Lessons Learned From Two Decades of Patient- and Family-Centered Care in Radiology, Part 2: Building a Culture

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Abstract

As reimbursements are increasingly linked to patient experience, physicians and hospitals will need to find ways to incorporate patient and family input into operational decisions. Rather than starting from the beginning, health systems could learn from practitioners who have been experimenting in this space and are willing to share their experience. The authors share lessons learned from two decades of experience incorporating patient and family advisers into the clinical operation of a radiology department and the resulting culture change. Radiology and radiologists can incorporate principles of patient- and family-centered care into clinical operations without loss of productivity.

Key Words: Patient- and family-centered care, patient-centered design, patient experience, patient satisfaction, radiology, Imaging 3.0

INTRODUCTION

As patients pay an increased share of health care costs and value-based payment systems evolve for physicians and hospitals, there will be further experimentation in models of delivering care. Patient- and family-centered care (PFCC) is a model of delivering care in which patients are viewed as partners and collaborators [1]. Because not all radiology encounters involve direct patient interactions, engaging patients in a PFCC model does present some challenges for radiology. However, with the linkage of physician and hospital reimbursement to patient experience through payment reform and the increasing consumerism, there is increased alignment of stakeholders in health care to improve patient experience.

As health care looks for examples of successful implementations of PFCC, it will become clear that not all PFCC experiences have been documented in the peer-reviewed literature. Many case studies and other resources exist in the gray literature. The Institute for Patient- and Family-Centered Care has collected more than a dozen stories of health systems implementing PFCC, called “Profiles of Change” [2]. The ACR has collected case studies of patient engagement in radiology [3]. In our first article in this series [4], we presented our initial experiences in PFCC at an academic medical center using case studies of building a children’s hospital and a pediatric radiology department and renovating mammography. In this second article, we explore the direction we took in the further application of PFCC in an academic radiology department. We again use a case-study approach to highlight our experiences and the lessons learned both from individual projects and the two-decade journey. These brief case presentations allow themes to be visualized across several projects.

A common approach to incorporating PFCC into hospital operations is the creation of patient advisory committees at an institutional level, as was done in the design of Children’s Medical Center. Individual clinical units or departments can form patient advisory councils.
These councils often exist outside of the governance and operational structure of hospitals and potentially could be underused, ignored, or marginalized. In radiology departments, with the frequent upgrading of equipment, there are workflow redesign opportunities such as the one described for our mammography unit. The leadership of the radiology department decided to use each future equipment acquisition project as an opportunity for patient engagement, furthering the cultural transformation for the staff and physicians in this clinical area. Each project reinforces the participation of patients and families as partners in the transformation. Thus, our approach was to incorporate patients and families into our operations as partners rather than to create a separate parallel structure. Although improving the patient experience became a core feature of all renovations, the projects still had to work within a budget, introduce new technology, and improve overall throughput. These goals are not mutually exclusive.

**GENERAL RADIOLOGY**

The general radiology waiting room at our institution housed outpatient check-in for radiography, CT, and MRI. When we remodeled the radiography rooms to replace computed radiography cassettes with digital radiography in 2008, we had an opportunity to reassess clinical space and the waiting room. This allowed the entire patient experience, from check-in through imaging to check-out, to be reassessed and redesigned. We redesigned the dressing rooms for faster workflow but ensured that patients did not encounter one another when they were coming out of the dressing rooms, through workflow redesign. The waiting room was redesigned to resemble a coffee shop with different functional areas. Some patients can now watch television whereas others read. There are tables where people can work on their electronic devices while waiting for their loved ones. The patient advisers who were part of the redesign selected artwork from local artists with scenes of South Atlantic beaches, lighthouses, and other regional views. The local images were specifically chosen by patients because they elicited discussions of their family vacations and experiences that other patients likely share, creating conversation starters.

**Lessons Learned**

- Different patients have different expectations of the same space or experience.
- Local or commonly understood experiences may help create a comfortable environment for patients.
- Recruit patient advisers who can advocate for more than just their own point of view.

**MRI**

When we were replacing an MRI scanner in 2012, our patients described their experiences in MRI machines as cold, small spaces that were loud. Although many radiology practices provide earphones or earplugs, cold and small spaces are more difficult to modify. The dressing room was down the hall, so patients walked down the hall in gowns to the MRI scan room. These deficiencies or discomforts became the focus of the patient-centered design team. By changing the color schemes from off-white to blue, green, and sand, the team created a calming environment for the MRI scan room. Elevating the ceiling allowed us to install a backlit skylight showing clouds and palm trees to complement the color scheme. When combined with a mural of a beach on the far wall, the entire suite seemed a brighter, more open and inviting space. But there is no point in creating a beach feeling if patients are still cold, so we made sure that a blanket warmer was nearby. To ensure privacy, the new dressing room as well as a pediatric sedation room now open into the control room of the integrated beach MRI suite. There were concerns that a dressing room opening into the control room would impede patient throughput for the scanner. The design team (including the MRI staff) felt that patient privacy was a priority that had to be preserved, and the workflow of the MRI staff was redesigned to accommodate inefficiencies. From 2012 to 2016, MRI volumes increased by more than 30% without the addition of new scanners.

