Unnecessary bureaucracy and redundant workflow lead to *underutilization* of co-worker talent and limit opportunities for employees to work to full potential.

The leadership team of the Nancy N. and J. C. Lewis Cancer & Research Pavilion (LCRP) at St. Joseph's/Candler tackled the silo mentality, improving the integration of services from the free-standing cancer center into the healthcare delivery system. Following a thorough assessment of silos within the healthcare system, a critical area associated with clinical and financial metrics surfaced. Key performance indicators such as charge lag, month end close, patient registration, insurance identification and verification, and others were reviewed over the course of three weeks. Using LCRP's clinical EHR and billing data repository, LCRP's data analyst was able to translate leadership's inquiries into actionable areas for improvement, thus identifying the silos. Each opportunity was prioritized using a matrix to grade urgency and importance. LCRP uncovered four primary impacts of silo mentality in action: resource waste, incorrect denials, reduced cash flow, and increased risk for financial toxicity.

The Impact of Waste
Lean philosophy focuses on eight different types of "waste," meaning anything that does not produce value. At LCRP, three types of waste continued to surface: overproduction, under-utilized talent, and defects. In the case of LCRP, *overproduction* meant redundancies in paperwork and process resulting in poor resource utilization. One example comes from patient intake. Patients were filling out nearly identical patient intake packets for medical oncology and radiation oncology, sometimes on the same day, even though the departments were only a floor apart. This process resulted in unnecessary duplication of registration staff activities,

increased wait times, and greater patient dissatisfaction. Because these departments operated in silos that prevented communications, staff failed to understand the extent of duplicative workloads and its negative effect on patients. After identifying this issue, LCRP leadership gathered input from all departments tasked with patient-facing responsibilities and built a comprehensive patient intake packet that reduced staff labor redundancies and improved patient satisfaction by establishing one registration intake document.

Unnecessary bureaucracy and redundant workflow lead to *underutilization* of co-worker talent and limit opportunities for employees to work to full potential. For example, in LCRP's central billing office, the process for claim adjustments involved every single adjustment crossing the desks of five to seven employees prior to final approval. The redundancy became apparent through the evaluation performed by the central billing office Lean Six Sigma team. Using the current state month end process map that located and quantified time traps and capacity constraints, redundancies inherent to the adjustment approval process surfaced. Once identified, workflow changes were implemented, which significantly shortened the number of steps and amount of time between adjustment identification and application. Improvements like this reduced the month end close process by three business days.

Defects in this context refers to incomplete or limited procedures that lead to suboptimal results. Another example from the work of the central billing office Lean Six Sigma team concerns a tool called Advanced Claim Editing to generate clean claims. This tool requires regular maintenance; however, no one in the department was assigned this responsibility. As a result, the tool was largely useless despite its potential to greatly streamline claim adjustment workflow. The team rectified the process, assigned accountability, and relaunched the tool.

The Impact of Incorrect Denials
By examining the source of denied claims, LCRP leadership discovered that the majority were data entry errors associated with demographic information entered by the front desk personnel registering patients. The silo effect associated with the lack of clarity in communications and sharing of information surfaced as a contributing factor—each co-worker believed that his or her individual workflow was the correct workflow, any mistakes made went unchecked, and the health system, payer, and patient had to go through unnecessary appeals processes as a result. Split billing within the oncology services further contributed to denied claims. In split billing, professional services are billed through LCRP's central billing office and technical services are billed through the hospital's patient accounts department. The silo mentality of both billing entities created barriers to information sharing that resulted in claims denials from simple issues such as failure to communicate treatment authorizations. Given the turnover in these departments, it was difficult to keep both departments up to date on who to contact when billing questions arose.

The Impact of Reduced Cash Flow

Inefficiencies, a lack of communication, and a lack of focus on cash flow also harm the revenue cycle. This can be the result of both individual and department-wide silos. One example discovered related to co-worker objections to taking payments from cancer patients at the time of service, resulting in point-of-service patient responsibility being billed at a later date. This undesirable practice prevented co-workers from educating patients about their healthcare expenses and, thus, patients faced unexpected bills. Additionally, by proactively addressing co-payments at the time of service, patients with financial challenges can be seen by a financial navigator who will assist with potential resources. Without the rigorous attention to silo behaviors and mentality within the oncology services, this avoidance of point-of-service collection would not have been discovered.

