


BY CYNTHIA L. JONES, BSHA, CPHQ

Are You as Good as You Think You Are ?

A hand holding a trophy against a sunset background. The trophy is a large, dark, reflective cup with two handles. The hand is silhouetted against the bright, low sun, which creates a lens flare effect. The background is a gradient of blue and orange.

**Developing a
dedicated quality
improvement
program**



Radiation oncology staff at Rex Cancer Center includes (bottom row, left to right) Kelly Hogan, RT(T)(T), Terri Saunders, RT(T)(T), Martha Jubera, RT(T)(T), Cindy Sadler, RT(T)(T) (top row, left to right) Lynn Coleman, RT(T)(T), Susan Litzsinger, RT(T)(T), Amy Luetgenau, RT(T)(T) and Matt Keefe, RT(T)(T).

At hospitals, traditionally most quality and safety programs are stretched thin supporting the critical needs of inpatient operations. This often leaves other service lines—including outpatient cancer care—to find their own way to address needs in the ambulatory care environment. While clinical managers address quality needs within their respective service lines, they typically are busy running the business and clinical operations with little room for handling additional needs that may arise as services grow. As a result, programs may use a reactive or “just in time” approach to problem-solving characterized by quick-fix responses and “putting out fires.” Further, while managers have vast areas of expertise, they are not necessarily experts in the areas of data analysis, process design, and development of improvement strategies—all key elements of progressive quality improvement programs.

In recent years, the healthcare community, especially acute care, has shifted from a traditional quality assurance approach to more robust quality improvement methodologies. This change is reflected in the new CoC Standards for 2012 and 2015.

Rex Cancer Center, Raleigh, N.C., is a thriving program that has earned multiple commendations and accreditations (see box, page 23).

Despite these accomplishments, expanding services, increasing volumes, and the hiring of additional staff—coupled with growing accreditation, regulatory, and safety needs—made it clear that Rex Cancer Center needed to devote more resources to meet the quality and regulatory needs of its complex oncology service line.

Accordingly, program director, Vickie Byler, RN, MSN, set out to discover what else needed to be done in the center’s quest for quality care. Here are step-by-step suggestions for launching a dedicated quality improvement (QI) program based on the Rex Cancer Center experience.

STEP 1—Recognizing Best Practices

A key starting point for any program looking at QI strategies is to recognize your best practices. What is your cancer program doing really well right now? This perspective provides insight on some important elements that are often overlooked. Start by asking these questions:

- What does the oncology service line do that is exceptional or that might be considered “best practice?” What measures validate or what evidence supports this finding?
- How is the best practice communicated and shared in the service line or healthcare system?
- What are the values associated with the best practice?

The answers to these questions reveal the key strengths and culture already at work in your cancer service line. Spend some time understanding what your team does well, their skill set, and what the work culture is like at your cancer program.

For example, at Rex Cancer Center, we are very strong in the areas of service excellence, patient perception of care, and co-worker loyalty. These core values of Rex Healthcare are part of the teaching and orientation for all employees. Rex Healthcare is recognized within our community and beyond.

Validating measures and supporting evidence include:

- Professional Research Consultants (PRC) Five-Star Award & Top Performer (2008, 2009, and 2012)
- Association for Healthcare Foodservice 2012 Culinary Competition (Gold Medal 2012)
- Modern Healthcare's Best Places to Work List 2011 (N.C. hospital)
- Becker's Hospital Review Top 50 Best Hospitals in the Nation 2011
- National Research Corporation (NRC) Consumer Choice Award 2009
- Thomson Reuters Top 100 Hospitals National Award Winner 2008
- Magnet Recognition by ANCC (American Nurses Credentialing Center) in 2008 (first in the region)
- North Carolina Governor's Award for Excellence for its Workplace Wellness (1995–1999).

These rewards and accolades are communicated and tracked from senior leadership to the management level and on to the entire staff.

STEP 2—Assessing Needs & Opportunities

The next step is to work with your cancer care team to address areas of need.

