Case Study: Bringing Errors to Light

IMAGING3.0®

Radiologists in Massachusetts implement a "just culture" model, creating a fair and transparent way to address and solve medical errors.

By Meghan Edwards

Key Takeaways:

- Radiologists at Lahey Hospital and Medical Center implemented "just culture" — a method of investigating why errors happen and how to address them in a fair and transparent way.
- Although the application of the just culture model can appear complicated at first, Lahey's radiologists have found that using real-life scenarios helps employees better understand just culture concepts
- Recognizing that culture change takes time, Lahey's radiologists have committed to continually reinforcing the culture change — helping employees feel comfortable admitting errors — they seek to implement.

When Jennifer C. Broder, MD, became the vice chair of quality and safety at Lahey Hospital and Medical Center in Burlington, Mass., she noticed a concerning trend: Members of the department, including both physicians and technologists, were reluctant to disclose mistakes due to embarrassment and fear of punitive action or retribution. Instead, errors were often buried and never addressed.

"From a quality and safety perspective, that behavior negates the opportunity for improvement," says Broder, who is also an assistant professor of radiology at Tufts University in Boston. "We should be looking at every mistake to understand its context and why it happened, so we can prevent it from happening again."

With this in mind, Broder approached Christoph L. Wald, MD, PhD, MBA, FACR, the radiology department chair, about creating an environment in which employees feel comfortable talking about mistakes with leadership. "When we talked about it, we decided that we needed to change the culture of our department. For employees to be comfortable coming forward about errors, we needed to have a fair and transparent way to address issues, one that would follow the same process each time," Broder says.

As she examined possible solutions, Broder remembered learning about "just culture" at an ACR Quality and Safety conference that she had attended years earlier as a resident. After some consideration, Broder approached Wald about the just culture model, which is built on the understanding of two key traits: First, people make don't always intentionally make mistakes; and second, different people will view the risk associated with a behavior or decision differently. Wald saw the value of just culture and supported it without hesitation.

Patricia A. Doyle, MBA, CRA, executive director of radiology at Lahey Hospital and Medical Center, adds that the approach can also lead to improved patient care. "At the end of the day, learning about errors makes it safer for our patients. We can uncover systemic and human problems through a just culture, and as leaders, it's our responsibility to fix those problems."

Jennifer C. Broder, MD, vice chair of quality and safety at Lahey Hospital and Medical Center, led implementation of the just culture model within the radiology department.

Since the Lahey team began implementing the just culture model in October of 2016, the radiology department has become more comfortable with the approach and has standardized how it deals with errors. "Just culture has given us a way to have a consistent process for addressing errors each time. Everyone knows what the process is, so they're more transparent about things that happen," Doyle explains. "They also know what to expect from managers — for instance, one manager isn't going to be more lenient than another on attendance. You know exactly what to expect no matter who you are dealing with."

Understanding Just Culture

The just culture method directs management through a set of guiding questions to determine the underlying causes of an unfavorable event: Was the mistake the result of human error, at-risk behavior, or reckless behavior?

Continued on next page

Want more great examples of practice innovations? Visit **www.acr.org/Case-Studies**

Case Study: Bringing Errors to Light

IMAGING3.0®

Continued from previous page

Patricia A. Doyle, MBA, CRA, executive director of radiology at Lahey Hospital and Medical Center, says the just culture approach leads to improved patient care.

Each type of behavior is distinct — some intentional and some not:

- **Human error** — a simple mistake, maybe something someone forgot to do. For example, during a busy shift, a CT technologist may perform the wrong CT protocol because she forgot to verify the protocol before conducting the exam.
- **At-risk behavior** — risky actions occur when an individual does not recognize the extent of the risk involved in their decision. For example, this could involve workarounds that people might use to get a task done more quickly than the prescribed methodology.
- **Reckless behavior** — a deliberate action that consciously disregards risk. For instance, a technologist may intentionally ignore the requirement to check a patient's lab results before a procedure in order to start the exam more quickly.

"Just culture is based on intent — the steps that happened as a person walked through the decisions made," Broder explains. "Was the human error simply an 'I forgot,' or was there specific disregard for known protocol and why? Or was there a systemic error that set up the person to fail?"

Once management determines the intent behind the person's actions, the model outlines appropriate responses for each scenario. Human error results in consolation, at-risk behavior results in coaching, and reckless behavior results in disciplinary action.

Securing Leadership Support

The Lahey radiology leadership chose to implement the just culture model for several reasons, most notably because it would bring a valued change to the department. "If people understand they're not going to be disciplined for making human errors, they may be more likely to talk about their mistakes and why they happened," Broder says. "Ultimately, it helps foster an environment that encourages transparency, inquiry, and learning about error."

