What Can Pennsylvania Learn from Minnesota's Program to Prevent Wrong-Site Surgery?

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INTRODUCTION

Both Pennsylvania and Minnesota have adopted best practices and redesigned delivery systems as part of initiatives to decrease wrong-site surgery events.[1,2] Wrong-site surgery events involve surgical procedures performed on the wrong patient, wrong body part, wrong side of the body, or wrong level of a correctly identified anatomic site.[3,4]

Both states have mandatory reporting systems and have endeavored to eliminate wrong-site surgery events. In January 2014, Minnesota reported in its 10th annual public report that wrong-site surgery decreased by 36% from October 2012 to October 2013, the largest decline in wrong-site surgery events since the program's inception in 2003.[2] Although wrong-site events in Pennsylvania have declined an average of approximately 5% per year over the past seven academic years (from 2007 to 2014), the improvement noted is not as dramatic as that experienced by Minnesota.[5]

What can Pennsylvania learn from the successes achieved by Minnesota? Pennsylvania Patient Safety Authority analysts attempted to obtain answers by reviewing Minnesota's program history and interviewing key representatives to discover the critical elements of Minnesota's success.

A HISTORICAL LOOK AT THE TWO PROGRAMS

Pennsylvania: Collaborating for Prevention

Wrong-site surgery project. Pennsylvania's wrong-site surgery project started with the initial identification of evidence-based best-practice principles in 2007, based on events of wrong-site surgery reported through the Pennsylvania Patient Safety Reporting System (PA-PSRS) since July 2004.[6] Identification of wrong-site events in Pennsylvania follows the National Quality Forum definition for procedures performed in the operating room suite, including punctures of the skin for the injection of local or regional anesthesia.[7] Since 2008, the Authority has issued statewide guidance on wrong-site surgery prevention through quarterly updates in the *Pennsylvania Patient Safety Advisory*.[7]

Evidence-based practices. Twenty-one evidence-based best practices consistent with the Universal Protocol[8] have been identified, covering preoperative verification of all relevant documents, properly marking the correct surgical site, conducting a proper time-out, and using intraoperative radiologic confirmation to verify the correct vertebral level during spinal surgery.[9]

Collaborative learning. Nine facilities implemented successful wrong-site surgery prevention programs on their own, allowing the Authority to identify the importance of leadership, nursing engagement, and other attributes of successful implementation.[10] That knowledge informed the Authority's strategic program, which provided assessments, education, tools, technical assistance, resources, and interactive forums to help participants implement best practices to prevent the occurrence of wrong-site surgery.[1] The first collaboration of 30 facilities resulted in a 73% reduction of wrong-site surgery.[11] The second collaboration of 19 facilities resulted in no wrong-site surgeries in any of the facilities' operating rooms for more than one year.[12]

The Authority has continued its collaborative learning initiative through a federally funded program with other Pennsylvania facilities.

Anesthesia time-outs. Because wrong-site anesthesia blocks represented 21% of all wrong-site events reported through PA-PSRS between July 2004 and June 2013, a statewide webinar was held to address the importance of anesthesia time-outs for preventing wrong-site regional and local anesthetic blocks.[1]

Scan this code with your mobile device's QR reader to access the Authority's toolkit on this topic.

Wrong-site surgery educational resources, programs, and activities, including on-site visits and one-on-one coaching calls, continued in 2014.[1]

Minnesota: Effective Time-Outs

Adverse event reporting. In 2003, Minnesota became the first state in the nation to establish a mandatory adverse health event reporting system focusing on all 27 serious reportable events identified by the National Quality Forum. As part of the law, it also issued an annual public report that identified adverse events by facility. The law covered Minnesota hospitals and ambulatory surgical centers (ASC).[13]

SAFE SITE. In the first few years following the implementation of the adverse health event reporting law, reports of wrong-site surgeries and procedures increased. The Minnesota Hospital Association (MHA) reported that an analysis of the data and root-cause analyses showed that these events came primarily from breakdowns in following basic best practices.[14]