In 2011, with a new QI coordinator in place, Rex Cancer Center faced significant work with three accreditation surveys due within 18 months: The Joint Commission survey, followed by the CoC accreditation survey, and finally the cancer center's first NAPBC re-accreditation. With these surveys in mind, our team worked to address areas of need and areas of opportunities.

We began by asking a question: What is “high-risk” and what is “high-volume?” On the inpatient side, high-risk and high-volume areas have commonly been a safety and quality focus of The Joint Commission. These key areas are where you are likely to find gaps, the potential for harm, and opportunities to intervene.

To assess these areas in the ambulatory cancer care environment, we started looking at chemotherapy and blood product transfusions. These services are a part of daily life in the cancer center, but they are also high-risk. A quantitative review found that, on average, our cancer center has 1,000 chemotherapy mixes and 200 transfused blood products per month.

Next, we took this quantitative measure and looked for more details to form a qualitative assessment from a regulatory or quality perspective. For example, if our cancer center has 1,000 chemotherapies mixes per month:

- How many adverse drug reactions are identified? Is

identification timely and addressed by cancer program staff? How are these events reported and communicated? Are any preventable issues identified?

- How many medication errors occur? Is identification timely and addressed by cancer program staff? How are these events reported and communicated? Are any preventable issues identified?

We looked to our data to answer these questions. Most health systems and hospitals use some type of error or variance reporting system based on self-reporting of issues that occur, such as medication errors or reactions. Rex Cancer Center uses a staff-friendly, web-based program to support such reporting, and even allows anonymous reporting of any event. Data analysis showed a total of 18 events reported, including only one transfusion reaction and 10 medication events (see Table 1, right). Given our volume, we were concerned that staff might be under-reporting these events.

To test this hypothesis, we shared the data with cancer program leadership and staff and began to implement a culture of change.

STEP 3—Communicating the Need to Support Cultural Change

Care must be taken when trying to effect a change in culture. At Rex Cancer Center our experienced staff delivers excellent care. With this understanding in mind, our QI coordinator worked with management to make “quality” a standing agenda item at the monthly manager's meeting. Each month, the QI coordinator would present data on adverse events and medication errors.

After presenting the 2010 adverse event report, the QI coordinator asked the management team about their thoughts on the data. Again, based on the large volume and the very low rate of adverse events, the general consensus seemed to indicate that staff might be under-reporting. We were then able to initiate an open discussion on the value of variance reporting, non-punitive communication of issues in our workplace, and the future of our organized efforts to improve identified areas of need. With management and leadership buy-in, the next step was getting the full staff on board.

We initiated open forums on event reporting and began to collect the data we needed to identify areas where Rex Cancer Center had issues or unmet needs.

Changing to a non-punitive culture took time, open discussion, and mentoring. In the end, we were able to effect change (see Table 2, right). By the third quarter of 2011, the way Rex Cancer Center practiced medicine was shifting, encouraging the reporting of events, errors, or even “great catches” (i.e., issues that are caught before they occur). We

Table 1. Voluntary Reporting Variances, Jan. 2010 to Dec. 2010

EVENTS REPORTED: JAN. TO DEC. 2010	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	Total
Adverse drug reaction	0	1	5	1	7
Blood or blood product event	1	0	0	0	1
Medication event	4	1	3	2	10
Total	5	2	8	3	18

Table 2. Voluntary Reporting Variance, Jan. 2011 to Dec. 2011

EVENTS REPORTED: JAN. TO DEC. 2011	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	Total
Adverse drug reaction	1	5	15	5	26
Blood or blood product event	0	5	3	2	10
Medication event	12	9	34	22	77
Total	13	19	52	29	113

Table 3. Dosimetry Treatment Patient Delays, Sept. 2010 to Feb. 2011

RADIATION ONCOLOGY PERFORMANCE IMPROVEMENT	SEPT. 2010	OCT. 2010	NOV. 2010	DEC. 2010	JAN. 2011	FEB. 2011	Total
No. of dosimetry patient delays	2	10	4	3	14	10	43