**Lessons Learned**

- Listening to patients’ needs and wants while they undergo examinations can result in higher satisfaction and better outcomes.
- Patients want more privacy, especially when in hospital gowns.
- Protecting patient privacy shows respect for individuals.
- Positive, themed distractions can improve the patient experience.

**ANGIOGRAPHY**

When replacing a single-plane angiographic unit with a biplane unit in 2013, we invested a lot of time studying...
physician and staff workflow and patient experience. When we thought we had the right design, we put our architect in a bed in the observation unit, transferred her to a stretcher, and brought her into the angiography suite. We then transferred her to the angiography table. This was done to simulate the patient experience and evaluate the design, including transportation, through the patient’s eyes. For the architect, a highlight of the experience was receiving a warm blanket when she was in the observation unit. While we waited for the actual suite to be available, the blanket cooled. When the architect finally got onto the angiography table, one of the nurses asked her if she was comfortable and whether she would like another warm blanket. That was when we learned that the only nearby blanket warmer was back in the observation unit, but the nurse could not leave the patient alone to get another blanket. Our renovation was changed to allow a blanket warmer to be placed immediately adjacent to the angiography suite.

**Lesson Learned**

- Simulate or walk through your proposed new workflow from the patient, staff, and physician perspectives to uncover design flaws or opportunities to improve it.
- Warm blankets make everything better.

**CANCER CENTER DESIGNED BY PATIENTS**

When designing our cancer center, there was a debate on the location. Some favored building a cancer center next to the radiation therapy building. The justification was enhanced workflow for the physicians and that it would be easier for patients to go to one location for most of their care. Others argued that the new clinical cancer center should be built adjacent to the cancer research building because this would allow researchers and clinicians to interact more and develop more clinical trials. However, this location was on the other side of the campus, with no direct path to the radiation therapy center. It would be disruptive to physician workflow and result in additional travel time and parking costs for patients. When Nettie Engels, the patient on the committee, was asked her opinion, she reminded us that we were an academic medical center: our job included research. She advised us to choose the design that would create the best chance of preventing her granddaughter from getting cancer and having the experiences that she had had. Engels brought her granddaughter to many of the subsequent meetings to sit with us, providing a visual reminder of her expectation and our purpose as an academic medical center. With our core values reinforced, the cancer center was planned to not only treat patients but also to prevent the girl sitting with us from getting cancer.

The decision was made to locate the clinical cancer center across the street from the cancer research building, on the other side of the campus from the radiation therapy building. What followed were a series of projects to figure out how to reduce the impact to patients of visiting two locations and to improve transportation. In addition, Engels wanted a healing environment: “All too often, cancer clinics are alienating spaces. So, we wanted to include healing elements such as natural light, outdoor views, artwork, native plants, and soothing colors to remind patients that there is life after cancer” [5]. The center opened in 2010 and included ground-level and rooftop gardens.

**Lessons Learned**

- Agree on your core values and purpose up front.
- All politics are local. Because the institution is an academic center, our patients had different expectations and were willing to bear certain burdens if those expectations were being met.

**FULL CIRCLE: REDESIGNING PEDIATRIC RADIOLOGY**

As renovation of the pediatric radiology department was being planned, again patients and families were engaged. In this case, these patients and families were redesigning the work of other families from nearly 20 years earlier. This renovation involved replacement of radiographic, fluoroscopic, and CT equipment; workflow redesign; and renovation of the waiting room and was planned to occur over 2 years so as not to interrupt clinical operations. In 2016, the pediatric radiology section renovation was completed [6,7]. Even though children and their parents had designed the radiology department in 1995, a new generation felt that it could be improved. Major themes were giving control back to children and making the environment more fun. The front desk was lowered to a more suitable pediatric level, and waiting rooms for patients who were not feeling well were equipped with configurable light colors. When arriving for a radiographic study, children are now asked their favorite color, and the lighting in the room is changed to that color. The pediatric fluoroscopy suite has options for different-colored lights and audio themes for children to choose. These cosmetic changes allow patients to control a
portion of their experience. A television was replaced with an interactive touchscreen wall that pediatric patients, and their families, can play with while waiting. The design team even selected more age-appropriate reading material to complete the experience. The result is happier patients, parents, and staff members as well as decreased fluoroscopy time and increased throughput and procedure volume. We also installed a “kitten scanner,” a child-sized model CT scanner with characters containing radiofrequency identification chips. Children are encouraged to select their favorite character, place the toy in the scanner, and hear the story and see images of how their character is undergoing a scan. Providing instruction in this manner has increased compliance with technologist instructions during procedures.

Lessons Learned

- Patients want to have some control over their experience and their health.
- PFCC is a journey without a destination. You are always working to improve while the target moves.
- Children learn by playing.
- Diagnostic radiology can be a healing environment.