In response, in 2007, MHA initiated the Call to Action framework for SAFE SITE, a program of best clinical practices including a toolkit to implement recommendations. Initial efforts focused on the operating room, then efforts expanded to include anesthesia, bedside procedures, clinic settings, the emergency department, and radiology.[14]

Time-out campaign. In 2008, the Minnesota Department of Health (MDH) and MHA began working closely with the University of Minnesota's Center for Design in Health to develop a time-out process grounded in human factors principles. Based on observed surgeries in eight facilities around Minnesota, the researchers helped to develop a comprehensive preprocedure verification process called the Minnesota Time Out. The three organizations collaborated to conduct regional training sessions and to develop a range of training tools and resources, including videos, to help facilities learn how to conduct the Minnesota Time Out correctly.[15]

In 2011, MHA, MDH, the Minnesota Medical Association, and other organizations formed the Minnesota Safe Surgery Coalition, whose mission was to eliminate wrong surgeries and procedures.[14]

Senior staff commitment. During the spring of 2011, the Minnesota Safe Surgery Coalition initiated a three-year campaign to eliminate wrong-site procedures, with the first year focusing on ensuring that the Minnesota Time Out was conducted for every patient, every invasive procedure, every time. Each facility that signed up to participate in the Minnesota Time Out campaign was required to have its chief executive officer (CEO) sign off on this commitment.[15]

To assist in engaging physicians in the process, MHA developed a DVD that featured prominent Minnesota surgeons talking about the importance, value, and simplicity of the Minnesota Time Out. Other resources included videotaped simulations of the time-out for auditing practice, sample policies and scripts, and talking points.[14,15]

INTERVIEW WITH MINNESOTA REPRESENTATIVES

To learn what makes the Minnesota program successful, Authority analysts conducted an interview with Julie Apold, MA, senior director, patient safety, at MHA and Rachel Blake Jokela, RRT, RCP, adverse health events program director, Division of Health Policy, at MDH.[16]

Authority: What made you specifically focus on the time-out process?

Julie Apold (JA): We saw in the data that every time we did have an event occur, there was a breakdown in the time-out steps. If those steps would have been completed according to best practice and in the correct order, they would most likely have prevented the events from occurring.

Authority: What was the motivation for your renewed effort in 2011 other than the fact that you weren't moving the needle?

Rachel Blake Jokela (RBJ): That was the impetus. We weren't seeing the decrease we wanted to see. What else could we be doing to push this forward? Looking at the adverse health event data as it was coming in real time and seeing the things that we were missing, almost every time, it was a step in the Minnesota Time Out that was not being done correctly or not being done in the right order. So then we thought, this time-out is the key. This is the gold piece. We need to do a campaign just around this. What is the one thing that facilities can do to make these numbers go down? We felt it was implementing the Minnesota Time Out and hardwiring this in their facilities.

Authority: How did you accomplish this?

JA: We brought them [facilities representing Minnesota hospitals and ASCs] around the table and discussed best practices. We got a sense of what would make a difference. We engaged the groups in the discussion.

Authority: Who were the people who became the thought leaders on this subject?

JA: Many times, they [surgical team representatives] were the champions that you knew were doing good work. We also had a listserv for the different areas we were working on, and you would notice people who were really involved and engaged. They presented themselves. They really had a passion to make a change in that area.

Authority: How did you achieve success?

JA: We found a model that works for us. We bring an advisory group together, put together best practices, and come to consensus. We then invite hospitals statewide to participate and engage the CEOs. They sign on to the initiative with a letter of commitment. We have [developed] the best practices and the tools, and we bring people [organizations representing

Minnesota hospitals and ASCs] together in a face-to-face kick-off. We do data collection through a web-based portal and update their practices each quarter. We use best practices and that made a real difference. They had to do a baseline survey before they did the kickoff and were asked if they had these best practices in place. Then at the end of the survey, they were asked to create an action plan for the quarter. Then we would do the kickoff and quarterly webinars. Each quarter, they would update their information to include any best practices and create a new action plan for any best practices not yet implemented. It was a systematic way to get the best practices into place and know what [goals] they are working toward. This project model has really worked well for us.

Authority: Why did you focus on the biggest problem area?

