Start Small, Think Big!

Fusing Clinical & Business Metrics to Improve Quality & Effect Change

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Words such as "tranquility," "serenity," and "calm" are not often associated with our current healthcare environment. In reality, we work in a complex, multi-faceted, and constantly changing oncology landscape. Providers face new challenges to treating patients every day. Further, we must constantly take a hard look at the business of providing care and—using the data we collect on a daily basis—identify how we can improve to deliver better care to our patients. In 2010 Alliance Oncology, the managing member of Austin CyberKnife, initiated a process improvement project to better leverage data collection and improve care delivery.

Mining Your Data

Part of the Seton Healthcare Family of Hospitals in Texas, Austin CyberKnife at University Medical Center Brackenridge is a radiosurgery program that partners with Alliance Oncology at Seton Healthcare on its operations and management. Austin CyberKnife is based in Austin, Tex., and provides radiation services to a large catchment area in the state.

When healthcare facilities set out to better understand their business of providing patient care, they look to their data. At Austin CyberKnife, we knew we had a trove of information in our data, but how could we use it to improve patient care? We began by taking a step back to understand where our data comes from.

Similar to many other healthcare facilities, our data and metrics come from a variety of sources, including multiple EHRs (elec-
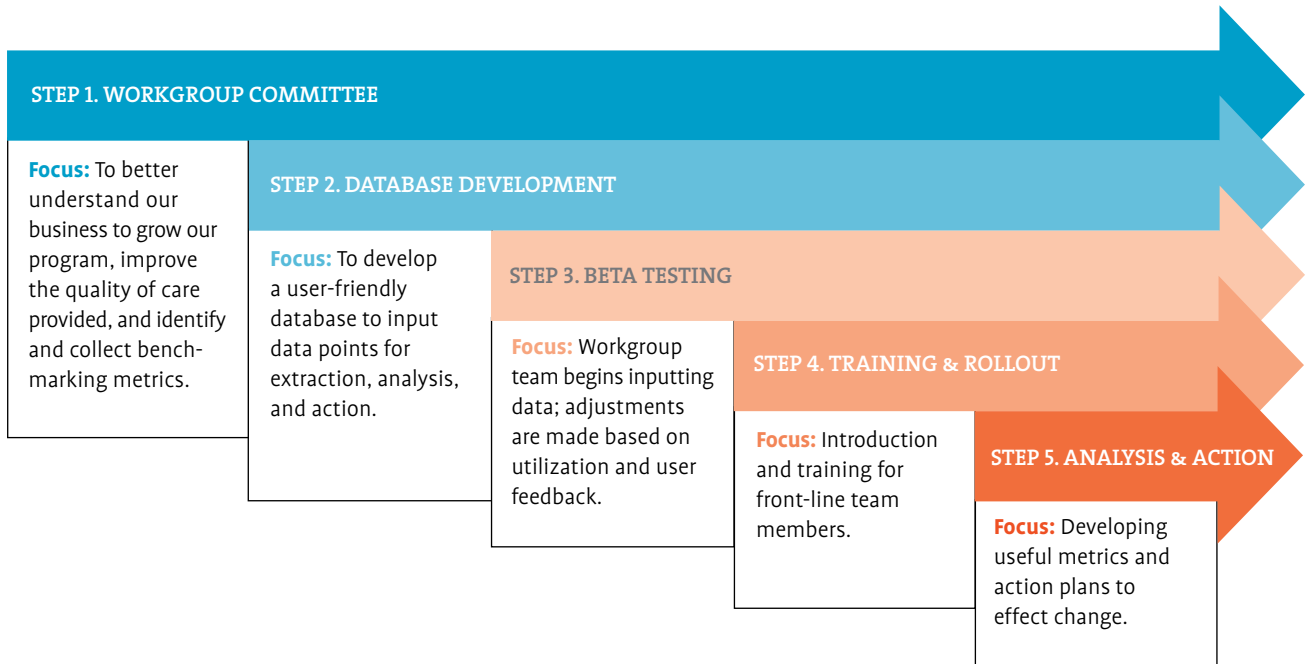
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tronic health records) and paper chart data that comes in from some of our smaller referring clinics. We had to learn how to take data from these disparate systems, aggregate, and mold it to ensure a true "apples to apples" comparison as we began our performance improvement project.

