



April 29, 2016



# 2015

Pennsylvania Patient Safety Authority

# Annual Report





# Letter from the Board Chair

April 29, 2016

Dear Fellow Pennsylvanians:

The Pennsylvania Patient Safety Authority continued in 2015 to make strides to improve patient safety and try to measure how much standardizing reports might help in that effort. Throughout the 2015 Annual Report, five sections focusing on (1) Data, (2) Standardization, (3) the *Pennsylvania Patient Safety Advisory*, (4) Education, and (5) Collaboration provide details about the work the Authority did to improve patient safety in the Commonwealth.

Healthcare providers continued to report robustly to the Authority, submitting 238,890 reports in 2015 with 7,732 Serious Events (up 9%), with a 22% increase in patient deaths. While the Authority does not know for sure, signs indicate the increase may be due to the April 1 implementation of 28 principles to improve the standardization of reports. A multi-stakeholder workgroup convened by the Authority to address Pennsylvania healthcare facility requests to standardize reports submitted to the Pennsylvania Patient Safety Reporting System (PA-PSRS) developed a consensus on the principles and provided some technical changes to PA-PSRS. However, more data must be collected and analyzed before making a determination that this is a direct cause of the increase in patient deaths and high harm events.

Education continued throughout 2015, with nearly 7,000 Pennsylvania healthcare workers educated through 192 programs. Facility engagement increased 13% with three new Patient Safety Liaisons joining in the effort to provide Pennsylvania healthcare facilities with on-site and remote support with consultation and education.

The Authority continued to partner with healthcare facilities and organizations to give them the tools needed to implement real change. One collaboration with the Health Research and Educational Trust (HRET) successfully

reduced catheter-associated urinary tract infection rates (CAUTI) by 54%. Through the collaboration, facilities reduced unnecessary catheter use, improved the safety culture, and were introduced to tools from the Authority and HRET that enable them to sustain their results.

The *Pennsylvania Patient Safety Advisory* has provided more than 500 patient safety focused articles to date and 48 *Advisory*-based educational toolkits to Pennsylvania healthcare facilities. The *Advisory* is credited by facilities with contributing to nearly 4,500 structure and process improvements. The information provided by the *Advisory* garnered more than 125,000 website hits in 2015, with more than 12,180 *Advisory*-based CME credits earned by healthcare professionals reading the *Advisory* from 2006 through 2015.

Last year, the Authority continued to educate Pennsylvania healthcare workers in hospitals, nursing homes, ambulatory surgery facilities, and professional organizations across the state in infection prevention. Two infection prevention analysts joined the team in 2015, and the Authority infection prevention analysts participated in a statewide ambulatory surgery facility (ASF) symposium for healthcare workers to learn strategies to prevent infections in healthcare settings.

As chair of the Pennsylvania Patient Safety Authority's Board of Directors, I look forward to working with Pennsylvania healthcare facilities and nursing homes to further improve patient safety through the new educational initiatives and programs detailed in this report.

On behalf of the Board, I am pleased to submit this annual report for your review.

Rachel Levine, MD  
Chair, Board of Directors  
Pennsylvania Patient Safety Authority

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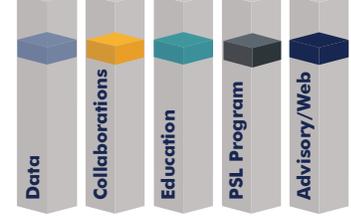
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System Developer

**Susan C. Wallace, MPH**  
Patient Safety Analyst

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# Executive Summary

The Pennsylvania Patient Safety Authority is an independent state agency established under the Medical Care Availability and Reduction of Error (MCARE) Act of 2002. It is charged with collecting and analyzing data reported through the Pennsylvania Patient Safety Reporting System (PA-PSRS) and providing advice and guidance to healthcare facilities to improve safety and help prevent patient harm. The Authority also serves as a change agent for healthcare facilities, helping to share lessons learned among healthcare providers without identifying facilities where data came from.

One of the ways the Authority accomplishes this goal is by analyzing events reported to it by healthcare providers throughout Pennsylvania. Under the MCARE Act, healthcare facilities must report Serious Events (events that harm the patient) and Incidents or “near misses” (events that do not harm the patient) to the Authority. Facilities must notify patients or their families when a Serious Event has occurred. The Pennsylvania Department of Health also receives Serious Event reports for its regulatory role. Healthcare facilities must designate patient safety officers and establish Patient Safety Committees within their institutions.

The Authority initiated statewide mandatory reporting in June 2004. All reports are confidential and non-discoverable. In 2007, MCARE was amended (Act 52) for nursing homes to report healthcare-associated infections (HAIs) as Serious Events to the Authority. For more information about the Authority and PA-PSRS, go to the [Definitions](#) and [Detailed Overview of Data Reported through PA-PSRS](#) sections of this report.

This report provides a high-level overview of the Authority’s 2015 activities. More detail is provided in the sections that follow this executive summary. Throughout the report, and as shown in the following infographic, five pillars will be used to address each section: Data, Standardization, the *Pennsylvania Patient Safety Advisory*, Education, and Collaboration.

As in prior years, reporting of safety concerns by healthcare providers in Pennsylvania is robust and demonstrates a high level of engagement. Since reporting began in June 2004, acute-care facilities have submitted more than 2.5 million reports to the Authority. In 2015, acute-care facilities reported 238,890 reports through PA-PSRS. Serious Events (7,732) increased by 9% in 2015, compared

with the prior year. In particular, there was a 22% increase year-over-year in the number of events associated with patients’ deaths—the first time we have seen an increase in these reports since 2008. This increase is associated primarily with the event type “Complications of Procedure/Treatment/Test,” which suggests it may be associated with the standardization initiative discussed below. The Authority is continuing to investigate the reasons for this change. Each year, a small number of facilities have a level of reporting that is sufficiently low compared with their peers’ reporting that the Authority is concerned about their reporting culture and compliance with the MCARE Act. For more about how the Authority addresses facilities with few events reported, refer to the section [Reporting Standardization: Guidance for Acute Healthcare Reporting](#). All of the events submitted by healthcare facilities are used as the basis for the Authority’s analyses and guidance for safety, and they provide content the *Advisory* and many of the collaborative improvement projects discussed below.

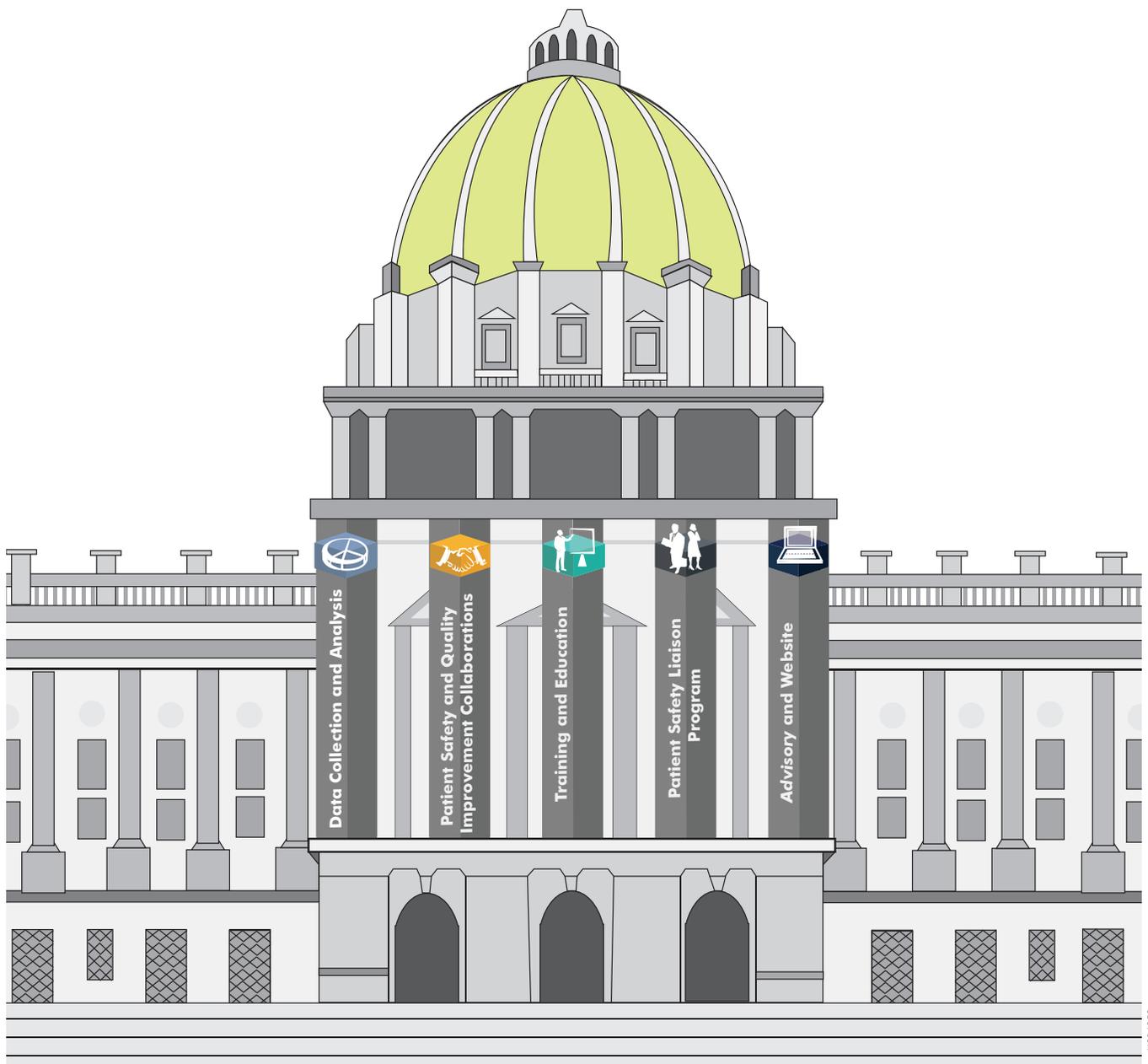
The standardization project was a multi-stakeholder workgroup convened by the Authority to address Pennsylvania healthcare facility requests to standardize reports submitted to PA-PSRS. On April 1, 2015, 28 guiding principles on which there was consensus as well as technical changes to PA-PSRS went into effect to improve consistency in event reporting. Although it is too soon to reach final conclusions about this process, all indicators the Authority believes are important to monitor are moving in the right direction: There was a substantial increase in Serious Event reports shortly after the time of implementation, the education program used to roll out the principles had a very high reach, new event categories in PA-PSRS are being used by the facilities when submitting events, and there has been no significant criticism of the new standards from any stakeholders. Although it is impossible to prove that the standardization initiative is the sole cause of this increase, its timing, its breadth across a large number of facilities rather than a few, and its focus on the event type of Complications of Procedure/Treatment/Test (a major focus of the standardization initiative), are highly suggestive that this change in reporting is associated with the standardization initiative. More information about this project can be found in the section [Reporting Standardization: Guidance for Acute Healthcare Reporting](#).

*(continued on page 4)*

# Key Patient Safety Measures

The work the Pennsylvania Patient Safety Authority performs is organized into pillars (i.e., categories), appearing below and as indicators at the beginning of relevant sections throughout this report. Key patient safety measures make up the pillars, which provide a means to measure progress in patient safety in Pennsylvania as manifested by the following:

- Trends in harm reporting
- Evidence of the effectiveness of Authority-led collaborations and projects
- Evidence of improvement opportunities and direction for patient safety work



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Collecting and analyzing patient safety events and near misses is the cornerstone of the Authority's mission. "The Authority has what many consider to be the foremost event and near miss database in the country and, indeed, the world."<sup>1</sup> The Authority collects, monitors, trends, and analyzes this data to identify opportunities for improvement, education, outreach, and research.

*For example, the number of Incidents (near misses) fell 1.1% in 2015 compared with the previous year. Conversely, the number of Serious Events grew 9% in 2015 compared with 2014. See the **Detailed Overview of Data Reported through PA-PSRS** section for more detail.*

Targeting specific clinical safety issues through focused collaborative efforts fosters rapid learning and spread of best practices, enables improvement locally and regionally, and enhances the outreach and connectedness of the patient safety community through peer support and encouragement. The Authority has led and participated in various collaborations, such as preventing and reducing wrong-site surgery, adverse drug events, hospital-acquired infections, and falls with harm.

*For example, the Authority partnered with the Health Research and Educational Trust in a nursing home collaboration that successfully reduced catheter-associated urinary tract infections rates by 54%. See the **Building Improvement in Patient Safety through Collaboration and Partnerships** section for more detail.*



Training and educating healthcare providers in patient safety and improvement is a cornerstone of the Authority's mission. Training and education methods the Authority uses to disseminate new learning include webinars, conferences, and face-to-face interactions at facilities.

*For example, the Authority conducted more than 190 educational programs and educated more than 6,900 healthcare workers in 2015. See the **Educational Programs: Providing a Strong Foundation for Improvement** section for more detail.*

Providing hands-on assistance to the healthcare providers who carry out the patient safety work is a unique and valuable feature of the Authority's mission. Patient Safety Liaisons work directly with the Patient Safety Officers and afford them a personal contact with the Authority. Services the liaisons provide to facilities include orienting new patient safety officers, education and training, facilitating root-cause analyses, and observing performance-improvement activities.

*For example, the Authority's Patient Safety Liaisons made more than 1,900 contacts with facilities in 2015. See the **Patient Safety Liaison Program in the Educational Programs: Providing a Strong Foundation for Improvement** section for more detail.*



Translating the vast amount of patient safety data into usable information for front-line healthcare providers is a valuable service of the Authority. Through its *Pennsylvania Patient Safety Advisory* journal and the Authority website, the Authority provides continuous analysis and guidance on patient safety event trends and best practices.

*For example, the Authority provided 48 Advisory-based educational toolkits, which garnered more than 125,000 website hits in 2015. See **The Pennsylvania Patient Safety Advisory** section for more detail.*

<sup>1</sup> Pinakiewicz DC. Alignment of Pennsylvania Patient Safety Authority activities with national patient safety priorities. Harrisburg (PA): Pennsylvania Patient Safety Authority; 2014 Feb.

(continued from page 1)

Healthcare facilities from Pennsylvania, throughout the United States, and internationally continue to use the *Advisory* to improve patient safety. Pennsylvania healthcare facilities credit the *Advisory* with contributing to nearly 4,500 structure and process improvements. With more than 500 safety-focused articles to date, the Authority has provided facilities with 48 *Advisory*-based educational toolkits, which garnered more than 125,000 website hits in 2015 with more than 12,180 *Advisory*-based CME credits earned by healthcare professionals reading the *Advisory* from 2006 through 2015. Subscribers to the *Advisory* are in all 50 states and in 44 countries, with more than 4,800 subscribers worldwide. *Advisory* topics in 2015 included standardizing emergency codes, patient flow in the emergency department, hospital-acquired pressure ulcers, wrong-site surgery, delirium, medication errors in electronic health records, medication errors affecting pediatric patients, and antibiotic stewardship in hospitals and long-term care facilities.

In 2015, 6,946 Pennsylvania healthcare workers were educated through 192 educational programs, such as Root Cause Analysis, Just Culture™, Data and Measurement, Medication Safety, Infection Prevention, Wrong-Site Surgery, and Proactive Event Reporting. Facility engagement with education programs has increased to 55% in 2015, from 42% the previous year. Also, the number of Pennsylvania healthcare facilities that either hosted on-site educational events with the Authority or attended Authority regional events increased by 13% in 2015, up from the previous year. Patient Safety Liaisons (PSLs) throughout Pennsylvania provide on-site and remote support to healthcare facilities. Three PSLs joined the Authority in 2015, bringing the total of PSLs to eight.