The Impact of Increased Financial Toxicity

Financial toxicity affects both cancer patients and cancer programs. Prior to the silo identification and process improvement initiatives, financial toxicity existed as a significant opportunity for improvement at LCRP. Although limited financial navigation was offered, integration of LCRP clinical practice offices with financial navigation workflow was nonexistent. Across the oncology service line, several offices provided patients with incorrect contact information for billing inquiries, financial counseling, and other resources. Related navigation routines failed to efficiently address financial resources for patients and resulted in dissatisfaction, all compounded by the split billing process.

To address increasing financial toxicity, LCRP hired a financial navigator to help patients navigate the health system and the split billing process. During interdepartmental revenue cycle meetings designed to reduce silos, this co-worker requested a daily worklist that contained uninsured patients and any patients with outstanding balances. This report allows the financial navigator to prioritize patients with the most need for financial assistance and proactively assist, rather than relying on nurse navigators, patients, and providers for referrals.

The Role of Lean Six Sigma

To address systemic inefficiencies and silo mentality, St. Joseph's/Candler adopted Lean Six Sigma as a health system-wide process improvement philosophy. Following in suit, LCRP routinely launches Lean Six Sigma projects annually. The majority of staff are well versed in Lean Six Sigma principles, with LCRP's director of operations and one of the radiation physicians functioning as green belts, leading team projects. LCRP utilizes a "Triple I" approach to work improvement:

- Identify opportunities
- Investigate issues
- Improve processes and communication.

Service Line Analytic Meetings

In the early phases of addressing the silo mentality, data were deemed essential to establishing the metrics for change management. To better understand the current state of affairs and identify opportunities and issues, LCRP leadership organized around service line analytic meetings, or SLAMs. Biweekly meetings were co-chaired by the administrator of the oncology service line and LCRP's director of operations and included seven to eight regularly attending members. In addition to the revenue integrity managers involved in the charge approval process for specialties, a data analyst and a project manager attended the SLAMs. Capitalizing on knowledge sharing, critical thinking, and a flattened hierarchy for team interactions, the open sharing of diverse perspectives countered leadership groupthink and led to opportune and innovative strategies for change.

> As a strategy to prompt interdepartmental knowledge sharing across health system silos, the administrator of the oncology service line proposed a model for increasing and improving communications by placing renewed focus on the revenue cycle.

SLAM dashboards—customized reports generated by data analysts using up-to-date financial information—are routinely reviewed by the leadership team. Analyzing these dashboards can drive market opportunities and future strategic initiatives, pinpoint communication issues between internal and external providers, and inspire community outreach events.

Examples of dashboards (Figures 1-3, pages 20-21) include:

- Follow-up and new patient volumes.
- Treatment mix for radiation oncology and medical oncology.
- All charges across all locations—patient volumes that increase while charges remain stagnant point to fee schedule issues and the need to properly maintain the fee schedules. A decrease or and increase between 0 and 5 percent will not raise red flags; anything greater requires attention.
- Top 10 increasing and top 10 decreasing referring providers—The results drive activities to improve physician relationships with community providers.
- Individual provider volumes—By tracking provider productivity, solutions to promote equitable distributions of patients within a department can be realized and effective and timely care achieved.
- Physician vacations—Practice volumes are directly tied to physician availability. When physicians take vacations, revenues predictably drop. Failure to manage provider vacations contributes to months that may have significant volume and revenue shortages.