Next we had to identify the quality improvement benchmarks that would most benefit our patients. On the clinical side, we looked to streamline workflow and improve patient throughput. Decreasing wait time between simulation and first treatment, for example, would not only lead to improved outcomes but also help ease the anxiety of our radiation oncology patients.

We were also looking to enhance collaboration and communication among the cancer care team. For example, while our

Figure 1. Our Performance Improvement Planning Process

STEP 1. WORKGROUP COMMITTEE

Focus: To better understand our business to grow our program, improve the quality of care provided, and identify and collect bench-marking metrics.

STEP 2. DATABASE DEVELOPMENT

Focus: To develop a user-friendly database to input data points for extraction, analysis, and action.

STEP 3. BETA TESTING

Focus: Workgroup team begins inputting data; adjustments are made based on utilization and user feedback.

STEP 4. TRAINING & ROLLOUT

Focus: Introduction and training for front-line team members.

STEP 5. ANALYSIS & ACTION

Focus: Developing useful metrics and action plans to effect change.

radiosurgery program is based in Austin, some of our patients travel for several hours to receive treatment at our program. So how do we ensure good communication and collaborative decision making with the other providers caring for these patients?

In addition to our efforts to improve patient care, we also wanted to use our data to better understand our business practices. As the healthcare payment landscape shifts from volume-based to value-based reimbursement, healthcare facilities need to look inward at their business performance to understand how to improve and adapt to this change.

Getting Started
Our process improvement initiative began with the creation of a workgroup to help develop a single repository for the data coming in from the different EHRs and paper charts. Since data affects the work of every staff member, we included stakeholders from each practice area in this workgroup: business development staff, clinical staff, physician services representatives, and IT support. A variety of perspectives is essential since each team has a different way of viewing and using data.

In addition to housing patient information, we wanted a database that could be used:

- By the marketing team in community outreach efforts
- By our physicians to connect with other members of the cancer care team and referring physicians
- To manage incoming referrals
- To track patients treated and then be able to feed back outcomes data to treating and referring physicians.

During the initial brainstorming sessions, some key questions helped guide our discussions:
- What did we want to know from our data?
- What would help us do our jobs better?
- What would help us provide better care to our patients?
- What would help us communicate better with our patients' different care teams?

Workgroup members took these core questions back to their teams; their answers served as our starting point for our process improvement efforts.

Speaking the Same Language
Once the technical framework for the database was completed, we needed to beta test our database. We started at one Alliance

Oncology site and then began rolling out the test to other Alliance Oncology sites, including Austin CyberKnife. At each site, we noted how patient throughput differed, and how those differences affected the way the database was used, how information was coming into the database, and ultimately, how information was coming out of the database.

As with EHRs, the information you put into a database affects what you are able to retrieve from the database. To ensure correct input of data at the front end, the workgroup established common definitions. During this process, we realized that the same language was not always being spoken between different departments and sites of service—and sometimes even within clinical teams. For example, the time frame for treatment plan approval varied by site. One Alliance Oncology site marked a treatment plan as approved when the surgeon signed off; others defined the treatment plan as approved when the radiation oncologist signed off. In the end, the workgroup established a specific definition and benchmark for each piece of data. While this process can be painstaking, developing common definitions across your database can help eliminate confusion across clinical, billing, and marketing teams.

Narrowing Our Focus

Another obstacle our workgroup faced was the massive amount of data available. After narrowing our definitions to retrieve accurate metrics, the workgroup had to decide how to most effectively focus the data to effect improvement. The workgroup began by identifying the metrics that were most important for our program to measure. When we started, the workgroup wanted *everything*. Starting so big and then having to narrow our focus meant that it took a longer time to get our database into shape. Once the workgroup focused on one or two improvements, it began to make real progress.