Collaborations played an important role in not only educating Pennsylvania healthcare workers, but giving them the tools needed to implement real change within their healthcare facilities. The Authority partnered with the Health Research and Educational Trust (HRET) on a 14-month collaboration, successfully reducing catheter-associated urinary tract infection (CAUTI) rates by 54% by helping facilities to reduce unnecessary catheter use and improve their facilities' safety culture; tools were provided to help them sustain their results. The Authority began additional work with the Hospital and Healthsystem Association of Pennsylvania (HAP) late in 2015 on Hospital Engagement Network (HEN) 2.0. More information about collaborations can be found in the **Building Improvement in Patient Safety through Collaboration and Partnerships** section. The Authority has fostered collaborative partnerships in 2015 with organizations including the Pennsylvania Department of Health, the National Patient Safety Foundation,

the Pennsylvania Society of Anesthesiologists, the Quality Insights Quality Innovation Network, and the Association for Professionals in Infection Control and Epidemiology.

The work to reduce healthcare-associated infections (HAIs) continues not only in collaborations, but within Pennsylvania healthcare facilities and nursing homes. In 2015, the Authority infection-prevention analysts participated in a statewide ambulatory surgery facility (ASF) symposium for healthcare workers to learn strategies to prevent infections in ASF settings. Two infection-prevention analysts joined the Authority in 2015.

Nursing homes in Pennsylvania submitted 31,672 infection reports through PA-PSRS in 2015, a 9.9% increase from the 28,825 submitted in 2014. The first full year of data from long-term care (LTC) was reported in 2015 via PA-PSRS, using the revised McGeer criteria. The year 2015 serves as the new benchmark for LTC-HAI data for Pennsylvania. When one full year of data is available, Authority analysts will compare year-to-year performance in HAI categories. This will begin in 2016 and will be addressed in the 2016 Annual Report. See the **Healthcare-Associated Infections** section of this report.

For the first time, in 2015, the Authority conducted a survey of hospital and nursing home infection preventionists yielding information such as that 48% of nursing homes have mandatory staff influenza vaccination programs and require healthcare workers who are not vaccinated against influenza to wear face masks. These survey results will help the Authority know where it should target educational efforts.

To celebrate the patient safety efforts in Pennsylvania, the Authority recognized 21 healthcare workers from 12 healthcare facilities throughout Pennsylvania for its annual "I Am Patient Safety" campaign. The contest promotes individuals and groups within Pennsylvania's healthcare facilities who have demonstrated an exceptional commitment to patient safety. The recognized winners are featured on this year's cover and their patient safety efforts detailed within the 2015 Annual Report.

Although the Authority recognizes through this Annual Report all of the good work being done to improve patient safety in Pennsylvania, it is time to consider another strategic plan with next steps that include more measurement of patient safety initiatives.

More about the Authority, data collection and analysis, standardization, *Advisory*, education, collaborations, and the I Am Patient Safety campaign can be found in their designated sections following this executive summary.

# Definitions

Healthcare facilities are required to submit reports on the following four kinds of occurrences:

1. **Serious Event.** An adverse event resulting in patient harm. The legal definition from the the Medical Care Availability and Reduction of Error (MCARE) Act:<sup>1</sup> “An event, occurrence or situation involving the clinical care of a patient in a medical facility that results in death or compromises patient safety and results in an unanticipated injury requiring the delivery of additional health care services to the patient. The term does not include an incident.”
2. **Incident.** A “near miss” in which the patient was not harmed. The legal definition from the MCARE Act:<sup>1</sup> “An event, occurrence or situation involving the clinical care of a patient in a medical facility which could have injured the patient but did not either cause an unanticipated injury or require the delivery of additional health care services to the patient. The term does not include a serious event.”
3. **Infrastructure Failure.** A potential patient safety issue associated with the physical plant of a healthcare facility, the availability of clinical services, or criminal activity. The legal definition from the MCARE Act<sup>1</sup>: “An undesirable or unintended event, occurrence or situation involving the infrastructure of a medical facility or the discontinuation or significant disruption of a service which could seriously compromise patient safety.” Reports of Infrastructure Failures are submitted only to the state Department of Health and therefore are not addressed in this report.
4. **Other.** The U.S. Centers for Medicare and Medicaid Services (CMS) requires hospitals to report to the Department any death in restraints or in seclusion or in which restraints or seclusion were used within 24 hours of death (other than soft wrist restraints). Deaths in which the restraints or seclusion are suspected of or confirmed as having played a role in the death should be reported as Serious Events. Other deaths in which the restraint or seclusion use was incidental or not suspected should be reported under this “Other” category.

Reports of Serious Events and Incidents are submitted to the Pennsylvania Patient Safety Authority for the purposes of learning how the healthcare system can be made safer in Pennsylvania. Reports of Serious Events and Infrastructure Failures are submitted to the Department so it can fulfill its role as a regulator of Pennsylvania healthcare facilities.

The MCARE Act requires the following types of facilities to submit reports of Serious Events, Incidents, and Infrastructure Failures to the Authority through the Pennsylvania Patient Safety Reporting System (PA-PSRS):

**Hospitals.** The Health Care Facilities Act<sup>2</sup> defines a hospital as “an institution having an organized medical staff established for the purpose of providing to inpatients, by or under the supervision of physicians, diagnostic and therapeutic services for the care of persons who are injured, disabled, pregnant, diseased, sick or mentally ill or rehabilitation services for the rehabilitation of persons who are injured, disabled, pregnant, diseased, sick or mentally ill. The term includes facilities for the diagnosis and treatment of disorders within the scope of specific medical specialties, but not facilities caring exclusively for the mentally ill.” For this report, at the end of 2015, the Commonwealth of Pennsylvania had 237 qualifying hospitals.

**Ambulatory surgical facilities.** The Health Care Facilities Act<sup>2</sup> defines an ambulatory surgical facility as “a facility or portion thereof not located upon the premises of a hospital which provides specialty or multispecialty outpatient surgical treatment. Ambulatory surgical facility does not include individual or group practice offices or private physicians or dentists, unless such offices have a distinct part used solely for outpatient treatment on a regular and organized basis. Outpatient surgical treatment means surgical treatment to patients who do not require hospitalization but who require constant medical supervision following the surgical procedure performed.” For this report, at the end of 2015, the Commonwealth of Pennsylvania had 306 qualifying ambulatory surgical facilities.

**Birthing centers.** The Health Care Facilities Act<sup>2</sup> defines a birthing center as “a facility not part of a hospital which provides maternity care to childbearing families not requiring hospitalization. A birthing center provides a home-like atmosphere for maternity care, including

prenatal, labor, delivery, postpartum care related to medically uncomplicated pregnancies.” For this report, at the end of 2015, the Commonwealth of Pennsylvania had six qualifying birthing centers.

**Abortion facilities.** Act 30 of 2006 extended the reporting requirements in the MCARE Act to abortion facilities that perform more than 100 procedures per year. For this report, at the end of 2015, the Commonwealth of Pennsylvania had 19 qualifying abortion facilities.

**Nursing homes.** Act 52 of 2007 revised the MCARE Act to require nursing homes to report healthcare-associated infections (HAIs) to the Authority. Reporting from these facilities began in June 2009. For this report, at the end of 2015, the Commonwealth of Pennsylvania had 702 qualifying nursing homes. See the [Healthcare-Associated Infection](#) section of this report for data received from nursing homes.

Other pertinent definitions used in this report include the following:

**Medical error.** This term is commonly used when discussing patient safety, but it is not defined in the MCARE Act. The word “error” appears in PA-PSRS and in this report. For example, one category of reports discussed is “medication errors.” The Institute of Medicine’s Committee on Data Standards for Patient Safety, which defines an error as: “The failure of a planned action to be completed as intended (i.e., error of execution), and the use of a wrong plan to achieve an aim (i.e., error of planning)... It also includes failure of an unplanned action that should have been completed (omission).”<sup>3</sup>

Within the MCARE Act, the term “medical error” is used in section 102: “Every effort must be made to eliminate medical errors by identifying problems and implementing

solutions that promote patient safety.” It is also used in defining the scope of chapter 3, “Patient Safety”: “This chapter relates to the reduction of medical errors for the purpose of ensuring patient safety.”

**Adverse event.** This term also appears in this report, although it is not defined in the MCARE Act. The Institute of Medicine Committee on Data Standards for Patient Safety defines an adverse event as follows: “An event that results in unintended harm to the patient by an act of commission or omission rather than by the underlying disease or condition of the patient.” The Authority considers this term to be broader than “medical error,” because some adverse events may result from clinical care without necessarily involving an error.

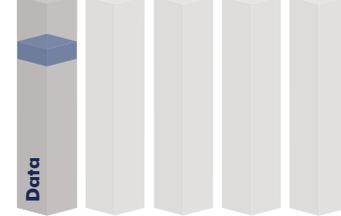
While PA-PSRS includes reports of events that result from errors, the program’s focus is on the broader scope of actual and potential adverse events—not only those that result from errors.

**Patient Safety Officer.** The MCARE Act requires each medical facility to designate a single individual to serve as that facility’s patient safety officer. Under the MCARE Act, the patient safety officer is responsible for submitting reports to the Authority. The MCARE Act also assigns other responsibilities to the patient safety officer.

**Patient Safety Liaison.** The Patient Safety Liaison (PSL) is a unique resource to Pennsylvania MCARE facilities. Serving as the face of the Authority, the PSL provides education and consultation to MCARE facilities and ensures that facilities are aware of the various resources available to them through the Authority, such as educational toolkits, presentations, webinars, and other resources. The program has eight PSLs located regionally throughout Pennsylvania.

## Notes

1. Medical Care Availability and Reduction of Error (MCARE) Act of March 20, 2002, P.L. 154, No. 13 40. Available from Internet: [https://www.portal.state.pa.us/portal/server.pt/document/495911/hb1802\\_pdf](https://www.portal.state.pa.us/portal/server.pt/document/495911/hb1802_pdf)
2. Health Care Facilities Act of Jul. 19, 1979, P.L. 130, No. 48, Cl. 35 § 448.802a. Available from Internet: <http://www.legis.state.pa.us/WU01/LI/LI/US/PDF/1979/0/0048..PDF>
3. Aspden P, Corrigan JM, Wolcott J, et al., eds. Committee on Data Standards for Patient Safety. Institute of Medicine. Patient safety: achieving a new standard of care. Washington (DC): National Academies Press; 2004.



# Detailed Overview of Data Reported through PA-PSRS

## Introduction

The Pennsylvania Patient Safety Reporting System (PA-PSRS) is a secure, web-based system that permits medical facilities to submit reports of what the Medical Care Availability and Reduction of Error (MCARE) Act defines as “Serious Events” and “Incidents.” Statewide mandatory reporting through PA-PSRS went into effect June 28, 2004. All information submitted through PA-PSRS is confidential, and no information about individual facilities is made public.

As defined by the MCARE Act, PA-PSRS is a facility-based reporting system. It is important for Pennsylvania consumers to recognize there are other complaint systems that are available for individuals. The Department of Health can issue sanctions and penalties, including fines and forfeiture of license, to healthcare facilities that fail to comply. Citizens can file complaints related to hospitals and ambulatory surgical facilities by calling the Department at 1-800-254-5164; for complaints related to birthing centers, they can call the Department at 717-783-1379. Complaints against licensed medical professionals can be filed with the Department of State’s Bureau of Professional and Occupational Affairs at 1-800-822-2113.

All reports are submitted by facilities through a process identified in their patient safety plans, as required by the Act. However, the MCARE Act provides for one exception to this facility-based reporting requirement: a healthcare worker who feels that his or her facility has not complied with the MCARE Act reporting requirements may submit an Anonymous Report directly to the Authority (see the [Anonymous Reports](#) section).

To access PA-PSRS, facilities need only a computer with Internet access. There is no need for a facility to procure costly equipment or software to meet statutory reporting requirements, and only minimal self-directed training is necessary to learn how to navigate the PA-PSRS system. Patient Safety Liaisons are assigned to each acute care facility for additional guidance and an on-call Help Desk is available during business hours.

In submitting a report, medical facilities respond to 22 core questions through check boxes and free-text narrative. The system directs the user through the process, offering drop-down boxes of menu options and guiding the user to the next series of questions, based on the answers to previous questions. The process is similar for nursing homes, which began reporting healthcare-associated infections (HAIs) in June 2009, with the system posing 18 core and follow-up questions, dependent on what type of infection is reported.

Questions answered by the facilities include those related to demographic information (such as a patient’s age and gender), the location within a facility where the event took place, the type of event, and the level of patient harm, if any. Additionally, the report collects considerable detail about “contributing factors,” details related to staffing, the workplace environment and management, the connection to Health Information Technology (HIT) and clinical protocols. Facilities are also asked to identify the root cause of a Serious Event and to suggest procedures that can be implemented to prevent a reoccurrence.

Once a report is submitted, the Authority’s clinical team initiates an analysis. This team includes professionals with degrees and experience in medicine, nursing, pharmacy, health administration, risk management, product engineering, and statistical analysis. Additionally, through its contract staff, the Authority has access to a large pool of subject matter experts in virtually every medical specialty.

Based on this comprehensive analysis and augmented by review of healthcare literature, the Authority develops articles and additional resources that are published through the *Pennsylvania Patient Safety Advisory*. The *Advisory* articles are directed primarily to healthcare professionals, for use by both clinical and administrative staff to improve processes and outcomes. The articles are often supplemented by toolkits, many of which are interactive, which may be used to clarify and standardize reporting practices as well as to assess and improve current patient care practices at the organizational, microsystem, or individual patient-care level.

The Authority has also developed analytical tools that are available to reporting facilities. These tools provide patient safety professionals, quality improvement specialists, and risk managers with detailed reports analyzing data related to their specific facilities in a timely manner. Many reports can be exported to other software programs for inclusion in facility publications or reports and presentations to trustees and senior management. Additionally, facility personnel have the ability to export all, or any portion, of their own facility's data. Managers can use this information for their internal quality improvement and patient safety activities.

The Authority encourages providers to use the articles, toolkits, and analytic reports to support patient safety and continuous quality improvement initiatives. In a recent survey of acute-level facilities in Pennsylvania (35.2% response rate, 186 respondents), responses indicated that Pennsylvania facilities have implemented more than 190 specific improvements as a result of information contained in this year's *Advisory* articles and associated toolkits.

*"People get bored with the same approach to hand hygiene. I found a few different approaches (in the Advisory article)."*

*"We have eliminated bulk insulins and reviewed the Advisory article at our Patient Safety Committee."*

*"We are re-evaluating our cleaning company's cleaning practices as well as assigning staff to perform cleaning on equipment that can't be taken care of by the cleaning company."*

*"Previously reported 'found on floor' falls are now being reported appropriately according to the decision tree."*

*"House-wide education performed by staff development with recommendations from Authority."*

The *Advisory* is published quarterly. Primary distribution of the *Advisory* is through e-mail, enabling the Authority to circulate the *Advisory* to thousands of individual health-care providers, hospitals, and government and healthcare organizations around the world, including national patient safety and quality improvement organizations. As a result, the Authority is able to generate considerable interest in Pennsylvania's approach to promoting patient safety and in the lessons learned through PA-PSRS.

More information about the *Advisory* and the data collected through PA-PSRS is covered in [The Pennsylvania Patient Safety Advisory](#) section. Additionally, all issues of the *Advisory* are accessible on the Authority's website at [www.patientsafetyauthority.org](http://www.patientsafetyauthority.org). PA-PSRS was developed under contract with ECRI Institute, a Pennsylvania-based independent, non-profit health services research agency, in partnership with HP, a leading international, information technology firm, and the Institute for Safe Medication Practices (ISMP), also a Pennsylvania-based, nonprofit health research organization.