Figure 1. SLAM Dashboard Example 1

RadOnc A Total Txs
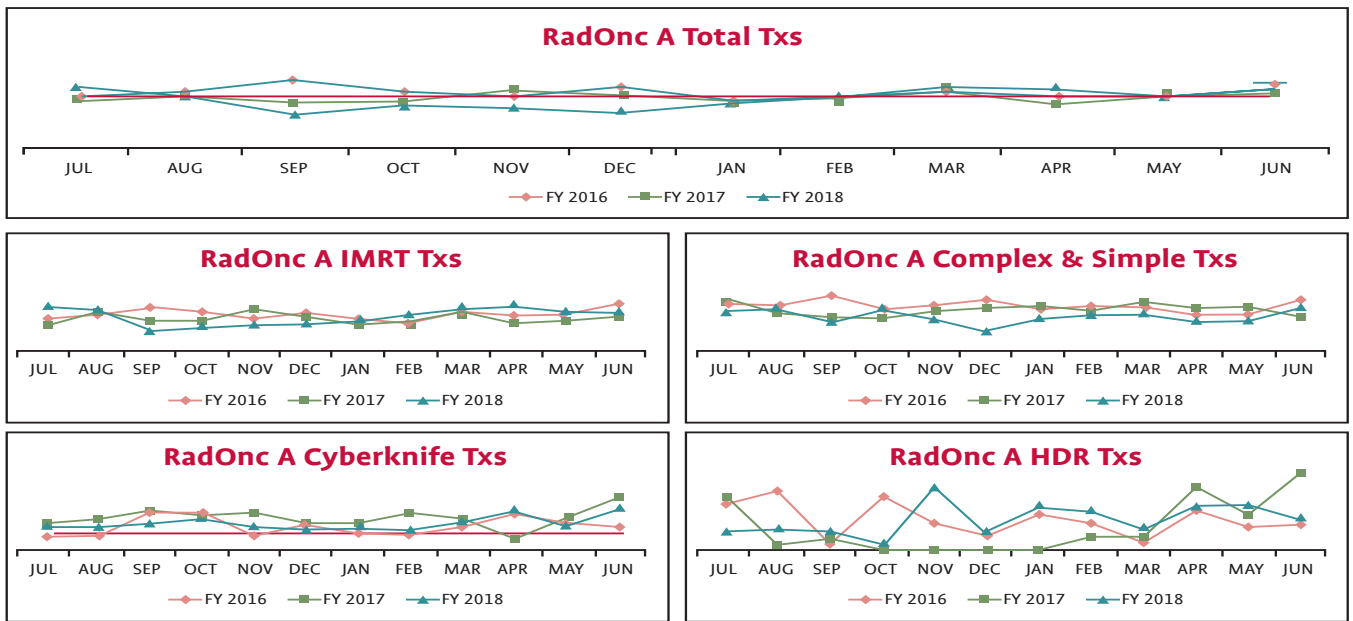
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