And these successes highlighted the value that comes from data measurement. For example, when we were able to decrease time from simulation to treatment from 10 days to 6 days, we saw a corresponding increase in patient satisfaction. Staff members were motivated because they contributed to streamlining patient throughput.

This type of benchmarking can also result in business growth and long-term value. As our program anticipates more clinical benchmarking and a pay-for-performance shift, we can use our data to evolve and meet these changes.

Another initiative identified by the workgroup during its data mining was improving physician outreach to the community. Prior to this process improvement initiative, we tracked incoming referrals by noting the location of the referring physician's primary practice. We did not look at where our patients were coming from, and in a state like Texas you have patients living in very rural areas.

Based on 2013 data, the majority of our patients lived within a 25-mile radius. Accordingly, we saw an opportunity to grow our market share. Working with our physicians and our physician service representatives, we developed a strategic plan. Our physicians went out into the surrounding rural communities to attend community events and describe the care services and treatment options we offered. Measuring our results over 2014, we saw a 12 percent revenue growth in our market share, and a 55 percent increase in patients coming from 50 miles or more for our program. While this improvement was exciting from a revenue standpoint, the enhanced teamwork between our physicians and our physician service representatives was also beneficial.

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Improving Time from Simulation to Treatment

From a clinical standpoint, one of the main goals of our performance improvement project was to decrease the time from simulation to first treatment. The top Alliance Oncology outlier site, Austin CyberKnife took, 12 days from simulation to treatment, so our Austin CyberKnife team set a goal to decrease this time by 20 percent.

Administration motivated the care team by showing them the data. When some providers questioned the data, we showed them how we retrieved it and where it came from. This team of caregivers wanted to provide high quality care, and when staff saw data that revealed their site was the outlier, they were not happy. Each member of the team looked at this metric and asked, "What can I do individually to help improve the time to treatment?"

Our group works with almost every neurosurgeon in Austin, and these physicians are spread across the entire county. Accordingly, the surgeons do a lot of remote planning of their patients—from their offices 50 miles away—and then go back and forth on their renditions. To help these surgeons expedite their work, we developed a tool that addressed common process questions. This tool most benefited our physicists who fielded the majority of surgeon phone calls regarding process questions.

Scheduling strategy was another important piece to streamlining patient throughput. Our physicians rotate through our practice—one radiation oncologist on Monday, another one on Tuesday, and so on—so we had to take that information into account when scheduling patients for simulation consults. In other words, staff had to complete their tasks before the physician came in on his or her scheduled day to see patients or a patient would have to wait a full week for the next appointment. Staff recognition that their actions could improve the effectiveness of how the physician works was probably the number one factor that improved our simulation-to-first-treatment time.

Culture change was also key to the performance improvement initiative. It can be easy to write off a longer simulation to treatment time by saying, "It's just the way my doctors work." But physicians and nurses are scientists, and when we showed them the science behind reducing our simulation to treatment time, buy-in was obtained fairly quickly.

Even with the improvements achieved, we are constantly tweaking our process. For example, two physicists voiced concerns about the beginning point of the simulation to treatment metric. The physicists felt they did not have control from the beginning of the simulation because patients may need additional imaging. They requested the measurement begin from the time all necessary treatment planning imaging is complete to first treatment because it was a more realistic measurable time frame.

Six months into this performance improvement initiative, we were able to decrease time from simulation to first treatment by 29.9 percent at Austin CyberKnife.

Lessons Learned

Our advice to other cancer programs looking to conduct similar process improvements project is to start small and empower your staff because they're the ones that touch the patients every day. Challenges may arise, but they can often be overcome if you document and share the improvements realized with your busy staff.

We get so caught up by excessive—and often overly burdensome—healthcare documentation, writing it down and making certain it is done and done right, that sometimes we have to stop, step back, and say, "What was the simple process I was trying to do, and how can I help the patient through the process?" Using your data, plan for attainable goals that will help you grow your program and improve your patient care. Start small, but think big! OI

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