JA: We know that you can't do everything at once. We look at the quarterly aggregate data and are able to identify gaps in areas in need of improvement. We can then focus education and resources in those areas. The process gives us a common language to talk among the hospitals because they are all working toward the same goals and the same best practices.

Authority: Do they share their experiences with each other in the webinars and so on?

JA: Yes. They are very open. We also have a listserv so they can ask questions of each other if they get stuck or need a tool or other resource.

Authority: Do you just measure whether they have instituted a policy or do you look at compliance as well?

JA: We don't go out and observe or audit. There is no way we could do that. You need to have your champions in place, a good education process, a good process for collecting and analyzing data and feeding it back to staff, [and] good education for your patients and families. The questions around best practices are implementation strategies. Not that you just have a policy in place but that you are doing these things.

Authority: Do they self-report based on some internal secret shopper audit or do they say, "Yes, we are doing it"?

JA: The more honest they are with those answers, the better outcomes they will achieve. If they are saying they are at 100% but they are having wrong-site surgeries, then you know those two things are not fitting together.

Authority: Do you focus on implementing the infrastructure or the best-practices problem? Or a combination of both?

JA: A combination of both. You need the infrastructure to support the best practices: Here is the infrastructure; I have the data, the team, [and] education in place. On the other side are the best practices around site marking, scheduling, time-out, et cetera.

Authority: Can you think of one area Minnesota is struggling with?

RBJ: I think one area we are still struggling with is visualization of the site mark: who marks the site, when to mark the site, [and] how to mark the site. In the time-out, someone needs to visualize the site mark. The common reason why an event occurs is that the site mark is not done properly. The event will state that no one looked for the site mark because they just assumed it was there. We are going to be targeting this through a mini-campaign to stress that you really need to be looking at the site mark every single time.

Authority: Have you seen people get tired of this initiative and less enthusiastic?

JA: I think they are all motivated to make it work. We've been doing this formally since 2007 (i.e., quarterly reporting, coming to advisory group meetings). I don't see the enthusiasm waning at all. They want that number to be zero. We are also seeing the best practices spread to areas outside of the operating room. For example, anesthesia providers have really bought in to this effort. They're marking with an A with a circle around it—their distinctive mark—and that's really been spreading across the state. They have also been conducting their own time-out separate from the surgical time-out even when the anesthesia block occurs just prior to a surgical procedure. The number of wrong-site anesthesia events has decreased significantly due to these efforts.

Authority: Can you comment on the close relationship between the department of health and the hospital association in regard to the patient safety effort?

RBJ: I think that is key. We've heard for years people from other states can't believe that the department of health and the hospital association work together. For patient safety, it has always been a collaborative effort. All of our hospitals are members of the MHA, and anything that comes out from them really has a lot of clout. Folks want to sign on and want to be involved. If it was just the MDH, we wouldn't be remotely where we are right now.

Authority: Is there anything that we've missed in your "secret sauce" that we haven't touched on?

RBJ: We haven't just seen a decrease in wrong-site surgery but also in other wrong-site procedures and in retained foreign objects. We've been doing the work for many years, and it's starting to pay off. It's a matter of time, and it can take a little while. There is usually a six-month lag before we see results.

JA: We use "safety alerts" very carefully. A safety alert highlights a safety concern based on review of the data. We develop a safety alert document that provides the data along with action steps to address the identified issue sent via e-mail to the safety contacts in the facilities. We may go a year without one. Because we don't do them very often, they [healthcare facilities] really pay attention to them. You can see from the data when there is a safety alert because you see a decrease in the number of events related to the safety alert.

CONCLUSION

Pennsylvania and Minnesota have achieved success in their wrong-site surgery programs using different approaches. Pennsylvania identified key best practices and worked closely with hospitals that volunteered to participate in collaborations. In Minnesota, MHA and MDH worked together to develop a time-out process grounded in human factors principles, obtained the commitment of CEOs of facilities across the state, and used thought leaders committed to the goal of preventing wrong-site surgery to create a uniform standard across the state. Pennsylvania may wish to consider duplicating such a statewide initiative to create a voluntary standard approach to preventing wrong-site surgery.

NOTES

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