## Interpreting PA-PSRS Data

Many factors influence the number of reports submitted by any particular facility or any group of facilities, of which safety and quality are just two. Additional factors include facility size, utilization or volume, patient case mix, severity of illness, differences in facilities' understanding of what occurrences are reportable, and differences in facilities' success in detecting reportable occurrences.

PA-PSRS data is not a "report card" for individual health-care facilities. For example, if Facility A has substantially more reports than a similar facility (Facility B), this would not mean that Facility A is necessarily less safe than

Facility B. In fact, Facility A could be safer than Facility B, because it may have better systems in place for recognizing and reporting actual and potential adverse events. The Authority will continue to examine this issue.

Numbers by themselves do not provide complete answers. For example, the number of incorrect medications administered is not meaningful without knowing the total number (known as the "denominator") of all medications administered. In other words, 10 incorrect medications out of a total of 50 administered doses is much different than 10 incorrect medications out of 10,000 administered doses.

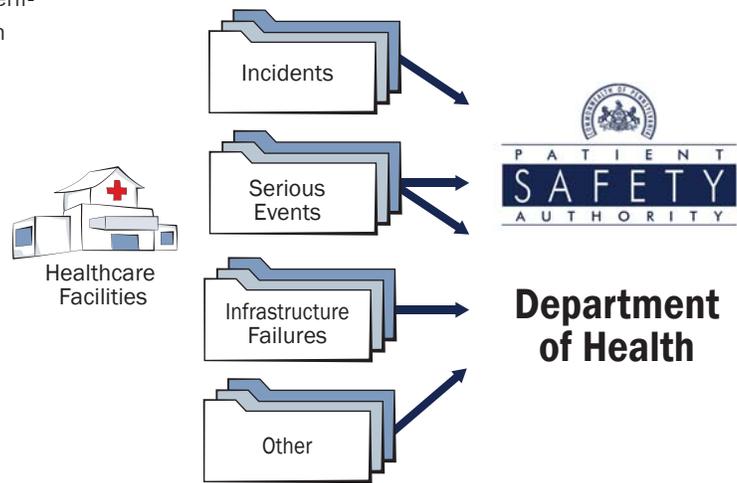
Additional considerations when reviewing PA-PSRS data presented in this report include the following:

- Data presented in this report include only reports of Serious Events and Incidents. Although PA-PSRS also collects reports of Infrastructure Failures, these reports are submitted only to the Pennsylvania Department of Health. The Authority does not receive reports of Infrastructure Failures (see Figure 1).
- Unless otherwise noted, data presented in this report are based on reports submitted to PA-PSRS between January 1, 2015, and December 31, 2015. Data from acute-care facilities are presented in this section. HAI data from long-term care facilities is presented in the **Healthcare-Associated Infections** section of this report.
- Unless specifically noted, numbers of reports in different categories are actual “raw numbers” and have not been adjusted for any facility- or patient-related factors that may influence differences in report volume among different facilities.
- The data are not adjusted to account for medical facility openings, closings, or changes of ownership.

Caution is advised when comparing data contained in this report with data published by other patient safety reporting systems. PA-PSRS was developed within the context of the MCARE Act, which has its own unique definitions for what is and what is not reportable to PA-PSRS.<sup>1</sup> It also uses a specific list of event types that may be different than the lists used by other systems. PA-PSRS was the first mandatory state program collecting data on “near misses”—events that did not harm patients.<sup>2</sup> After more than 11 years of data collection, it is widely considered the most comprehensive program of this type in the United States.

Many factors may influence differences between data from various patient safety reporting systems. The key comparisons to make are those made by individual healthcare facilities, as they monitor their own performance over time and in relation to specific patient safety goals relevant to their healthcare setting.

**Figure 1. Submission of PA-PSRS Reports**



## Report Volume

### Reports by Month and Submission Type

Between January 1 and December 31, 2015, Pennsylvania acute care facilities submitted 238,890 reports through PA-PSRS, bringing the number of reports submitted by these

facilities since the program’s inception to 2,510,260. Table 1 shows the distribution of submitted reports by month for calendar year 2015.

**Table 1. Number of Reports Submitted to PA-PSRS in 2015, by Month, Acute Care Facilities**

INCIDENT TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Serious Event	614	558	674	679	632	631	676	648	665	685	611	659	7,732
Incident	20,385	19,631	20,581	18,439	17,747	18,812	18,960	17,736	20,803	20,231	17,706	20,127	231,158
<b>Total</b>	<b>20,999</b>	<b>20,189</b>	<b>21,255</b>	<b>19,118</b>	<b>18,379</b>	<b>19,443</b>	<b>19,636</b>	<b>18,384</b>	<b>21,468</b>	<b>20,916</b>	<b>18,317</b>	<b>20,786</b>	<b>238,890</b>

Approximately 3.2% of submitted reports were Serious Events, while 96.8% were Incidents. In 2015 the Authority received 19,908 reports per month on average, a decrease of 0.8% from 2014. The number of Incident

reports averaged 19,263 per month, a decrease of 1.1% compared with the previous year. The number of Serious Event reports averaged 644 per month, which is an increase of 9.2% from 2014.

## Reports by Facility Type

As shown in Table 2, the total number of reports submitted through PA-PSRS in 2015 surpassed a quarter million. The vast majority of reports (85.6%) were submitted

by hospitals. Among acute-level facilities (non-nursing homes), the majority is even more pronounced (97.1%). Nursing homes submitted 11.8% of the overall total.

**Table 2. Reports through PA-PSRS by Facility Type (2015)**

FACILITY TYPE	HOSPITALS	AMBULATORY SURGICAL FACILITIES	BIRTHING CENTERS/ ABORTION FACILITIES	ALL ACUTE LEVEL FACILITIES	NURSING HOMES (HAI ONLY)	ALL FACILITIES REPORTING VIA PA-PSRS
Number of reports submitted	232,005	6,645	240	238,890	31,672	270,562
Number of facilities active for year ending December 31, 2015	237	306	25	568	702	1,270

The remainder of this data section will focus on acute-care facilities; nursing home data will be addressed in the [Healthcare-Associated Infections](#) section.

Table 3 shows the increasing trend of report submissions from non-hospital acute-level facilities—ambulatory surgical facilities, birthing centers, and abortion facilities (ASFs/BCs/ABFs)—compared with hospital reports from 2009 to 2015. Although both groups realized increased reporting in general, the percentage from ambulatory facilities

is increasing more significantly. The non-hospital acute-level facilities submitted 16.1% more reports in 2015 than in 2014. The Authority believes this increase is, in part, due to the emphasis on standardization (see [Reporting Standardization: Guidance for Acute Healthcare Reporting](#)). Although all evidence available at the time of this writing supports this theory, causality cannot be definitively proved. However, an association between this increase and the standardization initiative is suggested.

**Table 3. Number and Percentages of Reports by Acute Facility Types since 2009**

Year	No.	HOSPITALS		AMBULATORY SURGICAL FACILITIES/BIRTHING CENTERS/ ABORTION FACILITIES		ALL FACILITIES Total
		% of Facility Type	No.	% of Facility Type		
2009	223,026	98.39	3,644	1.61	226,670	
2010	221,855	98.33	3,769	1.67	225,624	
2011	223,995	97.88	4,840	2.12	228,835	
2012	230,017	97.78	5,232	2.22	235,249	
2013	241,371	97.88	5,235	2.12	246,606	
2014	234,841	97.54	5,931	2.46	240,772	
2015	232,005	97.12	6,885	2.88	238,890	
<b>Total*</b>	<b>2,463,313</b>	<b>98.13</b>	<b>46,945</b>	<b>1.87</b>	<b>2,510,260</b>	

\*The Pennsylvania Patient Safety Authority began mandatory reporting statewide on June 28, 2004. The totals include the number of reports through 2008.

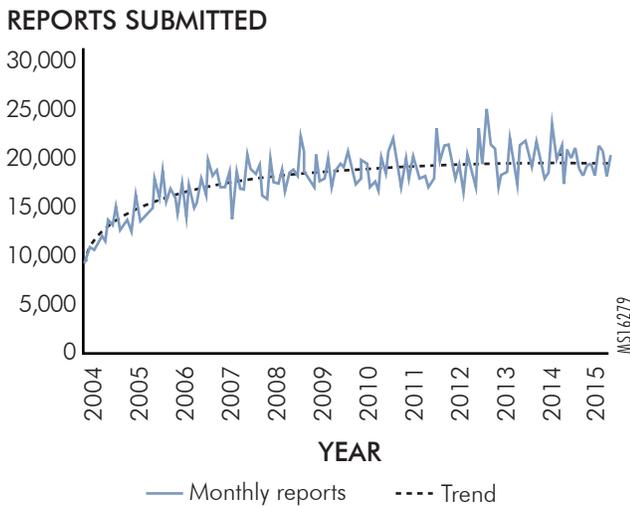
## Report Submission Trends

The trend line superimposed over the actual track of monthly reports in Figure 2 suggests that the volume of reports is increasing at a slower rate and that reporting has leveled off in recent years, although monthly variability still is evident.

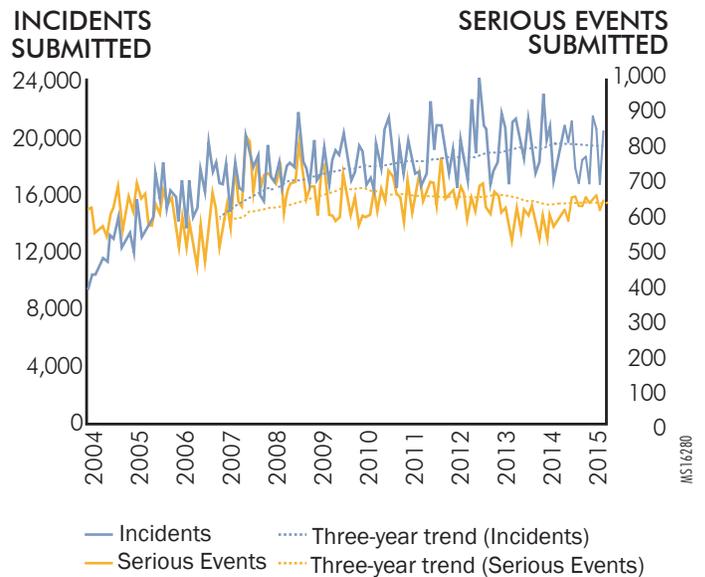
Figure 3 supports the proposition of improved reporting. Depicting the volume of Serious Events and Incidents on

a relative scale (24:1) shows that the volume of Serious Events has increased somewhat over the long term, but not as sharply as the volume of Incidents. Since 2010, Serious Event reports show a decreasing trend as compared with Incidents. The exception to the trend may be noted in 2015, because standardization efforts were implemented and seem to have influenced reporting.

**Figure 2. Number of Submitted Reports since Inception of PA-PSRS, by Year**



**Figure 3. Number of Serious Event and Incident Reports by Year since Inception of PA-PSRS**



## Reports by Event Type

When reporting an event through PA-PSRS, a facility uses a classification system to characterize the occurrence being reported. This is usually referred to as the “taxonomy.” At the outset, a facility classifies a report by identifying what PA-PSRS defines as the “Event Type.” The Event Type essentially answers the most basic question about an occurrence: “What happened?”

These categories are further broken down into second- and third-level subcategories. For example, the category “Falls” includes a series of subcategories such as:

- Falls while Lying in Bed

- Falls while Ambulating
- Falls in the Hallways of the Facility
- Other Types of Falls

An event type dictionary is one way PA-PSRS classifies and looks for patterns and trends in submitted reports. The complete event type dictionary is a three-level, hierarchical taxonomy with 222 distinct event types. Ten additional event types were added in 2015 as part of the standardization effort.

Table 4 shows the percentage of reports submitted from acute-level facilities under each top-level event type in 2015. The most frequently reported occurrences were Errors Related to Procedure/Treatment/Test (26%) and Medication Errors (17%). These two event types account

for about 43% of all reports submitted. While Errors Related to Procedure/Treatment/Test was the event type most frequently reported through PA-PSRS, it was not associated with the most patient harm.

**Table 4. Number and Percentage of Reports by Event Type and Submission Type for 2015**

EVENT TYPE	SERIOUS EVENTS			INCIDENTS			TOTAL	
	No.	% of Type	% of Total	No.	% of Type	% of Total	No.	% of Total
Medication Errors	190	0	2	41,604	99.5	18	41,794	17
Adverse Drug Reactions (not a medication error)	209	4	3	4,797	96	2	5,006	2
Equipment/Supplies/Devices	80	1	1	6,220	99	3	6,300	3
Falls	947	3	12	33,057	97	14	34,004	14
Errors related to Procedure/Treatment/Test	689	1	9	60,446	99	26	61,135	26
Complications of Procedure/Treatment/Test	4,151	12	54	31,635	88	14	35,786	15
Transfusions	16	0	0	3,228	100	1	3,244	1
Skin Integrity	523	2	7	29,948	98	13	30,471	13
Self Harm	97	11	1	802	89	0	899	0
Other/Miscellaneous*	830	4	11	19,421	96	8	20,251	8
<b>Total</b>	<b>7,732</b>	<b>3</b>	<b>100</b>	<b>231,158</b>	<b>97</b>	<b>100</b>	<b>238,890</b>	<b>100</b>

\* This is not a single category of completely unclassified reports but rather a category that includes specific subcategories that did not logically fit under other existing top-level headings. Examples of subcategories under Other/Miscellaneous include Inappropriate Discharge, Other Unexpected Death, and Electric Shock to the Patient.

Also shown in Table 4, the largest number of Serious Event reports was under the Event Type category of Complications of Procedure/Treatment/Test, accounting for 54% of all Serious Event reports.

Relative to the overall average of 3.2% of reports indicating harm (see “% of type” in Table 4), harm was significantly less likely to be reported under Medication Errors, Equipment Issues, Errors Related to Procedures/Treatments/Tests, and Transfusion Issues (each represents 1%

or less). Although accounting for a combined 44% of total PA-PSRS submissions in 2015, Errors Related to Procedures/Treatments/Tests (9%) and Medication Errors (2%) account for about 11% of harmful submissions.

An interesting analytic finding was that the number of Errors Related to Procedure/Treatment/Test increased 10.5%, compared to 2014. Table 5 details several subtypes that realized substantial increases.