FY 2016 ◆ FY 2017 ■ FY 2018 ▲

RadOnc A IMRT Txs

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

FY 2016 ◆ FY 2017 ■ FY 2018 ▲

RadOnc A Complex & Simple Txs

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

FY 2016 ◆ FY 2017 ■ FY 2018 ▲

RadOnc A Cyberknife Txs

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

FY 2016 ◆ FY 2017 ■ FY 2018 ▲

RadOnc A HDR Txs

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

FY 2016 ◆ FY 2017 ■ FY 2018 ▲

Figure 2. SLAM Dashboard Example 2

Radiation Oncology A

NEW PATIENT   FOLLOW UP

■ FY 2016 ■ FY 2017 ■ FY 2018

Radiation Oncology B

NEW PATIENT   FOLLOW UP

■ FY 2016 ■ FY 2017 ■ FY 2018

RadOnc A New Patient Volume

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

FY 2016 ◆ FY 2017 ■ FY 2018 ▲

RadOnc B New Patient Volume

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

FY 2016 ◆ FY 2017 ■ FY 2018 ▲
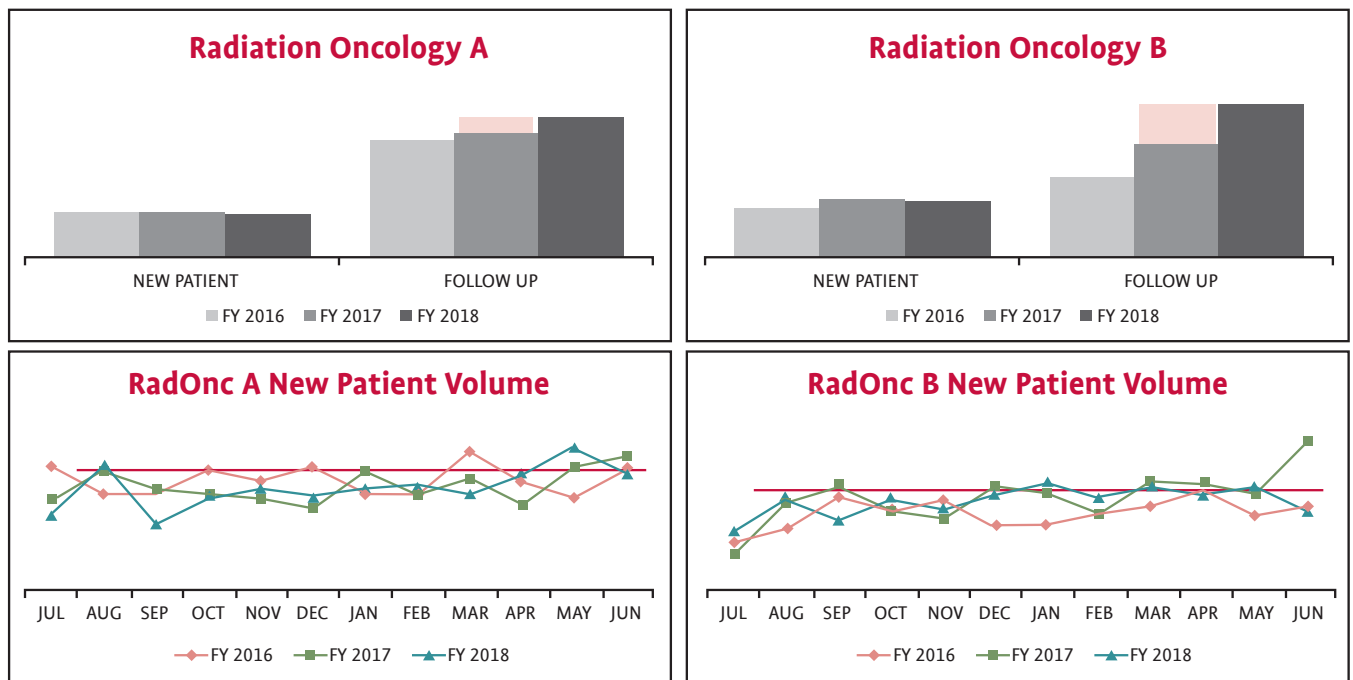
Figure 3. SLAM Dashboard Example 3

Gynecologic Oncology New Patients

■ Dr. A ■ Dr. B

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN | FY 2016
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN | FY 2017
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN | FY 2018

Gynecologic Oncology Surgery Volume

■ Dr. A ■ Dr. B

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN | FY 2016
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN | FY 2017
JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN | FY 2018

(continued from page 19)

