

## Performance improvement

# Looking to front-line clinicians, staff for lasting improvements

**A** patient with a multidrug-resistant infection is coming to your OR. That patient will travel from her room—one of the most contaminated areas of the hospital—to surgery, which is perhaps the cleanest. How can her caregivers avoid cross-contamination that could transmit the infection to others?

At 219-bed St Patrick Hospital and Health Sciences Center in Missoula, Montana, the answer is to look to its front-line clinicians and staff as well as for best practices from outside the organization. The approach, called Positive Deviance, or PD, stems from the idea that the best and most lasting improvements come from clinicians and staff who care for patients every day.

“Positive Deviance is based on the premise that solutions to tough problems that have not responded to traditional approaches already exist within the community that faces the problem,” explains Jon Lloyd, MD, a surgeon and a proponent of PD. He is coaching hospitals on PD projects centered on eliminating transmission of Methicillin-resistant *Staphylococcus aureus* (MRSA) (sidebar).

“PD enables the community to discover and spread its own hidden solutions so everybody has access to them and the opportunity to adopt the same successful behaviors and strategies,” he says.

### How PD works

One question St Patrick wanted to address was: How do we transport patients infected or colonized with multidrug-resistant organisms (MDRO) so the receiving unit, such as the OR, understands that these patients require special precautions? And what does the receiving unit need to do to prevent transmission while these patients are being cared for on that unit? (MRSA and *Clostridium difficile* were 2 MDROs of concern.)

Professional guidelines for preventing MDRO transmission don’t directly address the details of patient transfer.

In getting started with PD, Dr Lloyd explains, the first step is to involve senior administrators and clinical leaders so they understand how PD works and how results are measured. Then there is an invitation to opt in or opt out.

“PD engages only those people who want to use this approach to solve a problem,” he notes.

If senior leaders opt in, they are invited to bring their employees together for a kickoff to explain PD and how it might work at the hospital.

Hospital employees can opt in or opt out. Those who opt in are given opportunities to become actively engaged, for example, by organizing the initiative, being trained to facilitate the process, or determining performance parameters they want to follow to track performance.

“Only those who are passionate to be involved in preventing health care-acquired infections (HAIs) are involved—it’s all voluntary,” Dr Lloyd says. “No one is assigned,

designated, or appointed to be involved. Over time, word gets around, and more people get involved.”

No consultants are involved. “It doesn’t work if outside experts come in to facilitate the process,” he adds. “For tough problems that require behavior change, the real experts are the front-line staff.”

A core group meets to organize how to apply PD to a problem.

“It’s best to start small and go slow so you can go fast,” Dr Lloyd notes. Usually, hospitals start with one unit to build experience and make the case.

### **Introducing PD**

St Patrick’s employees were introduced to PD during the annual professional enrichment event, called APE. In small groups, they discussed what they do to prevent infections along with barriers and possible solutions, and reported back to the large group.

“In the first couple of APE sessions, a lot of OR people listed their barriers and frustrations” about patient transfers, notes Tammy Powers, BSN, RN, CIC, the infection prevention coordinator and a PD facilitator.

Powers saw this as an opportunity to create a core group of volunteers from day surgery, the hospital’s 11 ORs, and the postanesthesia care unit (PACU) and hold “discovery and action dialogs,” a PD technique for listening and drawing out ideas. In the core group were Powers; Carla Davies, BSN, RN, CNOR, OR manager; Michelle Sage, RN, CNOR, charge nurse; Michelle Leiby, BSN, RN, CPAN; and Ginger Martin RN, CMSRN.

### **Who are the ‘positive deviants’?**

Front-line workers assess how the current process works. The facilitator acts as a catalyst who asks questions, not an expert with solutions. Then the core group identifies ‘positive deviants’— those who do things differently or have ideas about how to improve the process.

Along with PD, the group decided to perform an A3, a Lean problem-solving process, for patient transfers. The team met 5 or 6 times and drew on other PD techniques, including skits and improv, to work out a better process for patient transfer to and from the OR.

### **Solutions for patient transfers**

These are some solutions for patient transfers that “positive deviants” identified. All solutions came from front-line staff such as RNs, nursing assistants, environmental services workers, patient transporters, and physicians.

#### **Communication plan**

Because communication was identified as a barrier, a communication plan for patient transfers was developed. The night before surgery, the charge nurse reviews the next day’s schedule for patients who are flagged for an MDRO. Cases are flagged on the schedule, and “MDRO” is written on the time-out white board in the patient’s OR as a reminder.