**Table 5. Annual Increase of Reports by Event Sub-Type, with Quarterly Submissions in 2015**

<b>ERRORS RELATED TO PROCEDURE/TREATMENT/TEST</b>	<b>ADDITIONAL REPORTS IN 2015</b>	<b>INCREASE (%)</b>	<b>Q1 2015</b>	<b>Q2 2015</b>	<b>Q3 2015</b>	<b>Q4 2015</b>
Radiology/Imaging test problem/Unanticipated radiation exposure	263	215.6	28	36	166	155
Laboratory test problem/Specimen quality problem	2,971	67.9	1,254	1,534	2,027	2,531
Referral/Consult problem/Delay in service	739	57.2	480	454	548	550
Laboratory test problem/Wrong patient	201	26.5	231	214	248	267

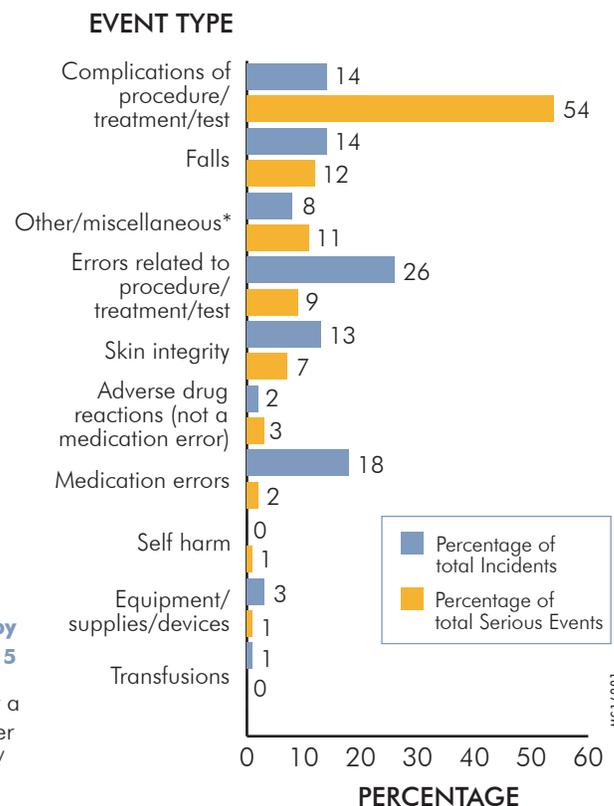
**Table 6. Annual Decrease of Reports by Event Sub-Type, with Quarterly Submissions in 2015**

<b>DECREASING EVENT TYPES</b>	<b>FEWER REPORTS IN 2015</b>	<b>DECREASE (%)</b>	<b>Q1 2015</b>	<b>Q2 2015</b>	<b>Q3 2015</b>	<b>Q4 2015</b>
Other/Other	5,819	25.1	5,285	4,316	3,811	3,949
Skin integrity/Pressure ulcers/New ulcer <24 hours after admission	1,667	56.4	662	360	157	109
Skin integrity/Pressure ulcers/Admitted from other facility	880	8.7	3,239	2,219	1,972	1,813
Skin integrity/Other	676	12.8	1,419	1,082	1,094	1,012

This increase was counterbalanced by decreases in both Skin Integrity reports (-7.5%) and Other/Miscellaneous reports (-13.9%). An increased number of categories in which events could be classified through the standardization effort can be partially attributed to the decrease in reports categorized as “Other/Other” starting in the second quarter, in particular. A decrease in Pressure Ulcers also reflects the effect of standardization. Table 6 lists several event subtypes that realized significant decreases.

Figure 4 shows a graphic comparison of the percentage of submissions as Serious Events and Incidents by event type. Note that the event type Complications of Procedure/Treatment/Test accounted for more than half of the Serious Events submitted in 2015.

**Figure 4. Comparison of Event Types by Percentage of Total Reports Submitted in 2015**



\*This is not a single category of completely unclassified reports but rather a category that includes specific subcategories that did not logically fit under other existing top-level headings. Examples of subcategories under other/miscellaneous include inappropriate discharge, other unexpected death, electric shock to the patient, and others.

## Reports by Level of Patient Harm

For every report submitted through PA-PSRS, the associated medical facility applies a 10-item scale to measure whether an event “reached” the patient and, if so, how

much harm it caused.\* This scale<sup>3</sup> ranges from “unsafe conditions” (e.g., look-alike medications stored next to one another) to the death of the patient.

**Table 7. PA-PSRS Harm Scale for Acute-Level Facilities**

HARM LEVEL	HARM SCORE	% OF REPORTS SUBMITTED IN 2015	DESCRIPTION
Unsafe Conditions	A	10.1	Circumstances that could lead to an adverse event
Event, No Harm	B1, B2, C, D	86.7	Often called a “near miss,” an event that either did not reach the patient or did reach the patient but did not cause harm
Event, Harm, excluding Death	E, F, G, H	3.1	An event that reached the patient and caused temporary or permanent harm
Event, Death	I	0.1	An event that resulted in or contributed to death

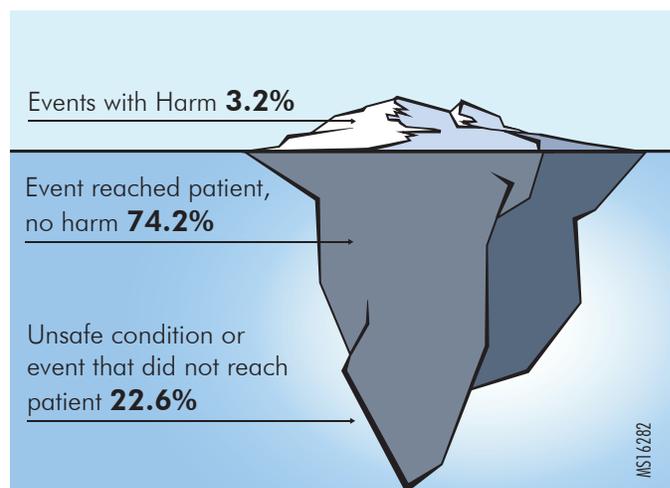
The infographic at right illustrates the proportion of events with harm. Table 7 shows the reports received during 2015 categorized by the level of harm (as described above) and by Event Type. For the most part, the reports at each level of harm follow a similar distribution by event type as they do in the database as a whole. However, there are significant exceptions. For example, while Complications of Procedures/Treatments/Tests comprise 15.0% of reports overall in 2015, they comprise 53.6% of the reports of events involving harm and those resulting in or contributing to the patient’s death. Complication event examples include the following:

- Complication following surgery or invasive procedure/Stroke or other neurologic deficit (59%)
- Complication following surgery or invasive procedure/Wound dehiscence (56.9%)
- Complication following surgery or invasive procedure/Cardiopulmonary arrest (54.3%)

They all have more harmful events than non-harmful events associated with them.

At the other end of the spectrum, while Medication Errors comprise 17.5% of reports in 2015, they comprise only 2.5% of reports involving harm and 1.2% of reports of events contributing to or resulting in death. Reports of Errors Related to Procedures/Treatments/Tests were also associated with harm or death at a frequency lower than their representation in the database as a whole. Although 7.0% of events resulted in patient harm, no deaths were associated with Skin Integrity.

A certain portion of the reports could be referred to as examples of “unsafe conditions,” meaning that there was an observed situation in which some harm was a possibility if corrective action was not taken. Unsafe conditions were cited in 10% of the reports submitted in 2015. As shown in Table 8, the event type in which unsafe conditions were most often reported was Errors Related to Procedures/Treatments/Tests (30%). The event type in which unsafe conditions were least reported by percentage was Adverse Drug Reactions. Of all reports of the Adverse Drug Reactions event type, 0.3% were reported as unsafe conditions.



\*For example, an event in which a phlebotomist goes to draw blood from the wrong patient but catches the error by checking the patient’s wristband would be an event that did not reach the patient.

**Table 8. Reports by Event Type and Level of Patient Harm (2015)**

EVENT TYPE	UNSAFE CONDITIONS		EVENT, NO HARM		HARMFUL EVENT		DEATH EVENT		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%
Medication Error	1,829	8	39,775	19	187	3	3	1	41,794	17
Adverse Drug Reaction	70	<1	4,727	2	205	3	4	2	5,006	2
Equipment/Supplies/Devices	949	4	5,271	3	75	1	5	2	6,300	3
Fall	242	1	32,815	16	937	13	10	4	34,004	14
Error related to Procedure/ Treatment/Test	7,114	30	53,332	26	675	9	14	6	61,135	26
Complication of Procedure/ Treatment/Test	1,592	7	30,043	15	4,007	54	144	57	35,786	15
Transfusion	749	3	2,479	1	15	0	1	0	3,244	1
Skin Integrity	6,544	27	23,404	11	523	7	0	0	30,471	13
Self Harm	12	0	790	0	95	1	2	1	899	0
Other/Miscellaneous	4,961	21	14,460	7	760	10	70	28	20,251	8
<b>Total</b>	<b>24,062</b>	<b>10</b>	<b>207,096</b>	<b>87</b>	<b>7,479</b>	<b>3</b>	<b>253</b>	<b>&lt;1</b>	<b>238,890</b>	<b>100</b>

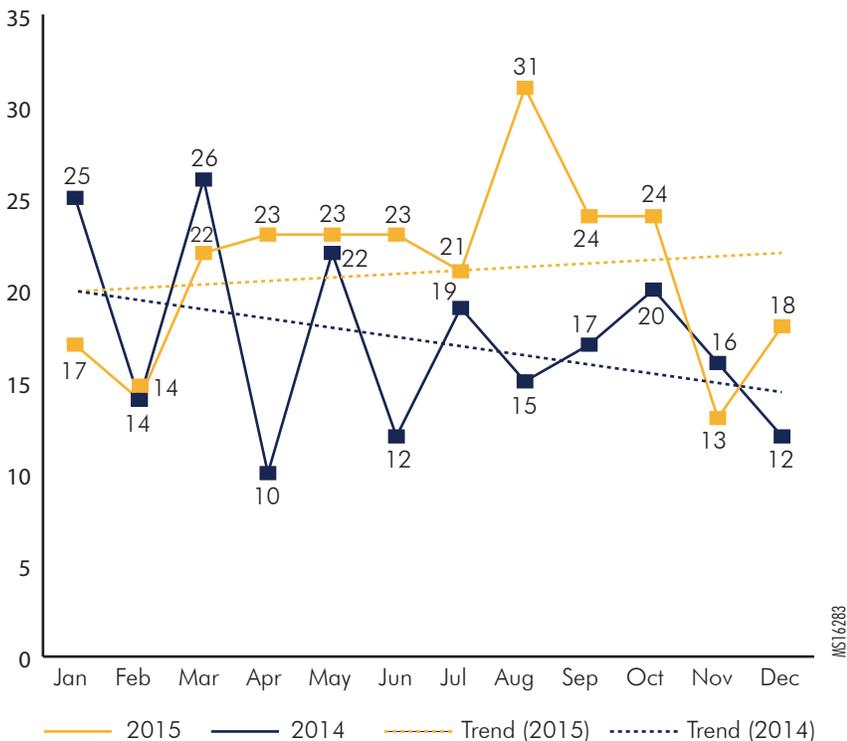
## Reports Involving the Patient’s Death

Reports involving a patient death account for 0.1% (i.e., about one-tenth of one percent) of all submitted reports.

In 2015, the Authority received 253 reports of events that may have contributed to or resulted in the patient’s death, a 21.6% increase from 2014. (See Figure 5.)

**Figure 5. Number of Death Events Reported by Acute-Level Facilities through PA-PSRS by Month, 2014-2015**

### NUMBER OF REPORTS SUBMITTED INVOLVING DEATH

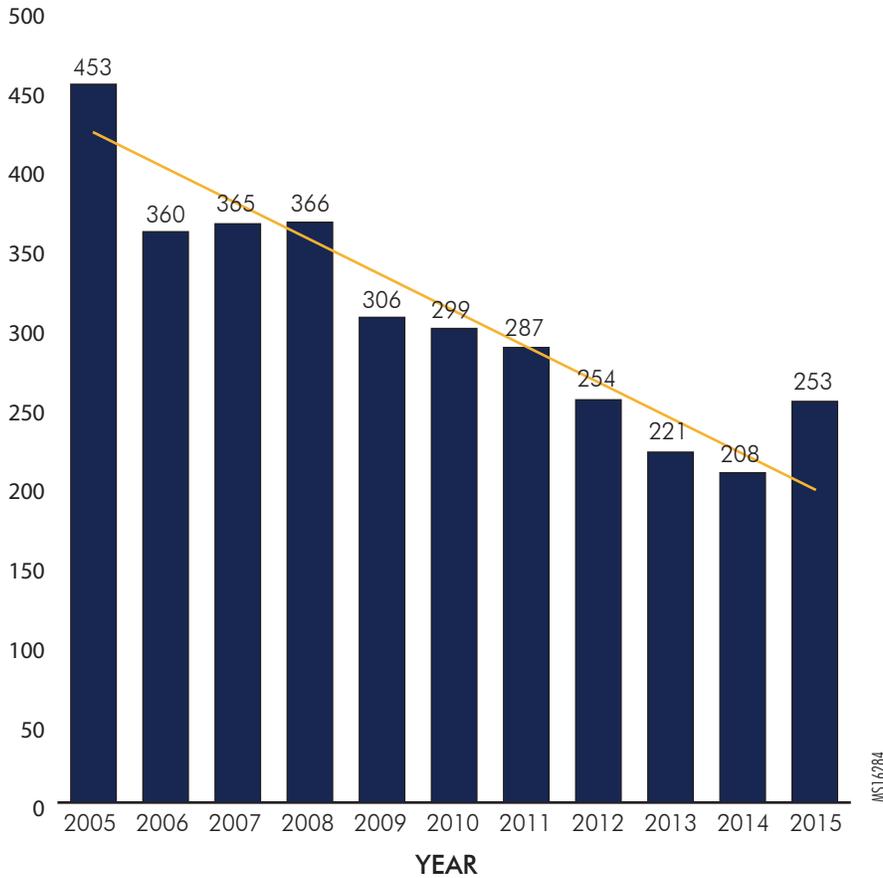


This increase is not characteristic of the overall trend of the number of reported deaths decreasing since 2005. The total for 2015 is third fewest for a full year of reporting in PA-PSRS history (Figure 6). Because the majority of the increase in the number of reports involving a patients' death is associated with the event type Complications of

Procedure/Treatment/Test—a significant component of the standardization initiative—and because the increase is broad-based in terms of facilities, the Authority attributes this shift to the standardization initiative. Although it is not possible to prove causality definitively, for the reasons above an association is suggested.

**Figure 6. Number of Death Events Reported by Acute-Level Facilities through PA-PSRS by Year, 2005-2015**

**NO. DEATH REPORT SUBMISSIONS BY YEAR**



In terms of particular event types, although 15.0% of all reports in 2015 were attributed to Complications of Procedures/Treatments/Tests, about 57% of all reports involving patient death were of that event type (Table 9). Of the reports involving death associated with complications, the majority describe patients who died after surgery or another invasive procedure (56.3% of the complications event type), with the next highest percentage reported as patients who suffered cardiopulmonary arrest outside the intensive care unit (ICU) setting (17.4%), and neonatal complications (7.6%).