Table 4. Reasons for Dosimetry Treatment Patient Delays, Sept. 2010 to Feb. 2011

REASON FOR DOSIMETRY DELAY	SEPT. 2010	OCT. 2010	NOV. 2010	DEC. 2010	JAN. 2011	FEB. 2011	Total
Not ready for treatment planning	1	4	3	0	5	3	16
Plan not approved in ADAC	1	2	0	0	3	3	9
Additional information needed by physician	0	0	0	1	4	1	6
Change in treatment planning volume	0	2	1	1	0	0	4
Physician on vacation or out of office	0	2	0	0	1	1	4
Plan not approved in IMPAC	0	0	0	0	1	2	3
Other	0	0	0	1	0	0	1
Total	2	10	4	3	14	10	43

Table 5. Dosimetry Treatment Patient Delays, Jan. 11 to Dec. 11

RADIATION ONCOLOGY PERFORMANCE IMPROVEMENT	JAN. 2011	FEB. 2011	MAR. 2011	APR. 2011	MAY 2011	JUNE 2011	JULY 2011	AUG. 2011	SEPT. 2011	OCT. 2011	NOV. 2011	DEC. 2011	Total
No. of dosimetry patient delays	14	10	2	3	2	0	0	3	0	1	3	1	39

Table 6. CQI Measures for Chemo Waste & Potential Chemo Waste

BY CONTRIBUTING ISSUE													
	JAN. 2012	FEB. 2012	MAR. 2012	APR. 2012	MAY 2012	JUNE 2012	JULY 2012	AUG. 2012	SEPT. 2012	OCT. 2012	NOV. 2012	DEC. 2012	Total
Lab values not assessed	4	8	7	2	4	4	4	3	2	4	3	3	48
Other	4		1			1			2	1	2	1	12
Intended or ordered for later	1												1
Total	9	8	8	2	4	5	4	3	4	5	5	4	61
BY MEDICATION STATUS													
	JAN. 2012	FEB. 2012	MAR. 2012	APR. 2012	MAY 2012	JUNE 2012	JULY 2012	AUG. 2012	SEPT. 2012	OCT. 2012	NOV. 2012	DEC. 2012	Total
Mixed & discarded as waste	1												1
Mixed & medication salvaged			1										1
Medication not mixed	8	8	7	2	4	5	4	3	3	5	4	3	56
Other									1		1	1	3
Total	9	8	8	2	4	5	4	3	4	5	5	4	61
BY COST													
	JAN. 2012	FEB. 2012	MAR. 2012	APR. 2012	MAY 2012	JUNE 2012	JULY 2012	AUG. 2012	SEPT. 2012	OCT. 2012	NOV. 2012	DEC. 2012	Total
Mixed & discarded as waste	\$1,177												\$1,177
Mixed & medication salvaged			\$127										\$127
Medication not mixed	\$10,632	\$9,515.00	\$6,171.00	\$1,967.00	\$10,888.00	\$4,751.00	\$3,649.00	\$4,789.00	\$15,350.00	\$20,495.00	\$10,099.00	\$9,231.00	\$107,537
Total	\$11,809	\$9,515.00	\$6,298.00	\$1,967.00	\$10,888.00	\$4,751.00	\$3,649.00	\$4,789.00	\$15,350.00	\$20,495.00	\$10,099.00	\$9,231.00	\$108,841

began to formally recognize staff for “great catches” and reporting issues that—although caught early—had potential for significant errors if they had remained unidentified. Our goal: to perform system-level fixes and strategic process improvements with a stable and robust mindset, greater reliability, and precision. We wanted to make improvements that would truly reduce variances and prevent future events.

STEP 4—Using Your Data to Make a Difference

In 2011 our QI coordinator joined the existing Radiation Oncology Performance Improvement Committee. At that time, the radiation oncology team had the only established PI committee in Rex Cancer Center. The committee measured safety elements and provided a forum for the various disciplines supporting the service line.