The Revenue Cycle Tier Model

As a strategy to prompt interdepartmental knowledge sharing across health system silos, the administrator of the oncology service line proposed a model for increasing and improving communications by placing renewed focus on the revenue cycle. The revenue cycle tier model, as it came to be known, served as a communication structure consisting of three tiers that meet at different intervals with different purposes. The director of operations and strategies meets with all three tiers and ensures communications from these teams is shared with the appropriate departments and/or staff members.
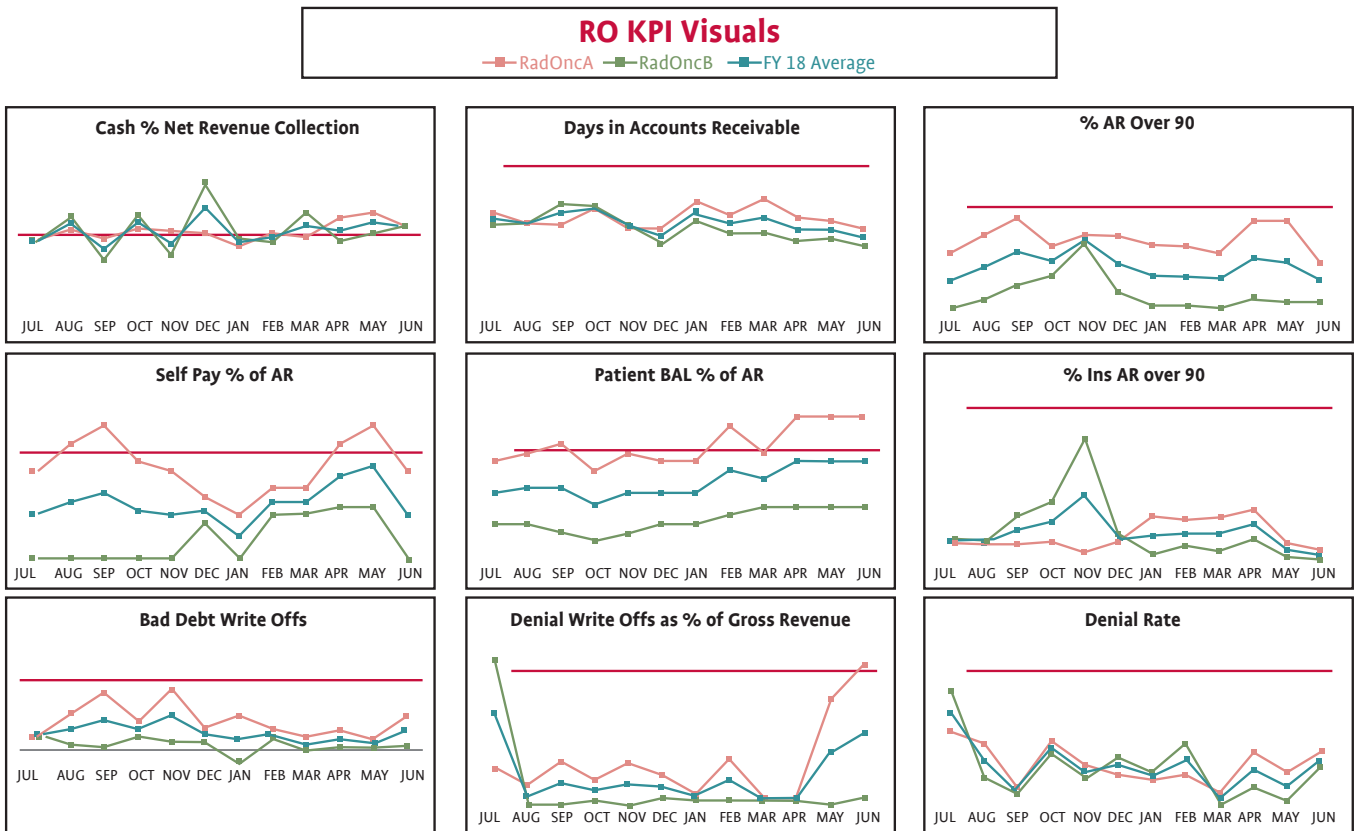
- **Tier I.** Participants in Tier I include department directors from finance, health information management, corporate compliance, all oncology service lines, pharmacy, and patient financial services. Participants meet quarterly to discuss big-ticket items such as the Centers for Medicare & Medicaid Services proposed rules, major software upgrades and initiatives, and quality metrics such as OP33 or OP35.

- **Tier II.** This tier consists of practice managers from the oncology service line, data analysts, and other mid-level administrative co-workers. Monthly meetings are held to explain what was discussed in the Tier I meetings; participants also review key performance indicators to help break down communication barriers and share knowledge across departments (see Figure 4, page 22).

- **Tier III.** Tier III includes ad hoc working groups of the frontline co-workers who are working with patients every single day. These co-workers are most often found to function in silos apart from one another; by sharing information both vertically and horizontally within LCRP's organizational structure, breaking down silos becomes a daily occurrence.

Breaking Down Silos with Process Improvement

As a result of the revenue cycle tier model and with the use of the Lean Six Sigma methodology, LCRP implemented structural and process improvement strategies that have had a significant

Figure 4. Key Performance Indicator Dashboard Example

RO KPI Visuals
— RadOncA — RadOncB — FY 18 Average

Cash % Net Revenue Collection — Days in Accounts Receivable — % AR Over 90 — Self Pay % of AR — Patient BAL % of AR — % Ins AR over 90 — Bad Debt Write Offs — Denial Write Offs as % of Gross Revenue — Denial Rate