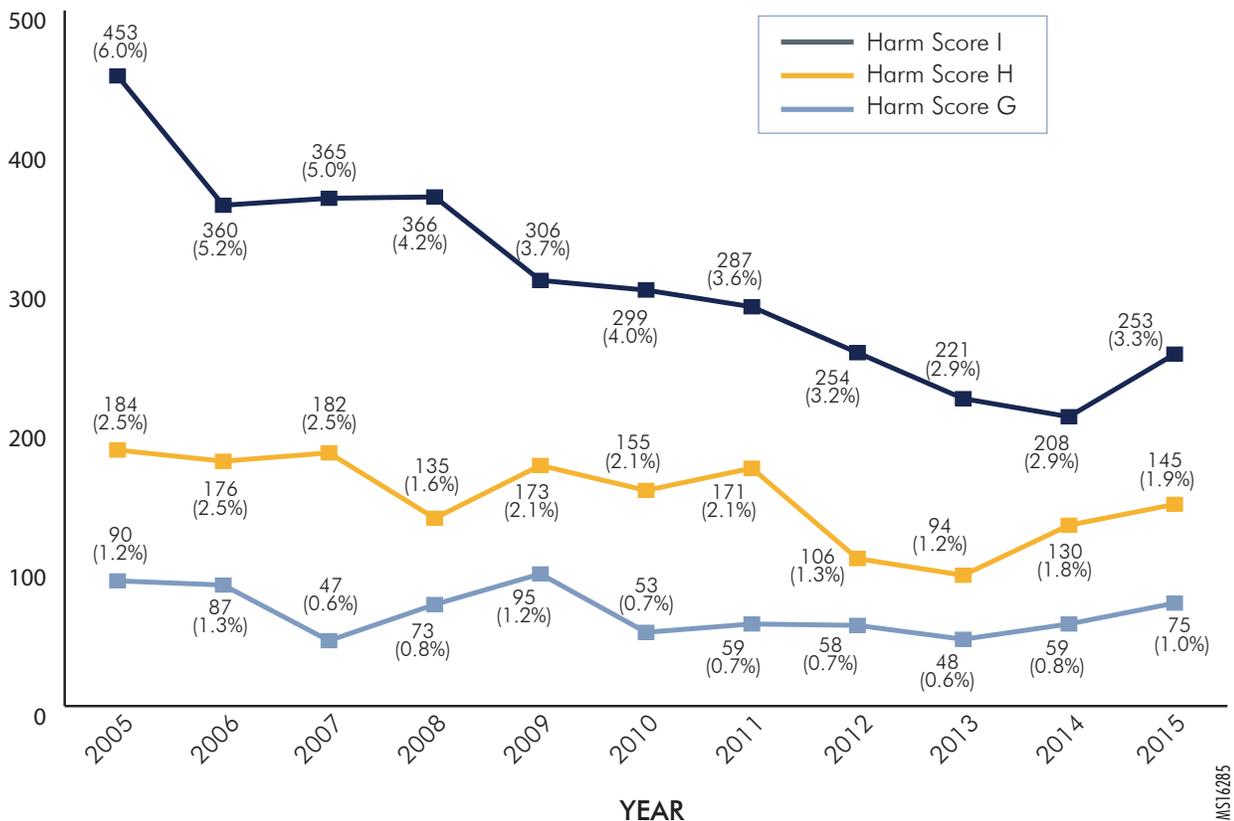
Reports with harm scores of G, H, and I are considered high-harm events because they are associated with permanent harm or death. These high-harm events have decreased annually since 2005, both in number and as a percentage of Serious Events, as shown in Figure 7. These numbers suggest an association with the recent 28 principles implementation to standardize reporting. Currently, all data available is trending in the directions the Authority would expect if the standardization initiative were having an impact. The Authority will continue to monitor these indicators. More details about the standardization project can be found in the next section.

**Table 9. Reports Involving the Patient’s Death, by Event Type (2014-2015)**

EVENT TYPE	2014		2015		+/-	
	No.	%	No.	%	No.	%
Medication Error	4	2	3	1	-1	-25
Adverse Drug Reaction	3	1	4	2	1	33
Equipment/Supplies/Devices	0	0	5	2	5	100
Fall	14	7	10	4	-4	-29
Error related to Procedure/Treatment/Test	18	9	14	6	-4	-22
Complication of Procedure/Treatment/Test	111	53	144	57	33	30
Transfusion	1	0	1	0	0	0
Skin Integrity		0		0		0
Self-Harm	NA	NA	2	1		100
Other/Miscellaneous	57	27	70	28	13	23
<b>Total</b>	<b>208</b>	<b>100</b>	<b>253</b>	<b>100</b>	<b>45</b>	<b>22</b>

**Figure 7. Number and Percentage of High-Harm Events Reported by Acute-Level Facilities through PA-PSRS by Year, 2005-2015**

**NO. OF HIGH-HARM REPORTS**



MS16285

# Patient Demographics

PA-PSRS collects few demographic details about patients because the Authority is not authorized to collect individually identifying information. As a result, patient disparity data is

limited to gender and age. Table 10 presents the number of reports received in 2015 by patient gender and age cohort.

**Table 10. Number and Percentage of Reports Submitted by Age Cohort and Gender (2015)**

<b>AGE COHORT</b>	<b>FEMALE</b>		<b>MALE</b>		<b>ALL PATIENTS</b>		<b>Female patients (%)</b>
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	
0-4	8,888	7.1	11,461	10.0	20,349	8.5	43.7
5-14	4,029	3.2	4,593	4.0	8,622	3.6	46.7
15-24	7,496	6.0	5,197	4.5	12,693	5.3	59.1
25-34	9,472	7.6	4,953	4.3	14,425	6.0	65.7
35-44	9,036	7.3	6,156	5.4	15,192	6.4	59.5
45-54	13,051	10.5	12,362	10.8	25,413	10.6	51.4
55-64	18,483	14.8	20,317	17.8	38,800	16.2	47.6
65-74	18,746	15.0	19,377	17.0	38,123	16.0	49.2
75-84	19,033	15.3	17,719	15.5	36,752	15.4	51.8
85+	14,326	11.5	9,863	8.6	24,189	10.1	59.2
Unknown	2,064	1.7	2,268	2.0	4,332	1.8	47.6
<b>Total</b>	<b>124,624</b>	<b>100</b>	<b>114,266</b>	<b>100</b>	<b>238,890</b>	<b>100</b>	<b>52.2</b>

## Patient Gender

Of the 238,890 reports submitted in 2015, 124,624 (52.2%) involved female patients, and 114,266 (47.8%) involved male patients. This proportion by gender is consistent with the Authority’s observations since 2004. During childbearing years, women are more likely than men to have encounters with the healthcare system, and because women have a longer life expectancy than men, there are more women in the general population in the older age cohorts.<sup>4</sup>

The proportion of reports classified as Serious Events differed slightly according to the patient’s gender, with 3.3%

of reports involving female patients classified as Serious Events, compared to 3.1% for reports involving males.

Table 11 shows the distribution of reports by patient gender and event type. Many of the same patterns observed in 2014 are evident this year as well. Among these observed patterns, the proportion of reports involving female patients was significantly higher among reports of Adverse Drug Reactions and Self Harm. Interestingly, the majority of three event types involved male patients in 2015: equipment issues, falls, and skin integrity reports.

**Table 11. Number and Percentage of Reports Submitted by Gender and Event Type (2015)**

EVENT TYPE	FEMALE		MALE		ALL PATIENTS	
	No.	%	No.	%	No.	% of Total
Medication Errors	21,514	51.5	20,280	48.5	41,794	17.5
Adverse Drug Reactions	3,190	63.7	1,816	36.3	5,006	2.1
Equipment/Supplies/Devices	3,066	48.7	3,234	51.3	6,300	2.6
Falls	16,508	48.5	17,496	51.5	34,004	14.2
Errors Related to Procedure/ Treatment/Test	32,387	53.0	28,748	47.0	61,135	25.6
Complications of Procedure/ Treatment/Test	20,241	56.6	15,545	43.4	35,786	15.0
Transfusions	1,754	54.1	1,490	45.9	3,244	1.4
Skin Integrity	14,830	48.7	15,641	51.3	30,471	12.8
Self Harm	553	61.5	346	38.5	899	0.4
Other/Miscellaneous	10,581	52.2	9,670	47.8	20,251	8.5
<b>Total</b>	<b>124,624</b>	<b>52.2</b>	<b>114,266</b>	<b>47.8</b>	<b>238,890</b>	<b>100</b>

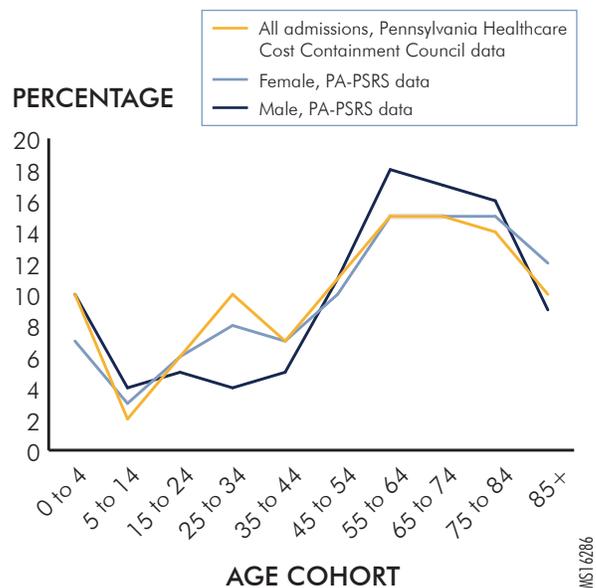
## Patient Age

Figure 8 shows the proportion of events reported through PA-PSRS, from hospitals only, by gender and by patient age cohort. As noted above, this chart also illustrates that women are more likely than men to have encounters with the healthcare system during childbearing years. Patients age 65 and older account for 41.6% of all reports from hospitals through PA-PSRS in 2015.

Also shown on this figure is the proportion of hospital inpatient admissions as reported by the Pennsylvania Healthcare Cost Containment Council (PHC4). The PHC4 data show that patients age 65 and older make up 39.5% of the admissions to hospitals in 2014. However, this chart does not suggest that older patients are necessarily more likely than younger patients to be involved in a Serious Event or Incident. Rather, older patients' representation in the database reflects greater representation in the healthcare system in terms of number of admissions and increased length of stay.

The fact that patient age and gender in reports submitted through PA-PSRS track so closely to distribution of age and gender in the hospitalized population speaks to the overall generalizability of the data healthcare facilities submitted to the Authority.

**Figure 8. Proportion of Hospital Reports Submitted through PA-PSRS by Gender and Age Cohort (2015)**  
Admissions Data from 2014\*



\* Based upon publicly available data from the website of the Pennsylvania Health Care Containment Council ([www.PHC4.org](http://www.PHC4.org)). Estimates were based on statewide inpatient data from 2014.

# Patients in High and Low Age Cohorts

## Elderly Patients

In the Authority’s previous annual reports, several patterns of interest in reports involving elderly patients (65 and older) were identified. For example, the percentage in this

age group among Falls reports has dropped below 50% in 2014 and 2015 (Table 12).

**Table 12. Percentage of Submitted Reports of Specific Event Types Submitted Involving Elderly Patients (65 and older), 2009 through 2015**

<b>ELDERLY PATIENTS (65 AND OLDER)</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Falls	57.9%	56.2%	54.2%	52.0%	51.1%	49.6%	49.9%
Skin Integrity	71.2%	70.6%	69.5%	68.1%	68.0%	66.7%	66.0%
<b>Total Reports</b>	<b>49.8%</b>	<b>48.1%</b>	<b>46.7%</b>	<b>45.8%</b>	<b>43.1%</b>	<b>42.9%</b>	<b>43.4%</b>

In another area of interest concerning elderly patients, elderly patients accounted for 71.2% of Skin Integrity reports in 2009. This figure declined steadily to 66.0% in 2015. The decline in the submission of reports of pressure

ulcers, as mentioned previously, helped drive this number downward. See the **Reporting Standardization: Guidance for Acute Healthcare Reporting** section for more details on the effort.

## Perinatal Patients

There were 7,672 reports involving perinatal patients (those aged 20 days or younger), an increase of 1,364 reports (17.8%) from 2014. Less than 2% (1.56%) of perinatal reports were classified as Serious Events, noticeably lower than the overall Serious Event percentage of 3.2% for 2015.

About three-fifths (61.2%) of reports for these patients were related to Errors or Complications of Procedures/Treatments/Tests. This does not necessarily mean that these patients are more likely to experience errors or complications. Rather, they may not be as prone to other types

of events (e.g., falls, problems with skin integrity) as older patient age groups.

Almost one-fifth (19.9%) of reports involving perinatal patients were related to Medication Errors and is consistent with the number of reports received in recent years (20.3% in 2014, 19.6% in 2013) for this age cohort and event type. Complications of Procedures, Treatments and Tests accounted for 61.2% of the Serious Events in this age group, which is somewhat lower than 2014 (69.4%).

## Children and Adolescents

Reports submitted through PA-PSRS in 2014 involving children and adolescents (i.e., patients aged 21 or younger) totaled 36,583. The top two reports were Errors Related to Procedures/Treatments/Tests, accounting for 30% of the reports of this population, and Medication Errors at

28.3%. However, the event type Complications of Procedures/Treatments/Tests made up 59% of all Serious Events for this age group. Table 13 lists the three largest event sub-types by percentage in this age group.

**Table 13. Top 3 Complications of Procedures/Test/Treatments Sub-Event Types, by Percentages of Serious Events among Children and Adolescents**

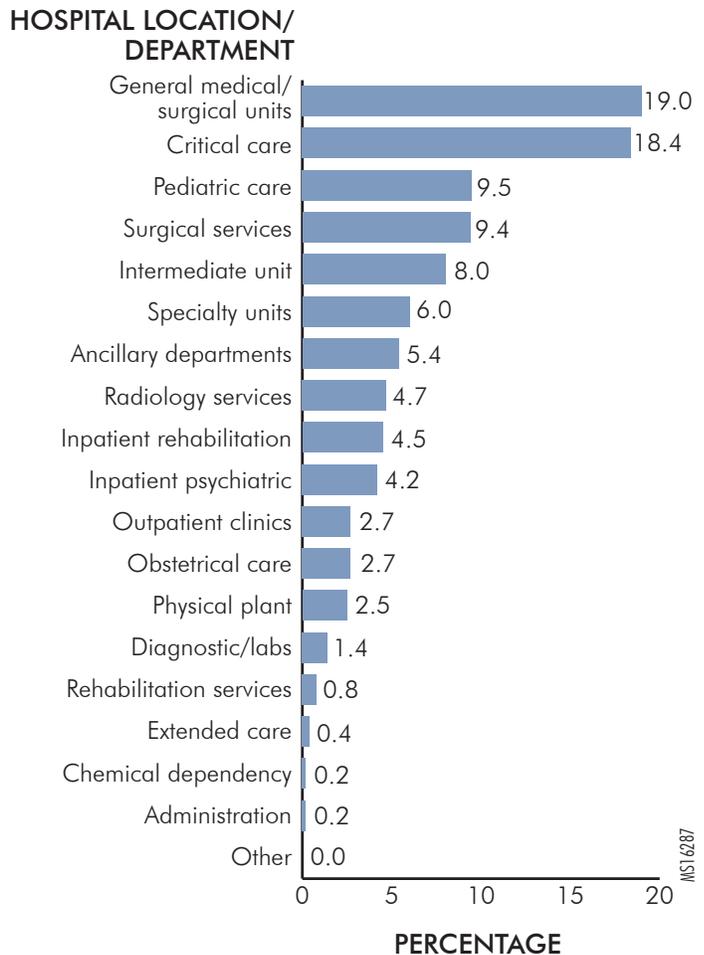
<b>COMPLICATIONS OF PROCEDURES/TREATMENTS/TESTS (ALL SERIOUS EVENTS FOR CHILDREN AND ADOLESCENTS)</b>	<b>SERIOUS EVENTS (No.)</b>	<b>SERIOUS EVENTS (%)</b>
Complication following surgery or invasive procedure/Unplanned return to operating room	76	14.6
Complication following surgery or invasive procedure/Other	58	11.1
Neonatal complication/Birth injury or trauma	40	7.7

## Reports by Location/Department (Hospitals Only)

PA-PSRS has 155 designated care areas for hospitals. These are the locations or departments of the hospital in which a patient receives care or is exposed to in the process of receiving care. As illustrated in Figure 9, the care areas designated as General Medical/Surgical Units and Critical Care Areas were cited as the locations for the greatest number of all reports submitted in 2015, each generating nearly one-fifth (19.0% and 18.4%, respectively) of the total. Other hospital departments with high report rates are Pediatric Care (9.5%), Surgical Services (9.4%), and Intermediate Unit (8%).

While most hospital reports were submitted from the General Medical/Surgical and critical care areas, the greatest number of Serious Events came from Surgical Services, accounting for nearly one third of Serious Events from hospitals (31.1%). However, the care area with highest proportion of Serious Events per submitted report is the Diagnostic/Labs Care Group with 11.7% (Table 14).