One measure that staff was openly vocal about improv-

ing was dosimetry delays (see Table 3, page 21). Each month, the committee tracked the number of dosimetry delays. Our threshold or expectation was two or less delays per month. Problems soon became evident. In January 2011, we saw a significant increase to 14 patients experiencing delays; 10 patients experienced delays in February 2011. Over the previous six months, 43 delays resulted in patients having to be rescheduled. These delays created backlogs in scheduling, increased stress among the radiation oncology team (from dosimetry, physics, physicians, and therapists), and was a source of significant dissatisfaction among patients. From a quality perspective, it is important to listen to these types of complaints and issues with an unbiased approach.

Now that we had identified a problem, our next concern was how to help the team get to the underlying issues. In other words, we had the “quantity” piece of our problem, but we

needed additional information to get to qualitative data. The team used a working list in an Excel spreadsheet to track all delays, including general comments about each delay. Using these data, we began to drill down into the reported events and identify reasons for the delays (see Table 4, page 21).

Our first step was to address the “quick fixes,” those delays that just should not happen. For example, improving staff communication would resolve delays caused by the physician being on vacation or out of the office. With their dedication to customer service, our schedulers and front office staff agreed that these delays were a “never should occur” event.

We then moved on to more complex issues. Further analysis showed that 50 percent of the delays occurred in GU, breast, and head and neck cases. Once again, communication was identified as a key factor in these delays (communication is most often the main component in breakdowns and delays, especially in healthcare.) To improve staff communication we began to review our policies and procedures, standardize documentation across sites, and ensure staff was educated about these practices. We recognized that our head and neck patients were the most time intensive, so we allotted additional planning time to ensure the best treatment for these patients.

Our team’s collaborative efforts quickly paid off. As shown in Table 5, page 21, we were back within the threshold of two delays or less by March 2011, and we were able to maintain those low incidence rates for the rest of the year. Going forward, we developed a more robust qualitative tracking tool for the dosimetry team to log any delays and identify the reason for the delay, as well as patient diagnosis. This process continues to be a strong part of the Radiation Oncology Performance Improvement Committee metrics, and an example of best practice and quality efforts for Rex Cancer Center. We are now going a step further to evaluate timing for the service sites by disease and diagnosis to see if additional improvement efforts are needed.

STEP 5—Telling & Retelling the Story

With some success under our belt and momentum with staff and management engagement, needs and opportunities continued to present themselves. Based on the success of the Radiation Oncology Performance Improvement Committee, leadership decided to establish a similar forum in medical oncology services.

Our early efforts engaged nursing, support staff, pharmacy, and research to help develop core measures, including regulatory requirements and National Patient Safety Goals. We measured and were able to improve infection control, hand hygiene, medication safety, laboratory turn-around times, and documentation of critical lab values.



OUR PROGRAM AT-A-GLANCE

Since 1987, Rex Cancer Center has been an integral service of Rex Healthcare, which is affiliated with the University of North Carolina Health Care System. Over the years, the cancer center has expanded to better service the community, including a satellite center that opened in 2009. Today, Rex Cancer Center has four satellite locations.

Rex Cancer Center recognizes the importance of quality care through established and recommended practices. Accredited as a Comprehensive Community Cancer Center by the American College of Surgeons Commission on Cancer (CoC) since 1991, Rex Cancer Center received the CoC’s Outstanding Achievement Award in 2011, inaugural NAPBC accreditation in 2009, and re-accreditation in 2011.

The medical oncology service is led by a team of six medical oncologists, along with nurse practitioners and physician assistants, and offers a robust clinical trial and research program. The radiation oncology service line includes seven radiation oncologists, a nurse practitioner, and a team of radiation therapists, dosimetrists, and medical physicists—all using evidence-based practices, treatments, and technologies.

The multidisciplinary team providing comprehensive care includes five disease-specific nurse navigators, three clinical social workers, and dietitians. Services include spiritual care support, rehabilitation services, genetic counseling, a breast center, and a multidisciplinary care clinic.

