Winning the Battle Against Superbugs

Infectious disease epidemiologist Dr. Steffanie Strathdee and her husband, Tom Patterson, an evolutionary biologist, loved adventuring together. They went all over the world, wherever their work took them—no matter how risky or remote the locale. But on one vacation to Egypt, they got more than they bargained for when Tom got sick. Really sick.

He was diagnosed with a superbug, a bacteria that has become resistant to the antibiotic drugs designed to kill them. In fact, the bug Tom caught was the worst of the lot, topping the World Health Organization’s “Dirty Dozen” of the most serious bacterial threats to human health. With no traditional treatments effective against his infection, Tom's condition got worse and worse, but Steffanie never gave up searching for a cure. And she finally found one: bacteriophage therapy, which uses viruses called “phages” that only kill bacteria.

Phage therapy, in conjunction with antibiotics and other experimental treatments, offers hope to patients with superbug infections who may have run out of other options, a problem that will only grow as more bacteria develop resistance to antibiotics. Steffanie and Tom's story is a powerful reminder of how patients and their families can be their own advocates, as well as the importance of careful antibiotic stewardship and research into innovative treatments and therapies.
The Pennsylvania Patient Safety Reporting System (PA-PSRS) is one of the largest repositories of patient safety data in the world.

278,548 reports submitted in 2020

- 26,331 infections reported in 2020, a 7% decrease from 2019
- 1.07 infections per 1,000 resident days

Overall 2020 Infection Rate

Largest Rate Decrease: Norovirus
Largest Rate Increase: Catheter-Associated Urinary Tract Infections (CAUTI)

2019 → 2020

Respiratory tract infections increased by 10.2%, while the other four main infection types decreased

Original Articles — Hindsight is 2020

In conjunction with the Patient Safety Authority 2020 Annual Report, we published two articles in Patient Safety analyzing 2020 data from the Pennsylvania Patient Safety Reporting System (PA-PSRS), the nation’s largest event reporting database. In “2020 Pennsylvania Patient Safety Reporting” PSA data analysts take a close look at the 278,548 incidents and serious events reported by acute care facilities last year, while “2020 Healthcare-Associated Infection in the Long-Term Care Setting” examines 26,331 HAI reports from long-term care facilities last year. They supplement the data overview in the annual report with a comprehensive review and analysis of events reported in 2020, as well as insights into patient safety in Pennsylvania and how we may continue to improve it together.
Where There’s Smoke

**Burnout is a serious problem for clinicians as well as the patients who rely on them for safe care,** and the challenge has only been compounded by the stresses and trauma of the pandemic. Wouldn’t it be helpful if there were a tool that could assess whether your clinical staff is burning out?

A recent study showed that healthcare administrators could use a single survey item to see how their clinicians are doing. The question it asked was, “Are there individuals at your work location who are so burned out that the quality or safety of research, clinical care, or other important work product is impacted?” The respondents’ perception of the impact of burnout on quality safety of healthcare was self-reported using a 5-point system, ranging from 1 (“no burnout or it doesn't impact safety and quality”) to 5 (“a serious impact on quality and safety”).

This nonproprietary, single-item burnout-impacting safety scale showed a sensitivity of 82% using 4 on the scale as a cutoff (“there is quite a bit of impact of burnout on safety and quality”), indicating this tool may be effective in helping determine what healthcare providers may be at high risk for safety events affecting patients.
What the Pandemic Taught Us About Isolation

As the worst of the pandemic seems increasingly behind us, researchers are looking back at some challenges that hospitals faced from placing patients in isolation and identifying potential solutions to improve patient safety.

One such study examined 484 COVID-19-related event reports across 94 Pennsylvania hospitals and explored the relationships between safety events commonly associated with patients in infectious-agent isolation. Among their findings: the most frequently identified event types in these reports were skin integrity (29%), falls (27%), and medication-related (16%). The most frequently reported associated factors, which may have influenced the event types, were the patient’s mental status (17%), staff’s time to don personal protective equipment (13%), and the patient’s interference with equipment or supplies (9%).

The results of this study, and the researchers’ recommendations for strategies to address the challenges of patient isolation, may be used by facilities to examine their own isolation environment and proactively take measures to mitigate the potential safety risks.
Blood Transfusion Errors Within a Health System: A Review of Root Cause Analyses

Oct 2014–Aug 2019

RCA Event Types

- Patient Identification
- Wrong Blood
- Blood Orders
- Blood Labels
- Consent
- Transfusion Reactions
- Crossmatch

Determined Root Causes:
- Lack of a Process
- Technology Barriers
- Communication Barriers
- Training Barriers
- Low-Frequency Tasks
- No Standard Operating Procedure
- Complex Process
- Equipment Barriers
- Environment
- Multitasking
- No Defined Roles
- No Barrier to Prevent Harm

140 facilities report RCA (root cause analysis)
53 RCA and aggregated reviews included

Blood Transfusion Errors

Blood transfusions can be lifesaving interventions to save the most critical patients, but errors during the process can be fatal. The good news is blood transfusion errors are preventable, if you know what risk factors to look for. This prompted researchers to do an in-depth analysis of the root causes of such errors within a health system.