#### **Transfer process**

To refine the transport process:

- Patients positive for an MDRO are not transported to the OR in their own bed if at all possible. A clean stretcher is used instead.
- The patient is transported in a clean gown with clean hands and on clean linen.

## **What is Positive Deviance?**

Positive Deviance is based on the observation that every community has certain individuals or groups whose uncommon behaviors and strategies enable them to find better solutions to problems than their peers, even though they have access to the same resources and face similar or worse challenges.

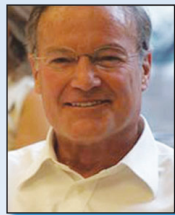
The Positive Deviance approach enables the community to discover these successful behaviors and strategies and develop a plan to promote their adoption.

Positive Deviance has been used to address issues such as child malnutrition, neonatal mortality, school drop-out, female genital cutting, hospital-acquired infections, and HIV/AIDS.

—[www.positivedeviance.org](http://www.positivedeviance.org)

## **Using positive deviance to drive change in the OR**

Positive Deviance has led to dramatic improvements in tough problems around the world, from improving the survival of low birth-weight babies in India, reducing school drop-out rates in California, or improving hand hygiene in hospitals.



*Jon C. Lloyd, MD*

In a general session at the Managing Today's OR Suite Conference, Jon C. Lloyd, MD, a surgeon and PD leader, will talk about how ORs can use PD to lead change in their departments. The conference is September 28 to 30 in Chicago.

Dr Lloyd, a senior associate with the Positive Deviance Initiative at Tufts University, Boston, has coordinated an effort to eliminate endemic Methicillin-resistant *Staphylococcus aureus* in Veterans Affairs (VA) hospitals. A PD project in 2 Veterans Affairs hospitals in Pittsburgh started in 2005 led to a 50% reduction in MRSA infections,

which was sustained and improved through 2009. The project included employee-generated ideas as well as established infection control protocols. ([www.innovations.ahrq.gov/content.aspx?id=1853](http://www.innovations.ahrq.gov/content.aspx?id=1853)).

The results inspired and informed a 76% reduction in health care-associated MRSA infections in 153 VA hospital critical care units nationally. Five non-VA hospitals have replicated the dramatic reductions in health care-associated-MRSA infections achieved by the Pittsburgh VA system, Dr Lloyd says. This effort was supported by the Centers for Disease Control and Prevention and the Robert Wood Johnson Foundation.

*Learn more about PD at [www.positivedeviance.org](http://www.positivedeviance.org) and [www.plexusinstitute.org](http://www.plexusinstitute.org).*

Depending on the surgery, a patient may have a preop shower or bath with chlorhexidine gluconate.

- Personal protective equipment (PPE) is worn in the patient's room. After the patient is on the stretcher and ready to be moved, the transporter cleans the side rails and head of the stretcher, removes the PPE, and performs hand hygiene. One "positive deviant" shared her idea to place the patient's chart in a belonging bag and hang it on the IV pole along with an isolation sign. This visual cue allows all personnel to recognize the need for contact precautions.
- If the patient must be transported in the bed, the bed is cleaned as well as possible.
- After the patient is transferred to the OR table, the stretcher is cleaned and placed back in service.
- Back in the patient's room, an environmental services worker cleans the patient's bed and changes the linens. The bed is then brought down to the OR to receive the patient after surgery, avoiding the need for multiple transfers after surgery.

- In the PACU, MDRO patients are placed in an isolation room.
- During surgery on MDRO patients, a runner is assigned, when available, to get supplies so the circulator won't have to make trips out of the OR to the supply core.

### ***Anesthesia cart solution***

An anesthesiologist offered ideas for better management of the anesthesia cart.

A special cart, identified by a red "racing stripe," was proposed for use in MDRO cases. The anesthesiologist suggested paring down the cart to essential supplies, with a fully stocked anesthesia cart outside the room.

The other anesthesiologists adopted the idea more readily than if it had come from outside their group, Powers notes.

Another innovation is to use plastic sandwich bags for storing small supplies such as needles and syringes in the cart. That way, an anesthesiologist can grab 3 bags of syringes and avoid potential contamination of syringes not needed for the case.

"When they go into the drawer and touch things, the surface of the bags can be wiped off," Davies explains. All of the anesthesia providers now use that method.