To begin the process, Broder and Wald had to determine which institutional leaders needed to support this work for it to succeed. They also approached the hospital's chief medical officer for quality and safety and the chief patient safety officer about the potential for implementing a just culture and invited them to attend the just culture training sessions that Lahey was planning. "They recognized the value immediately. We didn't have to do much in terms of selling them on it," she says.

Broder stresses that unrelenting support from hospital leadership, human resources personnel, and the legal department is critical to changing a culture. "There's nothing worse than saying you're going to operate a certain way and change the culture and then having leadership make a decision that is out of line with the principles you're teaching," Broder says. "If that happens, you're not really walking the walk, and you will end up losing credibility with your employees, who will in turn lose trust in your message that they can feel safe to discuss error. Your culture won't change."

Introducing Just Culture

Next, Broder partnered with Doyle and Lorraine Kelly, associate director of diagnostic imaging at Lahey Hospital and Medical Center, to schedule a mandatory just culture training session for the radiology department's physician and administrative leaders, including the modality operations managers and team leaders.

Broder and her team reached out to their risk management colleagues who had already undergone just culture training at Beverly Hospital, which is in the same healthcare system as Lahey. These colleagues guided the training session, giving a high-level overview of the just culture key concepts and introducing just culture's algorithm, which involves a series of questions[1]:

- What happened?
- What usually happens?
- What does the procedure require?

Continued on next page

Case Study: Bringing Errors to Light

IMAGING3.0®

Continued from previous page

- Why did it happen?
- How was the organization managing the risk?

Although participants were somewhat overwhelmed with the information, they were supportive of the method. "Managing individual errors is one of the hardest things leaders do," Broder says. "Managers struggle with the complexities of individual personalities and situations, and so they welcome a tool like the just culture method that helps support consistent decision making. I think they felt relieved that we were bringing this idea forward."

The approach gave department leaders a structure for handling these often challenging scenarios, Kelly says. "The just culture approach gave us all one plan to work from," she explains. "It broke down siloes, because a reaction to an error wouldn't change from person to person or modality to modality. I wanted to make sure the frontline staff were being supported equally by the leadership team."

At the end of the training, participants received laminated trifold cards that listed the structured just culture approach; questions to ask to determine how the error was made; and descriptions of human error, at-risk behavior, and reckless behavior. They also listed other algorithms, such as the process to follow for repetitive human error or at-risk behavior.

Engaging in Scenario Training

While the training was well received, changing culture doesn't happen overnight. To continue the culture shift, Broder, Doyle, and Kelly incorporated just culture scenario exercises into the department's monthly quality and safety meeting, from January of 2017 to January of 2019. The vice chair of quality and safety, department director, associate director, modality operations managers and team leaders, and informatics and nursing managers regularly attend the meeting.

During the exercises, the team conducted role-playing scenarios and practiced asking the questions in the just culture algorithms. "Initially, we used made-up scenarios from a guide we had purchased from a consulting company," Doyle recalls. "People hated it because they felt that the scenarios would never happen in our setting. They were geared toward healthcare but were too outrageous."

Broder and her team took this feedback seriously and began developing their own scenarios from real-life situations that occurred in their own department. Doyle selected reports from the hospital safety reporting system that describe errors involving radiology

Lorraine Kelly, associate director of diagnostic imaging at Lahey Hospital and Medical Center, says the just culture model gives department leaders a structure for handling challenging situations.

department technologists or other staff. Examples included an administrative assistant missing an error in a mammogram report (resulting in delayed follow-up), a mislabeled specimen, and a team member sharing a parking pass with another employee who did not share those privileges.

From this information, Doyle prepared a brief, anonymized summary to introduce each scenario. The radiology department is large enough that unless the specific manager was involved, it would be difficult to determine the employees' identities.

The group enacted the employee interview that would follow each event, with Doyle playing the role of the manager and the team leaders taking turns playing the role of the employee. During the interview, participants asked and answered the questions included in the just culture algorithm, using a decision tree to determine whether the event was caused by human error, at-risk behavior, or reckless behavior.

"It took us a while to figure out how to use the algorithm. It wasn't uncommon in the beginning for people to jump to conclusions," Kelly says. "But once we learned how to pick the situation apart with the suggested follow-up questions, we started to get the hang of it. Sometimes we realized we'd be looking at things with a certain bias or asking the wrong questions to understand the outcome."