**Figure 9. Percentage of Submitted Reports by Location/Department (Hospitals Only, 2015)**



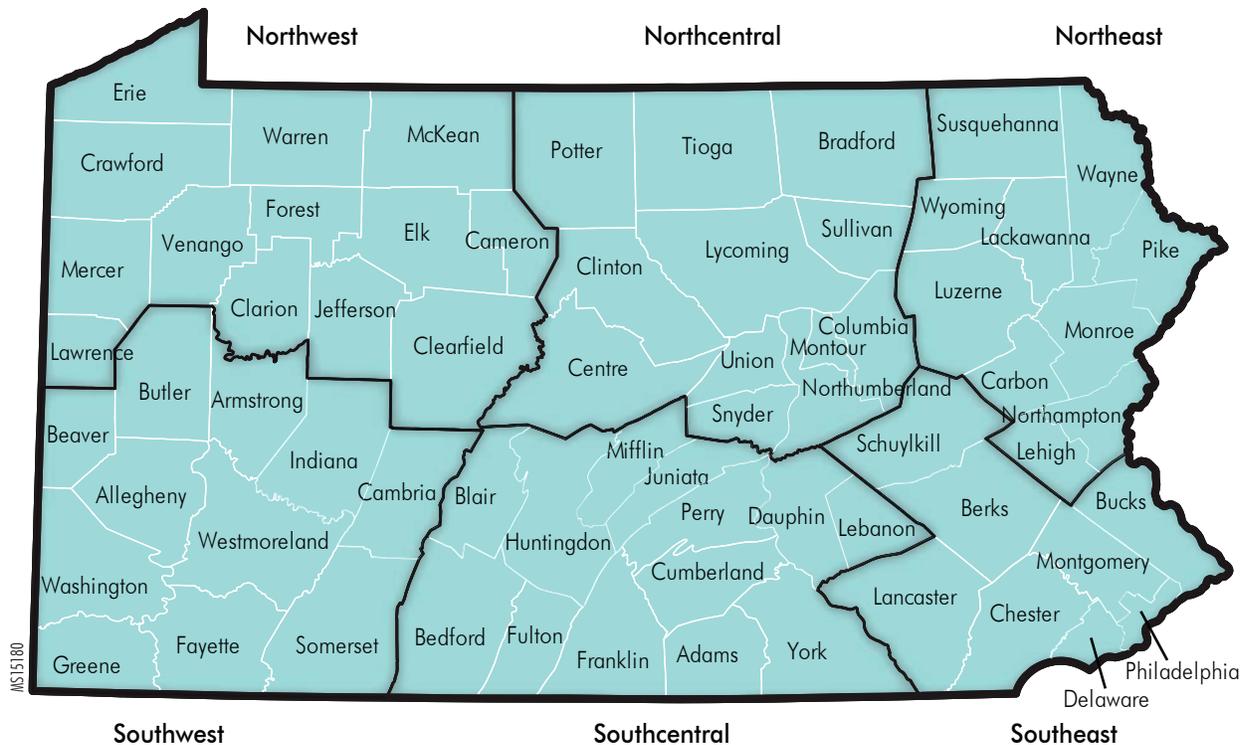
MS 6287

**Table 14. Number and Percentage of Serious Events among all Serious Events and of Submitted Reports, by Care Area Location (Hospitals Only, 2015)**

LOCATION	SERIOUS EVENTS	TOTAL	SERIOUS EVENTS BY GROUP (%)	SERIOUS EVENTS (% OF TOTAL)
Diagnostic/Labs	374	3,192	11.7	6.1
Surgical Services	1,891	21,919	8.6	31.1
Inpatient Psychiatric	360	9,710	3.7	5.9
Obstetrical Care	209	6,165	3.4	3.4
Inpatient Rehabilitation	287	10,351	2.8	4.7
14 Other Care Groups	2,966	180,668	1.6	48.7

# Reports by Region and Submission Type

Figure 10. Regions of the Commonwealth



For the purposes of this report, the Pennsylvania Patient Safety Authority Board of Directors has adopted a geographic breakdown of the Commonwealth into six regions, as shown in Figure 10. This breakdown is based on the Department of Health’s Public Health Districts.

The variation in the number of reports submitted through PA-PSRS by geographic region (Figure 11) is not particularly surprising. One expects more reports to be submitted in regions with larger populations and greater numbers of healthcare facilities. Consistent with this expectation, the regions with the largest number of reports (Southeast and Southwest) were those with the Commonwealth’s two largest population centers: Philadelphia and Pittsburgh, respectively. The Authority will continue to look for trends and closely monitor the data within these regions.

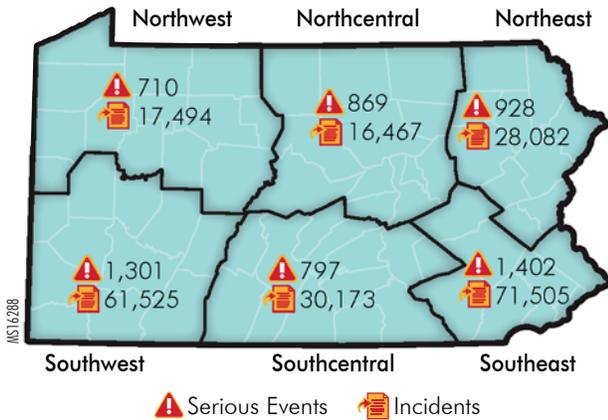
Adjusting the report volume for a measure of healthcare utilization paints a different picture. Figure 12 shows, by region, the number of reports from hospitals per 1,000 patient days. This figure shows that, after accounting for the

differences in the volume of healthcare provided in each region, facilities in the Northcentral and Northwest regions reported 35.9 and 33.3 Incidents per 1,000 patient days, respectively. The rest of the regions reported from 19.2 to 28.5 Incidents per 1,000 patient days.

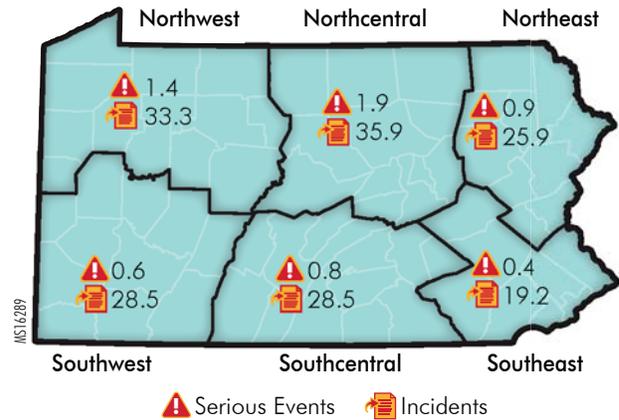
Figure 13 shows that the Northcentral and Northwest regions submitted the greatest proportion of Serious Events, 5% and 3.9% respectively, as compared to the statewide pooled mean of 3.2%. Conversely, the Southeast and Southwest regions submitted the highest proportion of Incidents 98.1% and 97.9% respectively.

This does not necessarily suggest that facilities in any of the regions were less or more safe than those in other regions. It may mean that the healthcare providers in certain facilities or regions were better at identifying and reporting potential patient safety issues. Figure 14 shows that the Southwest region has the largest number of reports submitted per hospital.

**Figure 11. Number of Serious Event and Incident Reports from Hospitals by Region (2015)**

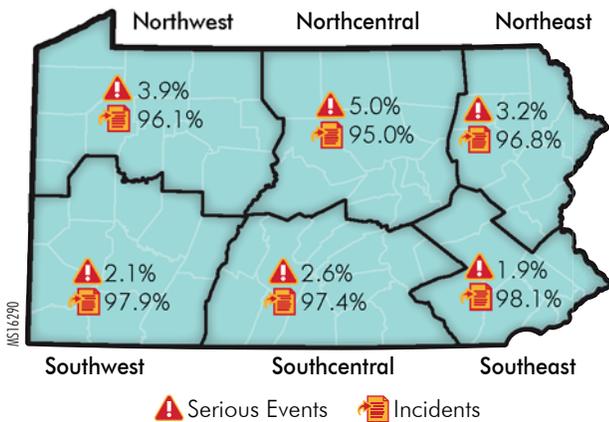


**Figure 12. Reports from Hospitals per 1,000 Estimated Patient Days by Region (2015)\***

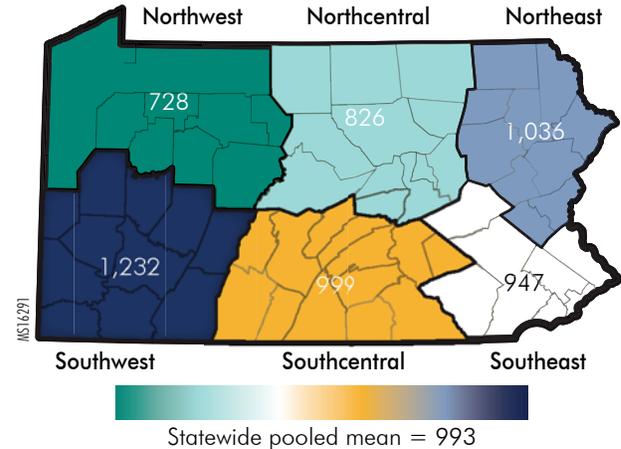


\*Based upon publicly available patient days data from the website of the Pennsylvania Health Care Containment Council ([www.PHC4.org](http://www.PHC4.org)). Estimates were based on statewide inpatient data from 2014.

**Figure 13. Percentage of Incident and Serious Event Reports from Hospitals by Region (2015)**



**Figure 14. Number of Reports Submitted Per Hospital by Region (2015)**



## Conclusion

The data presented in this section illustrates the continued progress among medical facilities in the Commonwealth to identify and report patient safety events while increasing the proportion of Serious Events among those reports. The monthly average number of overall submitted events decreased by less than 1%. The number of Serious Events related to death continued to be a low proportion of submitted reports annually. As the Authority completes its eleventh calendar year of collecting, analyzing, and

writing about medical errors, the data trends noted may be a positive reflection of the efforts made by healthcare institutions in the Commonwealth. These numbers suggest an association with the recent implementation of 28 principles to standardize reporting. Currently, all data available is trending in the directions the Authority would expect if the standardization initiative were having an impact. The Authority will continue to monitor these indicators.

## Notes

1. 2002 Pa. Laws 154, No. 13. Medical Care Availability and Reduction of Error (MCARE) Act. Also available at [https://www.portal.state.pa.us/portal/server.pt/document/495911/hb1802\\_pdf](https://www.portal.state.pa.us/portal/server.pt/document/495911/hb1802_pdf)
2. Department of Health and Human Services. Adverse events in hospitals: state reporting systems [online]. 2008 Dec [cited 2016 Feb 18]. <http://oig.hhs.gov/oei/reports/oei-06-07-00471.pdf>, accessed February 18, 2016
3. National Coordinating Council for Medication Error Reporting and Prevention. NCC MERP index for categorizing medication errors [online]. 2001 Feb [cited 2016 Feb 18]. <http://www.nccmerp.org/medErrorCatIndex.html>
4. Nowatzki N, Grant KR. Sex is not enough: the need for gender-based analysis in health research. *Health Care Women Int* 2011 Apr;32(4):263-77.

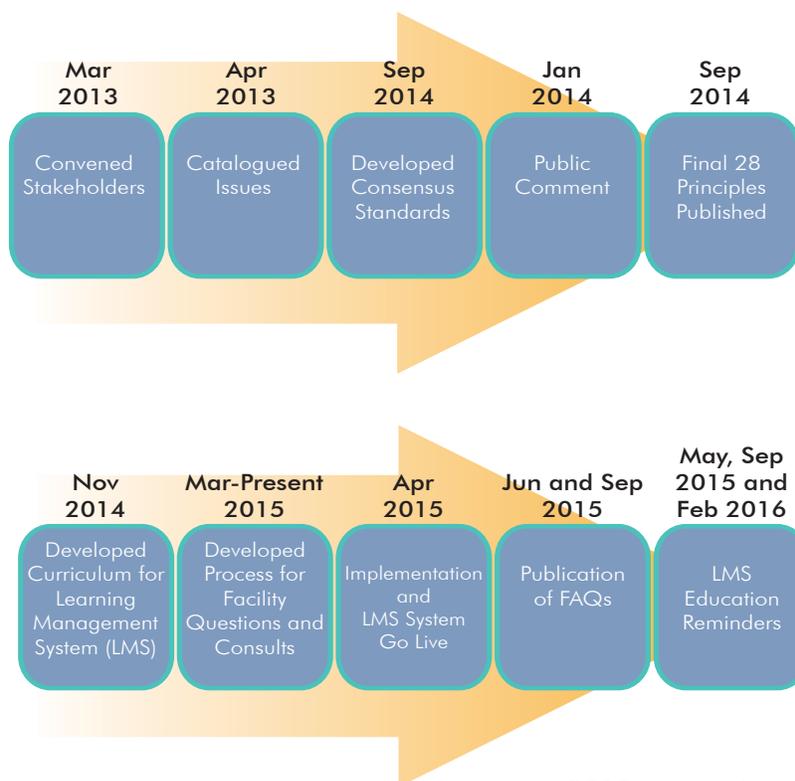
# Reporting Standardization: Guidance for Acute Healthcare Reporting

## Introduction

Twenty-eight guiding principles went into effect on April 1, 2015, to improve consistency in event reporting through the Pennsylvania Patient Safety Reporting System (PA-PSRS). Since mandatory reporting began in 2004, health care facilities have requested clarification of reporting requirements. The Pennsylvania Patient Safety Authority, as identified in its strategic plan, is committed to improving and standardizing reporting for the benefit of the healthcare facilities of the Commonwealth. In 2014, the Authority convened a multi-disciplinary workgroup consisting of staff from the Authority, physician members of the Authority’s Board of Directors, the Pennsylvania Department of Health, the Hospital and Healthsystem Association of Pennsylvania, the Healthcare Council of Western Pennsylvania, and the Pennsylvania Ambulatory Surgery Association. The guidance was developed to help provide consistent standards to acute

healthcare facilities in Pennsylvania in determining whether occurrences within facilities meet the statutory definitions of Serious Events, Incidents, and Infrastructure Failures as defined in section 302 of the Medical Care Availability and Reduction of Error (MCARE) Act. The Authority, the Department, and healthcare facility staff will work together toward a shared understanding of the requirements. The reporting guidelines were identified based on frequently asked questions (FAQs), controversies, and inconsistencies that were evident in the data collected by the Authority and the Department. The guidelines were adopted after a public comment period and published in the Pennsylvania Bulletin September 27, 2014 (available at <http://www.pabulletin.com/secure/data/vol44/44-39/2041.html>). Figure 1 shows the steps in the process. Preliminary trends associated with this initiative are discussed below.

Figure 1. Standardization Time Line



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# Education

Before the April 1, 2015, program release, an online educational program was developed to ensure that all Authority, Department, and healthcare-facility staff had a common understanding of the principles.

The Authority's outreach to disseminate and educate people about the new reporting standards was extensive, and by the end of 2015, 71.8% percent of users had completed all required modules.

More than 5,800 education modules were completed in 2015 by nearly 1,000 users, representing nearly two people for every acute-care facility in the state.

The Authority also provided on-site education to 423 Patient Safety Officers, physicians, quality managers, nurse leaders, and other clinical staff. On-site education included facility-specific requests and requests from professional organizations.

## Assessing the Impact of Reporting Standardization

As reporting standardization is implemented, the Authority and its Board expect to see reporting practices and variation in reporting change. A set of performance measures was selected to assess the impact standardization has had on reporting practices. Although the end of 2015 did not yet mark a year since implementation of the new standards and any conclusions would be preliminary, the Authority is encouraged that for all indicators it felt were important, changes seem to be moving in the desired direction. For example:

1. There was a noticeable increase in Serious Event reports starting in April 2015, the month the new standards went into effect.
2. The use of new and revised event types and sub-types promotes more consistency in reporting that is evident in the reports. The number of reports

submitted under the new event types has nearly doubled since implementation (second and third quarter of 2015).