Changing the process and gaining a better understanding of each employee's role along the [drug] supply chain helped us improve our service delivery and our bottom line.

One area of concern to the manager and the pharmacy team was chemotherapy waste. Our team began working with a list, compiled by the pharmacy, of chemotherapies that were mixed but not used. Further investigation and additional research revealed valuable qualitative issues behind the medication waste. Specifically, we reviewed 38 chemotherapies that were mixed and not used for the patient intended, and identified the reasons behind each event (see Table 6, page 22). We then assigned these events to categories based on the contributing issues, for example, “lab values not assessed.”

With this additional information, our team addressed any event believed to be “preventable.” As seen in Table 6, the largest category of potential waste (60 percent) was what we defined as “lab values not assessed” before mixing. Our process requires physicians to write the hold for parameters and for nurses to check the order prior to dropping the order off at pharmacy and before administering the medications. Sometimes the check occurred after pharmacy mixed the order. To alleviate or reduce these events, our pharmacists agreed to be another crucial check-point in assessing lab values before any mixing occurs.

Next, we looked at events related to IV or port site access. Dedicated to patient satisfaction and perception of care, our nursing team wanted to prevent any delays for their patients. With that goal in mind, our nurses would send the order to mix the chemotherapy to the pharmacy before the IV or port site was assessed or accessed. Although timely for the patient, this practice was not sound due to potential issues with IV or port site access. Our nursing team realized that what it perceived to be a good practice was actually time-consuming and costly—not only fiscally, but also in terms of preventing waste of drug supplies. Now nursing staff does not send any orders to the pharmacy until the IV or port is ready for infusion.

Changing the process and gaining a better understanding of each employee's role along the supply chain helped us improve our service delivery and our bottom line. By focusing on “preventable breakdowns” in our processes, we ensured that patients received only treatments that were within their lab values as prescribed. We also prevented loss of medication—some of which was often in reduced or short supply. Lastly, we realized substantial cost savings by preventing the waste of more than \$55,000 in medication that may have been wasted prior to implementing these optimal practices (this cumulative effort prevented \$100,000 in loss for calendar year 2012.)

Our next focus: orders intended for future dates and how our team might optimize communication and hand-offs in this area.

Patience & Persistence Make a Difference


The specific program improvements discussed in this article are representative of similar ongoing efforts within Rex Cancer Center. Additional QI successes include:

- **Comprehensive metrics for social work and support services.** These measures help us monitor the needs of our patients, acuity, and scope.
- **Medication safety performance improvements.** These measures assess ordering, preparation, dispensing, and administration. We have also established a Chemotherapy Improvement Team.
- **Case review and performance improvement for medical staff services.** Based on QOPI core measures, we are targeting the needs identified, for example, status post (s/p) narcotic constipation.
- **Radiation oncology service practices.** We have improved laterality practices, including communication and supporting documentation. We have also improved hand-offs between radiation oncology and medical oncology services. Treatment set-up communication and documentation have also been improved. We implemented an interdisciplinary Service Excellent Council where staff is tasked with addressing and improving patient and co-worker satisfaction.

Of course, with any QI effort, push-backs and challenges are expected. The difference is often how these are heard by leadership and what leadership does with the information presented. Most often, a complaint has elements of fact that provide insight to the culture and operations of a community cancer center.

We suggest taking an unbiased approach in listening to what is being said or not being said. Get to the root of the problem by peeling away the layers of breakdown and resistance. Only then can you build trust and accountability; two crucial elements when leading cancer centers from being *as good as they are to being as great as they can and should be*.

On the quest to quality, keep in mind that it is not about us as individuals, but it is about our patients, physicians, customers, and staff.

The words of revered coach John Wooden apply just as much to coaching cancer centers as they do to coaching a basketball team: “If you don't have time to do it right, when will you have time to do it over?” 

Cynthia L. Jones, BSHA, CPHQ, is quality improvement coordinator, Rex Cancer Center, Rex/UNC Health Care, Raleigh, N.C.