### ***On board with PPE***

Other ideas helped to determine how protective equipment (PPE) would be worn during patient transfers in the OR.

Guidelines of the Healthcare Infection Control Practices Advisory Committee (HIC-PAC) recommend that health care workers caring for patients on contact precautions wear a gown and gloves for all interactions that may involve contact with the patient or potentially contaminated areas of the patient's environment. The PPE is donned before or upon entering the room and discarded before exiting.

When an MDRO patient is brought into the OR, the entire team, including the circulating nurse and anesthesia provider, dons PPE while transferring the patient to the OR table. After the patient is draped, the anesthesia provider often continues to wear PPE, but the circulating nurse may remove PPE, discard it, and redon fresh PPE for transferring the patient to the PACU.

Once OR teams had a chance to observe and understand "what we were doing and why, we had much greater growth, especially with the anesthesia group," Davies says.

With use of PPE for MDRO cases, OR personnel are no longer required to change their scrub suits after the case.

"We now feel we can contain [the contamination] with PPE," she says.

### ***Keeping PPE on hand***

To make sure isolation gowns, gloves, MDRO signs, and cleaning supplies are handy, another "positive deviant" suggested a kit. Kits are placed on a table outside the OR where they are needed.

The day surgery unit has also developed a kit, and the OR offered them a spare cart to use. The cart also has a resource book and supplies such as disposable thermometers, blood pressure cuffs, and an isolation stethoscope.

"They got all of these supplies together in one afternoon, and it's been that way ever since," Powers notes.

Awareness about the need for contact precautions in the day surgery unit was raised when family members who had a patient with an MDRO on a medical unit started asking about wearing PPE when they were with the patient before and after surgery. The staff began making PPE available.

Environmental services management and staff have been involved from the begin-

ning of the process.

"Our environmental services staff are very accommodating in helping us to reduce infections," Powers says.

### **What's different about PD?**

How does positive deviance differ from other QI methods?

"PD helps you discover solutions you haven't tapped yet," Powers says. "If workers own the solutions and share them with their colleagues, the solutions are adopted a lot better than if someone from infection control comes in and tells them they have to do things a certain way."

Sage thinks PD is easier to sustain than other initiatives.

"A lot of times, solutions are imported from the outside. They are adopted, and then people go back to their usual behaviors. With positive deviance, so many people are involved that if someone slacks off, somebody else will question them. It keeps everybody diligent."

Dr Lloyd emphasizes that positive deviance "is for those problems that simply haven't yielded to the standard approach to improvement," especially if a behavior change is required.

"With health care-acquired infections, our experience has indicated that these are not primarily technical or knowledge problems but behavior problems." ❖

—Pat Patterson

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## **References**

- Association for Professionals in Infection Control and Epidemiology. Guide to the elimination of Methicillin-resistant *Staphylococcus aureus* (MRSA) transmission in hospital settings. Washington, DC: APIC, 2007. [www.apic.org](http://www.apic.org)
- Bradley E H, Curry L A, Ramanadhan S, et al. Research in action: Using positive deviance to improve quality of health care. *Implement Sci.* 2009;4:25.
- Healthcare Infection Control Practices Advisory Committee. Management of Multidrug-resistant organisms in healthcare settings, 2006. Atlanta, GA: CDC, 2006. [www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf](http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf)
- Lindberg C, Clancy T R. Positive deviance: An elegant solution to a complex problem. *J Nurs Adm.* 2010;40:150-153.
- Lloyd J, Buscell P, Lindberg C. Staff-driven cultural transformation diminishes MRSA. *Prevention Strategist.* 2008;1(Spring):10-15.
- Pascale R, Sternin J, Sternin M. *The Power of Positive Deviance: How Unlikely Innovators Solve the World's Toughest Problems.* Watertown, MA: Harvard Business Press, 2010.
- Ellingson K, Iverson N, Zuckerman J M. SHEA abstract: Multi-center prevention effort significantly cuts MRSA. March 23, 2009. [www.plexusinstitute.org/news-events/show\\_news.cfm?id=1665](http://www.plexusinstitute.org/news-events/show_news.cfm?id=1665)
- Toth M M. Approaching the challenge of eliminating MRSA transmission using positive deviance. PowerPoint. [www.apic.org/Content/NavigationMenu/Education/Online-Learning/Webinars/070124\\_norstrand.pdf](http://www.apic.org/Content/NavigationMenu/Education/Online-Learning/Webinars/070124_norstrand.pdf)