Broder says that an example of this occurred when a technologist within the department had acquired an

Continued on next page

Case Study: Bringing Errors to Light

IMAGING3.0®

Continued from previous page

unnecessary series of images of an adjacent body part during an exam. The technologist separated the extra images from the rest of the study and didn't immediately send them to the PACS. Initially, the manager assumed that the technologist was trying to hide the error, but when asked the questions from the just culture algorithm, the technologist revealed that he didn't know what to do with the images and hadn't yet had the chance to ask.

"The manager assumed the technologist was aware of our department policy of sending all images with the initial exam and therefore had ill intentions," Broder explains. "However, when the manager re-interviewed the technologist using the suggested questions, the actual intent and cause came out."

Determining Effectiveness

To determine the efficacy of the ongoing training with role playing, Broder issued a survey through email to gather feedback about managers' perceived impact of the just culture training. The first two questions on the survey examined how consistently managers are investigating and managing errors. Questions three through seven identified whether managers were using the just culture model in real life, and questions nine and 10 evaluated whether the department was accomplishing its goals for equity and improving safety.

All 12 of the department's managers participated in the voluntary survey. The results showed great improvement. After the training, all managers reported they were using the same method and asking the same questions to investigate errors each time they occurred. Managers reported improving their outcome bias — considering the outcome of the error when reviewing the case. Consolation in response to human error was used more frequently, while reckless behavior continued to be managed through discipline.

The Lahey radiology leadership team has also received positive anecdotal feedback about the training: "We've heard good things from both the managers and the frontline employees, especially because we've improved the transparency in our system. Staff are beginning to understand how managers evaluate a situation and know that this is a process that will occur every time, so they're more forthcoming when an error happens," Broder says. "Just culture is a tool to help reassure and comfort people when they've made an honest mistake. And our team really appreciates that."

Inciting a Change

Both Doyle and Kelly have noticed changes within the department. "We've had a great response, especially from leadership," says Doyle. "Not long ago, we had an incident that happened because of pure human error. Previously, that employee would have been terminated. But because leadership walked through this algorithm, they were able to understand the situation and instead, rallied around the employee."

Broder also notes that the department seems less siloed and that managers are using their trifold just culture cards so much that the cards are starting to fall apart. "I've seen more discussions among managers about how they run their staff training and other day-to-day logistics. Before, they tended to stay within their modalities. We are seeing a change not only in individual error management but how we work as a team. Everyone is committed to this culture change."

In the future, Broder and her team plan to continue reinforcing the just culture model within the department by practicing the model and teaching frontline employees about the process. Broder, Doyle, and Kelly are working on a plan to help spread the message to radiology employees about what a just culture is and what they can expect. "We're thinking of doing a video presentation on the concepts of just culture with specific examples. We want to do something accessible that people will be able to spend time with," Broder says. Following the radiologists' lead, hospital leadership has decided to implement the just culture model throughout the institution.

Broder is also teaching radiologists from other hospitals and practices: Recently, she presented Lahey's just culture program to radiology residents at the ACR's Radiology Leadership Institute Summit. "We walked through the consequences of physician shame, what physicians worry about when they make errors, and why it's important to transition to just culture. I wanted to make sure the presentation was really practical and actionable," Broder explains.

For others wishing to implement the just culture model into their practice or department, Broder recommends patience and spending time practicing the algorithm. "You can't suddenly change a culture," she says. "It requires focus, dedication, and mindful planning to make certain that the changes you want are implemented. Without spending that time, you just have verbiage without real outcomes."

The effort is worth the result, Broder says. "It's not only right for the employee; it's right for the patient. By implementing just culture and investigating our processes, we're improving the safety of what we do and enhancing the care we provide."

Endnote

1. Outcome Engenuity. *Just culture algorithm v1.2 for physicians*. Plano, TX: Outcome Engenuity, 2012.

Continued on next page

Case Study: Bringing Errors to Light

Continued from previous page

Next Steps

1. Meet with leadership to introduce them to just culture and generate buy-in.

2. Choose a just culture tool that fits your institution and seek training, whether from colleagues who are already implementing just culture or a consulting group.

3. Develop a program that includes opportunities for ongoing training and evaluation of efficacy by, for instance, reviewing instance results from culture of safety surveys.

Share Your Story

Have a case study idea you'd like to share with the radiology community? To submit your idea please click here.

Bringing Errors to Light by American College of Radiology is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. Based on a work at www.acr.org/imaging 3. Permissions beyond the scope of this license may be available at www.acr.org/Legal.

ACR
1891 Preston White Drive
Reston, VA 20191
703-648-8900
www.acr.org/Imaging3

©Copyright 2019
American College of Radiology

Media contact: pr@acr.org