---

impact on the cancer center's financial health. For instance, through Tier I meetings, barriers between the clinical services area and the back-end financial team were eliminated by leveraging a monthly denials workgroup that addresses every denial the cancer center receives.
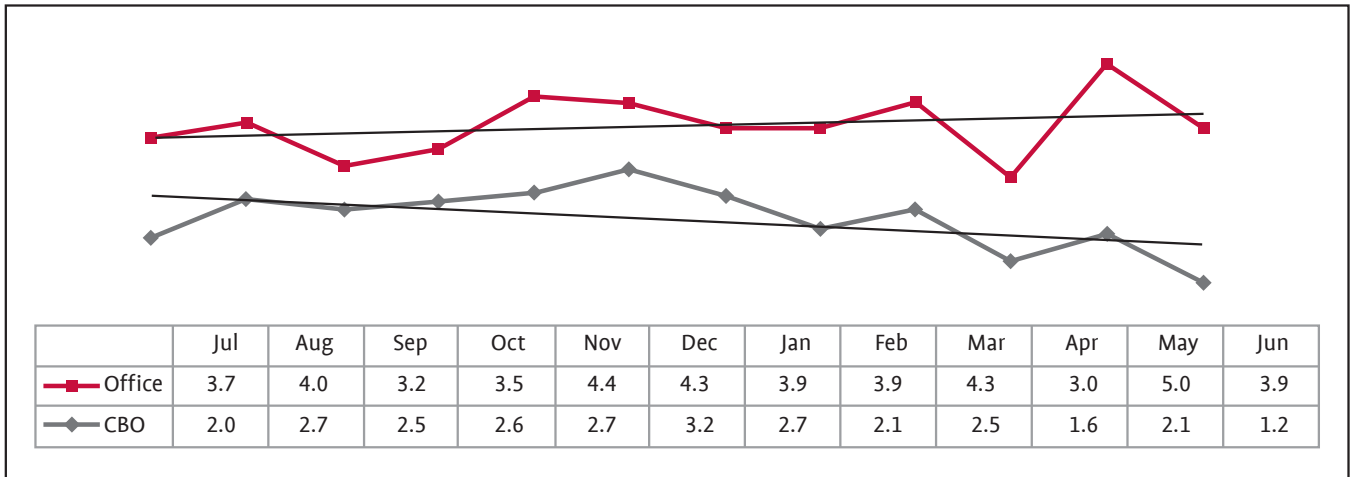
As previously noted, a significant source of denials and loss of revenue is associated with demographic data entry errors. By conducting a standardization project with five physician practices that focused on variations in workflow, notable reductions in data errors were achieved. In 2016, 3,700 of 5,800 patients were registered with at least one demographic error (64.8 percent). Errors were defined as incorrect or missing date of birth, race, gender, ethnicity, address, phone number, language, marital status, and guarantor or insured party relationship. After implementing an ideal state workflow in the practices in 2017, we measured a month of patient registrations (Oct. 2 to Nov. 13) and found that errors had been reduced by 54.3 percent (18 of 172 patients showed data entry errors at registration). By engaging and educating frontline co-workers at weekly meetings, the leadership

team fixed the multiple errors that generated downstream problems in the revenue cycle and EHR documentation.

Through the SLAMs, a focus on departmental timelines for charge input, review, and approval prior to charge export surfaced (see Figure 5, right). Best practices in the medical and radiation oncology practices were carried over to improve practices within surgical oncology. Additionally, surgical oncology faced interdepartmental barriers associated with a time lag for completed pathology and operative reports. Although this delay remains a work in progress that is being addressed by the information services department, the problem would have gone undiscovered without a concerted effort to identify departmental silos.

Improving communications between management and co-workers on the front lines of activity is a major step in breaking down barriers. The flow of information from addressing vacation schedules to timing charge export schedules resulted in improvements that had an immediate impact on the revenue cycle. For example, a sudden increase in charge delays in November was discovered to coincide with the charge entry individual's vacation

Figure 5. Charge Lag Analysis for Surgical Oncology and Central Billing Office

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Office	3.7	4.0	3.2	3.5	4.4	4.3	3.9	3.9	4.3	3.0	5.0	3.9
CBO	2.0	2.7	2.5	2.6	2.7	3.2	2.7	2.1	2.5	1.6	2.1	1.2

days. Fail-safes were then implemented to ensure that work continued despite co-worker absence. Another example of simple changes that have significant impact related to the process inefficiency identified and corrected within LCRP's central billing office regarding the timing of automatic charge exports. The co-worker responsible for inputting charges into claims had a work schedule of 7:00 am to 3:00 pm; however, the automatic charge export process began at 2:00 pm each day, leaving the co-worker with only one hour to process same-day charges. Due to the isolation surrounding the existing silo, the co-worker did not communicate the issue and believed that the process could not be changed. As a result, leadership was unaware of this significant inefficiency. To address the issue, leadership moved the charge export process up to noon, giving the co-worker three hours to complete same day charge import.