FROM PROJECTS TO ADVISORY COUNCILS

After nearly 20 years of successful application of PFCC to renovations and equipment replacements, the leadership team of the department still believed that something was missing from our PFCC approach. The impact of the patient and family engagement was evident throughout the physical plant; however, radiology is more than its equipment. We needed a big-picture view of how our people and processes interacted with the patients and families to create their experience. In 2016, a patient and family advisory council was formed in the radiology department. It consisted of three experienced patient advisers who had worked on projects throughout the enterprise, one of the chief technologists, and the department chair. They meet monthly to review operational decisions and processes in radiology. This group reviewed the options for the inclusion of radiology information in the patient portal. The decisions to be made in the electronic health record were simple, with very little room for “out-of-the box” thinking:

- Should radiologic results be included in the patient portal?
- Send reports to the portal when they are in a preliminary status or final status?
- How long of a delay should occur before releasing the report to the portal?

The patients felt strongly that radiology reports should be in the portal when in a final state. The choice of delay time to releasing the report was a balance between the relief of knowing the results of a study and the danger of getting bad news or information that was confusing. Because the reports were available to patients through standard hospital release of information as soon as they were finalized, the group suggested releasing the reports immediately. Although many discussions with physicians and administrators would have ended there, this discussion did not. The patients raised the issue of technical vocabulary in the reports and recommendations for additional tests but no information about those tests. They asked if there were standard references they could have access to. The result was the recommendation to change the footer of the radiology reports to mention RadiologyInfo.org, the RSNA and ACR website for patients. When these recommendations were made at the institutional clinical informatics advisory committee, other resources for other disciplines were suggested, such as WebMD. Ultimately, web links were added to the portal web page rather than the radiology report. Thus, even when the decisions to be made and questions asked of patients were narrowly defined, working together, providers and patients found a way to increase value.

Lessons Learned

- Patients’, families’, and radiology practices’ needs change over time and need to be reviewed.
- Patients see answers to questions, even when providers are not asking the right questions.

CONCLUSIONS

Over two decades of experience with PFCC, common themes have emerged from our work to become guiding principles across our enterprise. This tidal wave of change, commonly described as value-based care, is paired with growing consumerism and customer service awareness as more Americans pay higher out-of-pocket costs for their care. Patients and family members are evolving from passive recipients of care processes determined by doctors and other clinicians to active partners in decision making and value determination. We offer the following guiding principles as you embark on your own experiments in PFCC at your institutions:
Engage with and listen to patients and families.
Create environments in which people can share what you are not doing well so that you can improve it.
Look for opportunities to engage patients and families. Actively seeking out patient and family interaction may not be appropriate for everyone on every single day, but it can occur outside of the care process too. Diagnostic radiologists may spend most of their day reading imaging studies in a dark room, but that does not prevent them from helping a lost patient or family negotiate an unfamiliar hospital hallway or taking a minute or two to visit the waiting room to converse with patients.
Leadership matters. Without courageous early leaders at the Medical College of Georgia taking a risk to accomplish their vision of PFCC, we would not have two decades of success stories to share. In our case, leadership and long-term commitment to the principles we have described in these examples were essential to the results achieved. This created cultural continuity that has been key to a decade of award-winning quality care.
Our implementation of PFCC involved building inclusive teams. This included not only patients and families, but also staff members in radiology. Inclusion of frontline staff members in the design process validated the importance of their work and their insights. In our experience, an engaged staff creates a better experience for patients. This relationship has been further validated by Gallup [8].

One of the most difficult challenges in any organization is changing culture. Patricia Sodomka (personal communication) offered the following lessons to us:
- “Systems which have features that build in patient participation can help change cultures.”
- “The way you have to teach patient and family centered care is by bringing the patient into the room.”

Although some may raise concerns that giving patients more power in decision making in radiology operations could lower quality or be a safety risk, our experiences do not support those concerns. The radiology department has won two patient-centric imaging awards [7,9]. Volume has continued to grow, while the department has won two patient-centric imaging awards. The radiology department has been in the top 10% of children’s hospitals in Press Ganey patient satisfaction surveys since it opened [10]. The hospital was recognized for patient quality and safety in pediatric care by the University HealthSystem Consortium over several years and was ranked number one in quality and safety in 2014 [11,12]. Although these accomplishments may not show causation between PFCC and improved quality or volume, they almost certainly demonstrate that PFCC does not impede improvements in quality or increases in volume.

The real value of PFCC is the culture change that occurs along the way, not the final product of any single project. We saw changes in the people who participated in the projects and ultimately a transformation of the culture of an academic radiology department to be more patient and family centered. Through changes in leadership, organizational structure, and payment systems, PFCC continued to be a core value of our department. PFCC is a long journey; it is part of a successful strategy that includes inclusive management, fiscal responsibility, and process improvement.

TAKE-HOME POINTS
- Radiologists can embrace PFCC and be part of improving the patient and family experience in radiology.
- Every radiology upgrade or renovation is an opportunity for patient and family engagement.
- Engagement of patients and families in radiology operations does not compromise quality or limit growth.
- PFCC is a collaborative process—a journey, not a destination.
- Respect and engagement of patients, families, frontline staff members, and other stakeholders is critical.

REFERENCES