3. Healthcare facilities have enthusiastically embraced education for the standardization principles. By the end of December 2015, more than 70% of users completed all required modules. As mentioned, that equates to roughly two people educated for every hospital in Pennsylvania.

The principles have found good acceptance among healthcare providers, as evidenced by the nature of the help desk calls received during implementation, the tenor of conversations among facilities, and the Authority's Patient Safety Liaisons, and an increase in Serious Event reporting. More detail on these trends follows.

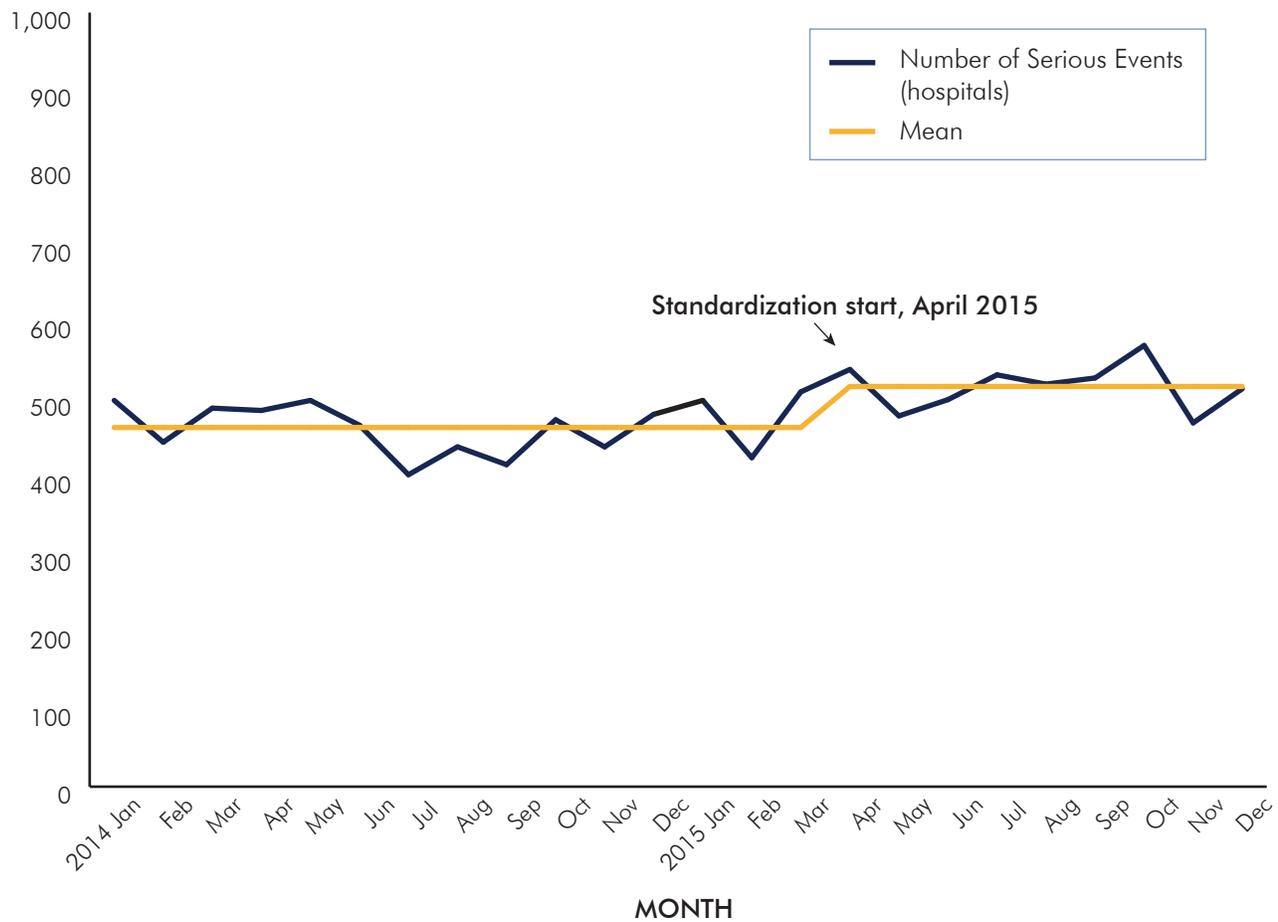
## Serious Events

The guidance clarified interpretations of the Serious Event definition and its component terms. The number of Serious Event reports in 2015 increased by 9.2% over 2014. The Authority believes standardization contributed to this increase (see the [Detailed Overview of Data Reported through PA-PSRS](#) section for more information on

Serious Events). Figure 2 shows the increase in the number of Serious Event reports submitted by hospitals to PA-PSRS since standardization was implemented in April 2015. The mean number of Serious Event reports submitted by hospitals before standardization was 464.7 and after implementation, 517.0.

**Figure 2. Number of Serious Event Reports from Hospitals in 2014 and 2015**

**NUMBER OF SERIOUS EVENT REPORTS SUBMITTED**



MS 16325

## New Event Type and Subtypes

New and revised event types and subtypes were created in PA-PSRS to help facilities standardize reporting. Ten of those apply to the events reported to PA-PSRS and the rest to events reported to the Department. The PA-PSRS new event type is Patient Self-harm and subtypes include Emergency Department Patient in 302 Process Eloped with Injury and Unanticipated Transfer to Higher Level of Care. The number of reports submitted under the new event types nearly doubled between the second and third quarter of 2015. Between the second and fourth quarters of 2015, the number of events submitted under the new

event types increased 111.3%. In the first nine months after implementation, more than 3,000 Serious Events and Incidents were submitted under the new event types (Table 1).

**Table 1. Number of Events Submitted under the New Event Type and Subtypes**

REPORTS	Q1 2015	Q2 2015	Q3 2015	Q4 2015
Number	0	683	1,323	1,443
Change (%)		N/A	93.7	9.1

## Complications

Because of feedback from facilities and identified need, one new and two revised event subtypes were created in the Complication of Procedure, Treatment, or Test event type. They appear under anesthesia and emergency department. The Authority expected an increase in use of

these subtypes once implemented. The volume of reporting complications as Serious Events has increased, and the number of Serious Events related to complications increased in 2015 by 11.2% over 2014.

## Patient Self-Harm

The patient self-harm event type and subtypes are being used by facilities when reporting. The volume of reporting between the second and third quarters of 2015 was

stable, but increased by 44.4% in the fourth quarter. The number of Self Harm/Other events represents 46.8% of the category.

## Other/Miscellaneous

The number of new event subtypes submitted under the Other/Miscellaneous category has shown improvement. The number of events categorized as Other/Miscellaneous decreased by 13.9% below 2014, suggesting an improvement in the quality of the reports submitted. The greatest increase in the number of events reported and expected was in the Unanticipated Transfer to Higher Level of Care subtype. More than 2,400 events were submitted under

this event type in the first nine months after implementation. Table 2 shows the percent changes of unanticipated transfers and subtypes in 2015.

For more information and detail on the Other/Miscellaneous data, see the [Detailed Overview of Data Reported through PA-PSRS](#) section.

**Table 2. Reports Submitted under the New Event Subtype, Unanticipated Transfers**

<b>REPORT TYPE UNDER OTHER/MISCELLANEOUS</b>	<b>Q1 2015 NUMBER CHANGE (%)</b>	<b>Q2 2015 NUMBER CHANGE (%)</b>	<b>Q3 2015 NUMBER CHANGE (%)</b>	<b>Q4 2015 NUMBER CHANGE (%)</b>
Unanticipated transfer	0 (N/A)	389 (N/A)	1,034 (165.8)	1,054 (1.9)
Intrafacility transfer	0 (N/A)	243 (N/A)	691 (184.4)	733 (6.1)
Interfacility transfer	0 (N/A)	101 (N/A)	286 (183.2)	262 (-8.4)
Other	0 (N/A)	45 (N/A)	57 (26.7)	59 (3.5)

## Health Information Technology

As healthcare organizations rapidly adopted electronic health records (EHRs) over the past few years and information systems have increasingly become interoperable, the Authority has seen an increase in events that are related to Health Information Technology (HIT) as a causative or contributing factor. However, HIT may also help prevent other types of safety problems that are not necessarily HIT-related. To identify events in which HIT may have played a role, we added several questions to PA-PSRS to help identify such events and which systems were involved.

The HIT measure represents the aggregate number of events submitted with “yes” responses to the question, “Did HIT cause or contribute to this event?” Table 3 shows the number and percentage of reports by event type by quarter in 2015. With nearly 2,000 events identified in the first 9 months after implementation and a 32.5% increase in the number of reports received between the second and fourth quarters of 2015, our ability to identify HIT-related events has improved. As shown in Table 3, the majority of these HIT-related events involve Medication Errors or Errors in Procedures/Treatments/Tests.

**Table 3. Health Information Technology-Related Events by Event Type**

<b>EVENT TYPE</b>	<b>Q1 2015 NUMBER CHANGE (%)</b>	<b>Q2 2015 NUMBER CHANGE (%)</b>	<b>Q3 2015 NUMBER CHANGE (%)</b>	<b>Q4 2015 NUMBER CHANGE (%)</b>	<b>TOTAL</b>
Medication error	N/A	274 (46.9)	308 (49.0)	397 (51.2)	979 (49.3)
Adverse drug reaction (not a medication error)	N/A	0 (0)	1 (0.2)	2 (0.3)	3 (0.2)
Equipment/Supplies/Devices	N/A	20 (3.4)	19 (3.0)	22 (2.8)	61 (3.1)
Fall	N/A	4 (0.7)	9 (1.4)	15 (1.9)	28 (1.4)
Error related to procedure/ Treatment/Test	N/A	248 (42.5)	232 (36.9)	258 (33.3)	738 (37.1)
Complication of procedure/ Treatment/Test	N/A	0 (0.0)	11 (1.8)	13 (1.7)	24 (1.2)
Transfusion	N/A	10 (1.7)	8 (1.3)	17 (2.2)	35 (1.8)
Skin integrity	N/A	0 (0.0)	4 (0.6)	4 (0.5)	8 (0.4)
Self harm	N/A	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Other/Miscellaneous	N/A	28 (4.8)	36 (5.7)	47 (6.1)	111 (5.6)
<b>Total</b>	<b>N/A</b>	<b>584 (100)</b>	<b>628 (100)</b>	<b>775 (100)</b>	<b>1,987 (100)</b>

## Infrastructure Failures and Other

Infrastructure Failures and Other events are reportable to the Department and are beyond the scope of this report.

## Help Desk Activity

The Authority provided a platform for facilities to ask questions about the new guidelines. Facilities were able to request an immediate response to their inquiry if needed. Immediate-response questions went through an expedited process involving both the Authority and Department. Most questions requiring an immediate response were answered within one to two business days. These responses, along with responses to non-immediate questions were published in two FAQ documents (June and September 2015) and were made available through PA-PSRS.

The Authority and Department received 117 clarifying questions following the April 1, 2015 standardization implementation via the help desk and Patient Safety Liaisons. The vast majority were in the first month after the implementation and fewer than 10 were received thereafter.

The number of questions received declined by 93.5% between April 2015 and the months of May through September 2015.

## Quality and Variation

The quality of report submissions has improved. The Authority assesses this by monitoring the number of Serious Event reports submitted and the number of events reported as Other/Miscellaneous. As expected, the number

of Serious Event reports increased, rising 9.2% over 2014. The number of reports categorized under the event type Other/Miscellaneous decreased, falling by 13.9%.

## Low Volume Reporters

The Authority gives attention to facilities that submit a low volume of reports or none at all to PA-PSRS. A goal of standardization is to see the number of reports increase as the number of low volume reporters decreases because guidance and interpretations have been provided to acute healthcare facilities in Pennsylvania in determining whether specific occurrences meet the statutory definitions of Serious Events, Incidents, and Infrastructure Failures. The Authority will continue to closely monitor low volume reporters, particularly those that consistently do not report Serious Events or Incidents to the Authority. The Authority continues to collaborate with the Department to address low volume reporting in Pennsylvania. The Authority will continue to monitor low volume reporters. Figure 3 shows the number of low volume reports per year for hospitals and ambulatory surgical facilities.

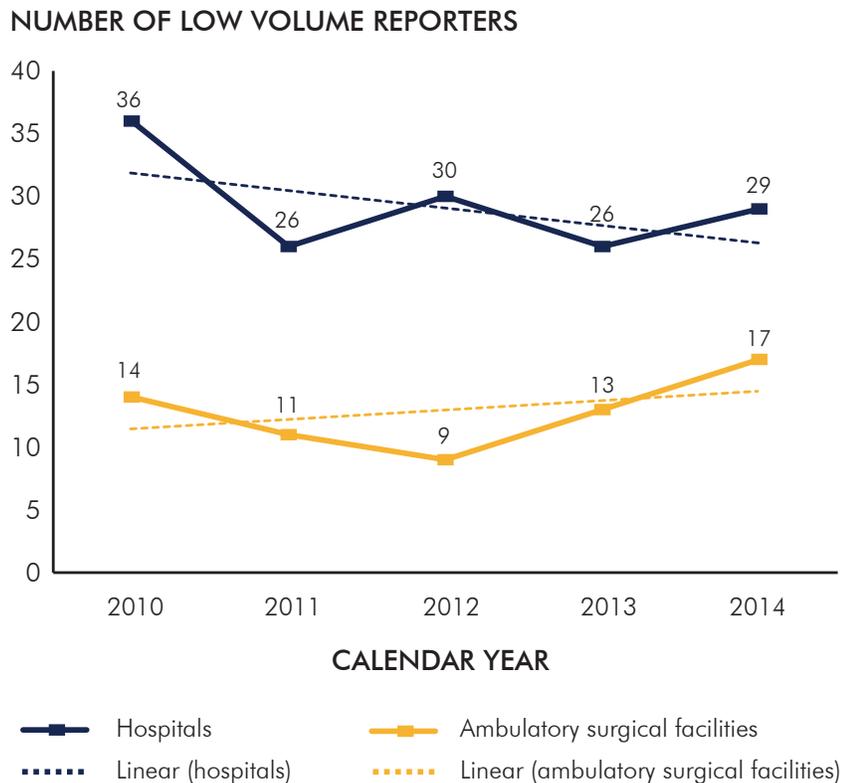
Hospitals are considered low volume reporters if they meet any of the following criteria:

- No Serious Events submitted to PA-PSRS for a year
- No Incidents submitted to PA-PSRS for a year
- Reporting of Serious Events, Incidents, or total reports per 1,000 patient days is less than 10% of the mean of their hospital type (e.g., acute, behavioral, children's)

Ambulatory surgical facilities are considered low volume reporters if they meet any of the following criteria:

- No reports submitted to PA-PSRS for one year (4+ rooms) or two years (<4 rooms), AND
- There are no extenuating circumstances identified by their Patient Safety Liaison
- Facilities of unknown room size will be treated as having fewer than 4 rooms

Figure 3. Number of Low Volume Reporters\*



\* 2015 data were unavailable at time of publication pending patient days data from PHC4.