Active participation and ongoing reporting in the revenue cycle tier model are important to its continued success. For example, Tier II members requested a report to be auto-generated to include the following:
- Patients who do not have an active authorization or referral
- Patients who have an appointment scheduled between today and five days away
- Patients who have an active authorization or referral with an expiration date between today and five days away.

If co-workers receive a blank report, managers can congratulate their co-workers on a job well done. If the report yields results, co-workers are alerted to those patients who may have slipped through the cracks and will require some action prior to the time of service.

Closing Thoughts

Healthcare delivery systems are complex organizations with multiple stakeholders, each with a particular interest and focus. Successful integration of services, clinical and financial, is driven by proactive steps to break down barriers associated with the natural tendencies of areas to form silos. LCRP leadership aggressively tackled the silos identified within the cancer center, as well as those within the health system that impacted service line operations. The revenue cycle tier model served as a useful approach in the early efforts to address interdepartmental communications. Over the course of time, this model continues to evolve and has changed to meet the dynamic needs of the overall system. The ability to shift dynamically in a manner that is transparent, is fostered by trust, and fits the ongoing transformations of the health system is a testament to LCRP's foundational work to eliminate silos. As a result, the Nancy N. and J.C. Lewis Cancer & Research Pavilion is able to undergo continuous process monitoring and improvement without disrupting workflow and is able to evolve workflow processes.

A misconception about process improvement efforts is that they create efficiencies leading to layoffs. In LCRP's experience, no co-workers were laid off as the result of Lean Six Sigma projects. A reduction in process redundancies allows for the talents of co-workers to be used in more productive ways. When co-workers with these concerns understood the potential of process improvement coupled with job security, staff became part of the solution, even identifying other areas for employee contributions and improvements.

Creating and maintaining working groups is a key component of any process improvement effort. Collaborative groups allow co-workers in all departments and at all levels of expertise to ask questions, share information, and tackle significant problems. Through these interactions, silos are broken down and communication improves. LCRP leadership encourages other organizations to evaluate process and workflow, identify areas for improvements, continually monitor implemented solutions, and celebrate successful outcomes with all co-workers. ◼

Pamela R. Proman, MBA, RTT, is director of LCRP operations and strategies; William D. James, MHA, is the director of medical oncology practices; and Nancy H. Johnson, MSM, is the administrator of ambulatory oncology services at the Nancy N. and J.C. Lewis Cancer & Research Pavilion, St. Joseph's/Candler Health System, Savannah, Ga.

Reference

1. Fralicx R. Strange bed (side) fellows: physician-finance collaboration: physicians and financial leaders are working together to solve health care's biggest challenges—cost and quality. *Healthc Financ Manage.* 2012;66(7):90-96.

Our Program At-a-Glance

The Nancy N. and J.C. Lewis Cancer & Research Pavilion occupies 56,000 square feet in Savannah, Ga. As part of St. Joseph's/Candler, the cancer center sees approximately 1,900 analytic cancer cases per year between its flagship Savannah location and at other locations throughout the Lowcountry of South Carolina and southern Georgia. The center offers radiation oncology, including the robotic Cyberknife; surgical oncology services through system-employed providers and private practices; and medical oncology services through a complement of private practitioners, professional service agreements, and joint ventures. Supporting the multidisciplinary and integrated clinical treatment teams are the supportive oncology services team (composed of nurse navigators, social workers and dieticians), genetic counseling services, survivorship care, and the outpatient palliative care service.

The Lewis Cancer & Research Pavilion is accredited by the American College of Surgeons, Commission on Cancer, and the National Accreditation Program for Breast Cancers. The Lewis Cancer & Research Pavilion's radiation oncology program is accredited by the American College of Radiology, and its South Carolina medical oncology practice is accredited by the American Society of Clinical Oncology's Quality Oncology Physician Initiative. LCRP is a major component of the Georgia Community Oncology Research Program and was recently (August 2019) selected by the National Cancer Institute for a six-year award as one of the National Cancer Institute's community oncology research programs.