They identified the most common events as incorrect or lack of patient identification, wrong blood given, and incorrect or delayed blood orders. A root cause analysis (RCA) revealed that the most frequent causes included lack of a formal process, communication barriers, and technology barriers. From examining the data, the authors derived recommendations to reduce errors within health systems, focused on standardizing processes, enhancing collaboration and communication, reviewing accessibility of information and resources, and improving education and training.

Calling all future pharmacists:
The future starts now!

We’re inviting PharmD students and faculty to submit their manuscripts by June 30. A panel of guest editors—pharmacy experts from across the United States—will select their favorites.

The winners will be published on National Pharmacist Day (January 12, 2022) in a special issue of Patient Safety dedicated to academic pharmacy.

For more information or to submit a manuscript, email: patientsafetyj@pa.gov
Huddling Up for Safety

In order to improve outcomes for patients with a score greater than 7 on the Irish Health Service’s National Early Warning Score (NEWS)—which indicates a high clinical risk requiring urgent or emergency response, a significant factor contributing to cardiac arrests—Cork University Hospital in Ireland introduced a “surgical safety huddle.”

While the safety huddle concept originated in the military and aviation industry to mitigate risk in high-pressure situations, more recently it has been adapted into healthcare practices for managing patient care, emergency department overcrowding, and critical care teams.

This quality improvement initiative, the first to involve a surgical safety huddle in Ireland, brought together a multidisciplinary team to share data and information about their surgical patients as a timely intervention. Using a framework of Situational Awareness for Everyone (SAFE), it provided an opportunity for all participants to speak up and collaborate to proactively assess patients’ condition and coordinate a treatment plan. The goal was to identify the deteriorating perioperative patient early enough to intervene—and results showed success in decreasing the number of poor outcomes for the hospital’s highest-risk patients.
How Safe is Your Safety Culture?

Yes, safety culture is the foundation of safe care. But are healthcare facilities applying safety culture principles to their response when a safety event occurs?

To answer these questions, researchers looked at 8,546 serious event reports from the Pennsylvania Patient Safety Reporting System (PA-PSRS), the nation’s largest event reporting database, and classified their recommendations according to whether they used a person-based approach, a system-based approach, or both.

They found that in the majority of the recommendations in which an approach was indicated, a person-based approach was used (23.2%) compared to 13.3% in which a system-based approach was used more often. A safety culture thrives when safety event reporting and analysis is nonpunitive; however, in a person-based approach, individuals are typically blamed for errors—a Band-Aid solution that is cheap and easy but ineffective in the long-term.

This comprehensive review suggests that more work needs to be done in implementing a system-based safety event review approach, which focuses on understanding and improving the conditions that contributed to the event and offer meaningful, longer-lasting change.
Do You Hear What I Hear?

**Beep… Beep… Beep…** Anyone who has worked in the clinical setting with telemetry monitoring recognizes the constant sound representing a patient’s heartbeat. However, an overabundance of alarms can desensitize people to the sounds, so they fade into the background. This may lead to a delayed response to the actionable alarms that demand immediate attention, which in turn affects patient safety.

If you’re tired of combating “alarm fatigue,” Kelly Gipson, BSN, RN, has some **proven strategies that may give your telemetry approach a wake-up call**. First up: reduce unnecessary monitoring by integrating the American Heart Association practice standards into electronic order sets. If your organization is facing challenges in effective communication about alarms, adopt an escalation process that identifies the person to contact when no one responds to an alarm. One organization tested battery life in a simulation setting to schedule battery replacements, thereby eliminating the problem of dead batteries that interrupt monitoring.

Any organization can ensure better, safer telemetry monitoring if they follow recommendations like these, embrace innovation, and observe best practices—if they also have an engaged, multidisciplinary team that includes leadership support for their improvement initiatives.

**Perspectives — Critical Care Physician Turned Critical Care Patient**

You’ve probably heard the proverb, “Physician, heal thyself.” But last year cardiac anesthesiologist Dr. Michael Leonard learned that is easier said than done, especially where COVID-19 is concerned. In March 2020, just as the pandemic was about to ramp up, he went on one last work trip. He did his best to avoid close contact with other people; however, this was an impossible task in the packed airports and flights home to Colorado.

A few days later, Michael realized he’d brought back an unwanted souvenir: a cough and fever. He monitored his vital signs, including his blood oxygen levels. At first his oxygen saturation was normal, in the 95–97% range. When those numbers precipitously dropped to 70% just walking up his driveway, he knew he was in trouble. He drove to the University of Colorado Hospital, unable to breathe and knowing that he needed to be intubated.

He remained in the hospital for three months.

Read about Dr. Leonard’s miraculous recovery, his ongoing path to recovery, and the life lessons he learned from being in an intensive care unit bed rather than beside one.