# Continued Standardization—Pressure Ulcers

In March 2015, the Authority published an article, “Hospital-Acquired Pressure Ulcers Remain a Top Concern for Hospitals,” in the *Pennsylvania Patient Safety Advisory*.<sup>1</sup> Analysis of PA-PSRS data from 2007 through 2013 suggested not only a need for improvement in identifying, staging, and preventing pressure ulcers, but also an opportunity to standardize reporting in this area. In 2013, about 19,000 hospital-acquired pressure ulcer events were submitted to the Authority, representing more than half of the reports related to skin-integrity issues. Of those, about one third were submitted without staging information, and a majority of them were reported as Incidents. This held true across all reported stages, including 91.0% of stage III, stage IV, suspected deep tissue injury, and unstageable pressure ulcers reported as Incidents.

The Authority staff and its Board of Directors identified this as the next priority for standardization. A workgroup was formed, comprised of Authority staff, physician members of the Authority Board, Pennsylvania Department of Health representatives, the Hospital and Healthsystem Association of Pennsylvania, the Healthcare Council of Western Pennsylvania, the Pennsylvania Ambulatory Surgery Association, the Health Care Improvement Foundation, and a member of the Authority’s Patient Voice Council. The workgroup’s primary goal is to develop and publish standards for reporting hospital-acquired pressure ulcers under the MCARE Act so that the Authority, the Department, and healthcare facilities have a shared understanding of the requirements. The Authority will publish guidelines and develop educational programs to support facilities in understanding the changes and improving pressure ulcer prevention.

## Note

- 1 Feil MA, Bisbee J. Hospital-acquired pressure ulcers remain a top concern for hospitals. *Pa Patient Saf Advis* 2015 March; 12(1):28-36.



# Healthcare-Associated Infections

## Introduction

Healthcare-associated infections (HAIs) are infections that patients contract during medical treatment in a healthcare facility, including inpatient, outpatient, and long-term care (LTC) settings. The majority of HAIs are infections of the urinary, respiratory, and gastrointestinal tracts, as well as bloodstream, skin and soft tissue, and surgical sites.<sup>1</sup> These infections are associated with a variety of risk factors, including the use of invasive medical devices, surgery, injections, environmental contamination, antibiotic misuse, and pathogen transmission between patients and healthcare workers.<sup>2</sup>

HAIs are a significant cause of morbidity and mortality. According to the Centers for Disease Control and Prevention (CDC), about 1 in every 25 hospitalized patients has an infection related to hospital care, which can result in devastating emotional, financial, and medical consequences.<sup>3</sup> A recent study by Columbia University researchers determined that infections are a leading cause of morbidity and mortality in US nursing home residents with an estimated 1.6 million to 3.8 million infections occurring annually.<sup>4</sup>

Working toward the elimination of HAIs is a Pennsylvania Patient Safety Authority priority, as many of these serious infections are preventable patient safety threats. In 2007, the Medical Care Availability and Reduction of Error (MCARE) Act was amended (Act 52) for nursing homes to report HAIs as Serious Events to the Authority. Hospitals report HAIs to the CDC's National Healthcare Surveillance Network (NHSN). The information submitted to NHSN from Pennsylvania hospitals is provided to the Pennsylvania Department of Health to be compiled,

analyzed, and published annually ([http://www.health.pa.gov/facilities/Consumers/Healthcare%20Associated%20Infection%20\(HAI\)/Documents/PennsylvaniaHAIReport2014\\_Final\\_20150923.pdf](http://www.health.pa.gov/facilities/Consumers/Healthcare%20Associated%20Infection%20(HAI)/Documents/PennsylvaniaHAIReport2014_Final_20150923.pdf)). The first full year of data from LTC was reported in 2015 via the Pennsylvania Patient Safety Reporting System (PA-PSRS) using the revised McGeer criteria. The year 2015 serves as the new benchmark for LTC HAI data for Pennsylvania, and the Authority will begin to compare year-to-year performance in HAI categories in 2016. Facilities are now able to access real-time analytics for all infection types, showing benchmarks for both peer group and state rates.

The Authority provides statewide leadership and expertise in infection control research, monitoring and analysis of infection reports from hospitals and nursing homes, outbreak investigations, education, collaboration, and strategies and tools for HAI prevention. Details about The Authority's collaborative efforts and partnerships are found in the **Building Improvement in Patient Safety through Collaboration and Partnerships** section of this report.

The Authority uses knowledge gained through these activities to detect infection trends and develop new strategies to prevent HAIs. Action by the Authority and other healthcare partners has led to improvements in clinical practice, the ongoing development of evidence-based infection-control guidance, and prevention successes as evidenced in Department and previous Authority annual surveys and reports.<sup>5,6</sup> This section summarizes the Authority's HAI activities to detect serious infection trends and to develop new HAI prevention strategies and presents HAI rate tables and interpretations for long-term care facilities.

# Education and Outreach Programs

The addition of two infection prevention analysts in 2015 made it an exciting year for the Authority. Together, the four infection prevention analysts were able to provide education to about 1,500 healthcare workers throughout the Commonwealth and nationally. Methods used included one-on-one sessions, group presentations, webinars, and *Pennsylvania Patient Safety Advisory* articles. Topics ranged from antibiotic stewardship, endoscope reprocessing, and safe injection practices pertinent to all types of healthcare facilities to peripheral IV dwell time particularly relevant to acute care. Infection prevention simulation was a thought-provoking topic presented as a low-cost tool that can be used to provide all healthcare workers with valuable infection prevention experience.

One of the most exciting programs offered in 2015 was the statewide Ambulatory Surgery Facilities Symposia, in which the Authority's infection prevention analysts presented "Strategies to Prevent Infections in Ambulatory Surgery Facilities." Program participants learned new information, appreciated the references to infection prevention resources and tools, and realized the need to expand infection prevention education to their ancillary staff subsequent to the educational session. Additional information is available in

the **Educational Programs: Providing a Strong Foundation for Improvement** section.

The Authority took another step forward in 2015 by partnering with the University of Pittsburgh Medical Center to offer continuing medical education (CME) credits for its hand hygiene webinar, "How to Implement a Systems and Behavior Approach to Improve Hand Hygiene." Additional information is available in the **Educational Programs: Providing a Strong Foundation for Improvement** section of this report.

The Authority co-sponsored with Kendal Outreach webinars on *Norovirus*, infection prevention and influenza, prudent antibiotic use, and *Clostridium difficile* infection.

The Authority infection prevention analysts partnered with the Department to provide 13 on-site visits to nursing homes that needed educational assistance with HAI reporting requirements. The analysts provided the infection prevention designees with PA-PSRS resources, including LTC reporting training, taxonomy, and analytical data tools.

The following are sample notes of appreciation the Authority received regarding the HAI education and outreach programs offered:

“PSRS has been reaching out to other organizations in 2015. The Authority gave a statewide presentation to the PA Medical Directors Association (PMDA) on preventing HAIs in April. The information presented, as well as making PMDA members and others in the LTC team aware of PSRS resources will help on our ongoing efforts. Articles and initiatives about infection control and antibiotic stewardship are other examples of how PA-PSRS and medical organizations can team up to improve patient care.”

—Daniel Haimowitz, MD

“The Authority's infection prevention analysts' presentations are **always pertinent** to our daily issues and concerns and also those crises in Infection Prevention. Their many years as hands-on infection preventionists have made their educational presentations valuable to us. **They understand all that we are facing and are great resources** for us.”

—Cynthia A. Hinkle BSN, RN, CIC  
Infection Prevention,  
Nazareth Hospital

“Patient Safety Authority has been providing **up-to-date, useful, and important information** for Philadelphia Delaware Valley, APIC chapter 15 in the last few years and in 2015. All new issues were relayed to Infection Preventionists (IPs) in an educational manner and free of charge. Our association (APIC Chapter 15) is proud to have IP colleagues representing Patient Safety Authority in our group. Thank you.”

—Shahrazad Darvish BSN, RN, CIC  
Corporate Manager Infection Prevention and Control,  
Past President, APIC chapter 15

“I have had [the] opportunity to attend several courses, a networking session, and a webinar over the past few months offered by the Patient Safety Authority. **The information presented has been extremely helpful.** The Infection Prevention Analyst has been an invaluable resource in answering my many questions in a timely manner and also directing me to the appropriate resources for additional information when needed. I am very thankful to the Authority for the educational opportunities they have provided for me and the many resources and staff that are available to help keep our patients safe!”

—Molly L. Quesenberry BSN, RN  
Operating Room/Infection Control,  
Penn Highlands Elk Surgery Center

MS16310

# LTC Reporting Update—Analytics

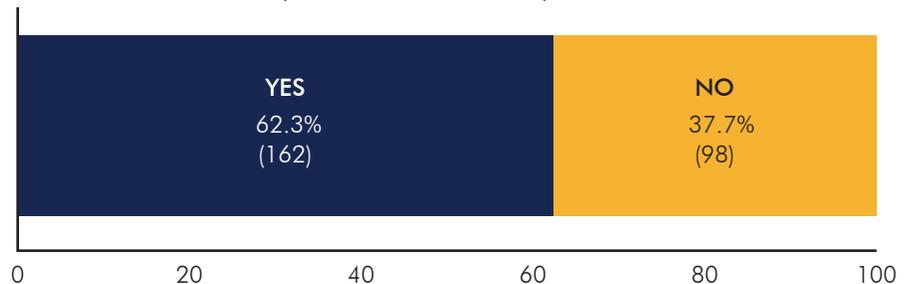
Reporting into PA-PSRS is mandatory for LTC facilities in Pennsylvania. The Authority educates, collaborates, and strives to improve resident outcomes through the analysis of reported LTC infection data. To make reported data available to individual facilities for their use in quality improvement activities, the Authority developed an extensive set of PA-PSRS data analytic reports designed specifically for LTC facilities to use. The analytic reports can display data about any reported infection at a scale ranging from a facility aggregate to an individual nursing unit report on an individual infection type. The analytic reports allow the infection prevention designee at each facility to see data for their own facility and drill down to the level of individual units, to address specific problems or to provide praise

in a timely manner. In a new feature for nursing-home data analysis and benchmarking, facilities are now able to access real-time analytics for all infection types, showing benchmarks for both peer-group and state rates.

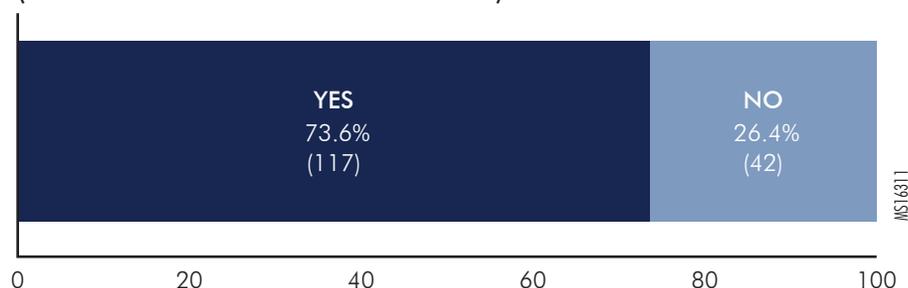
Responses to questions asked in the 2015 LTC annual survey are shown in Figure 1. More than 60% of respondents utilize the PA-PSRS analytic reports, and more than 70% of those include the Authority’s analytic reports in their quality assurance and improvement programs. In response to the 38% who do not use the PA-PSRS analytic reports for quality improvement, a webinar is planned to demonstrate to nursing home administration, medical directors, and infection prevention directors how to access and use facility-specific analytics to improve performance.

**Figure 1. How Widely Analytic Data is Used in LTC Facilities**

**ARE YOU USING THE PA-PSRS ANALYTIC REPORTS? (n = 260 RESPONSES)**



**IF YES, ARE YOU USING THE ANALYTICS AS PART OF YOUR QUALITY ASSURANCE AND PERFORMANCE IMPROVEMENT (QAPI) PROGRAM? (n = 159 OF "YES" RESPONSES ABOVE)**



MS16311

# Advisory Panel

The Healthcare-Associated Infection (HAI) Advisory Panel is comprised of infection-control experts who advise the Authority and other agencies on infection prevention in Pennsylvania. In December, a new member from the Pennsylvania Association of County Affiliated Nursing Homes joined the panel.

The Authority interacted with the HAI Advisory Panel throughout the year to review and discuss pertinent infection prevention topics and the current initiatives of the infection prevention team.

# Heater Cooler Units

Some Pennsylvania hospitals reported that a number of post-cardiothoracic surgery patients had developed nontuberculous mycobacterium (NTM) infections several years after surgery. During some cardiothoracic surgeries, it is necessary to chill or warm the patient's blood during cardiopulmonary bypass. This change in blood temperature is accomplished with a heater cooler unit (HCU).

The HCU functions much like a refrigerator, with a fan to cool the compressor. The HCU chills water that is pumped through a thermal exchanger thereby cooling or heating the blood without the blood and water ever mixing. If the plumbing or plumbing connections leak, it is possible for the dripping water to be aerosolized by the fan or from other mechanisms like spray from a fitting being disconnected. Once the water is aerosolized it can then float through the operating room. If the water has bacteria in it, the bacteria can become aerosolized with the water and float through the operating room, too. When bacteria are aerosolized, translocation becomes possible and the risk of surgical wound contamination increases.

Establishing the relationship between HCU use and infection can be challenging because of the delay between exposure and symptom development. The Department, the CDC, and the Authority collaborated on the investigation. While the Department and CDC did the majority of the field work, Authority analysts researched the PA-PSRS database for event reports concerning HCU use. The Authority found reports of HCUs leaking water at connections and reports that cited water being sprayed while the HCU was in use as the clinician manipulated the disconnect fittings on the water circuit.

The information gathered by cooperating agencies and hospitals was synthesized into a document that included a case definition for surveillance and case finding activities. The document highlights the investigation findings and provides suggestions for the care and maintenance of HCUs currently in use. It is available at: [http://www.health.pa.gov/Your-Department-of-Health/Offices%20and%20Bureaus/epidemiology/Documents/PA%20HAN/2015/2015-PAHAN-322-12-10-NTM%20guidance\\_final\\_S.pdf](http://www.health.pa.gov/Your-Department-of-Health/Offices%20and%20Bureaus/epidemiology/Documents/PA%20HAN/2015/2015-PAHAN-322-12-10-NTM%20guidance_final_S.pdf).

# Infection Control Annual Survey

In the fall of 2015, the Authority revised the distribution of the annual survey questionnaire to send a separate questionnaire directly to hospital infection preventionists (IPs) and to nursing home infection prevention designees (IPD). The surveys were redesigned to capture critical information about infection-control practices and the effectiveness of the Authority's educational and guidance programs. Healthcare facilities were surveyed about their current practices in a wide range of topics including

infection-control programs, antibiotic stewardship, multi-drug-resistant organisms and isolation, vaccinations, and emergency management, as well as use of the Authority's *Advisory* research and educational tools (see next section of this report for more information about the *Advisory*). This information will inform and prioritize future Authority research, education, and collaborative programs.

The Authority invited 287 hospital IPs to participate in the survey and received 119 responses; 110 respondents answered every question. The Authority invited 662 nursing home IPs to participate; 433 responded and 218 respondents answered every question.

In response to the question about the number of changes made in the past year as a result of reading an *Advisory* article, hospitals responded that 48 changes were made as a result of reading one or more of the four infection prevention *Advisory* articles in the past year; nursing homes responded that 132 changes were made as a result of reading one or more of the four infection prevention *Advisory* articles in the last year (see Table 1). Hospital comments about changes included: pneumonia vaccine is now offered to inpatients who meet criteria, increased review of use of antibiotics to monitor for trends, article used as a tool to improve cleaning and HLD (high level disinfection)

processes, and using the hand hygiene map to implement interventions. Nursing home comments about changes made included: all physicians working together to set standards for vaccinations, decreased ordering of antibiotics, no more automatic urinalysis for change in mental status, continuous monitoring with central supply cleaning solutions for equipment used on units, and staff audits for their perception of handwashing.

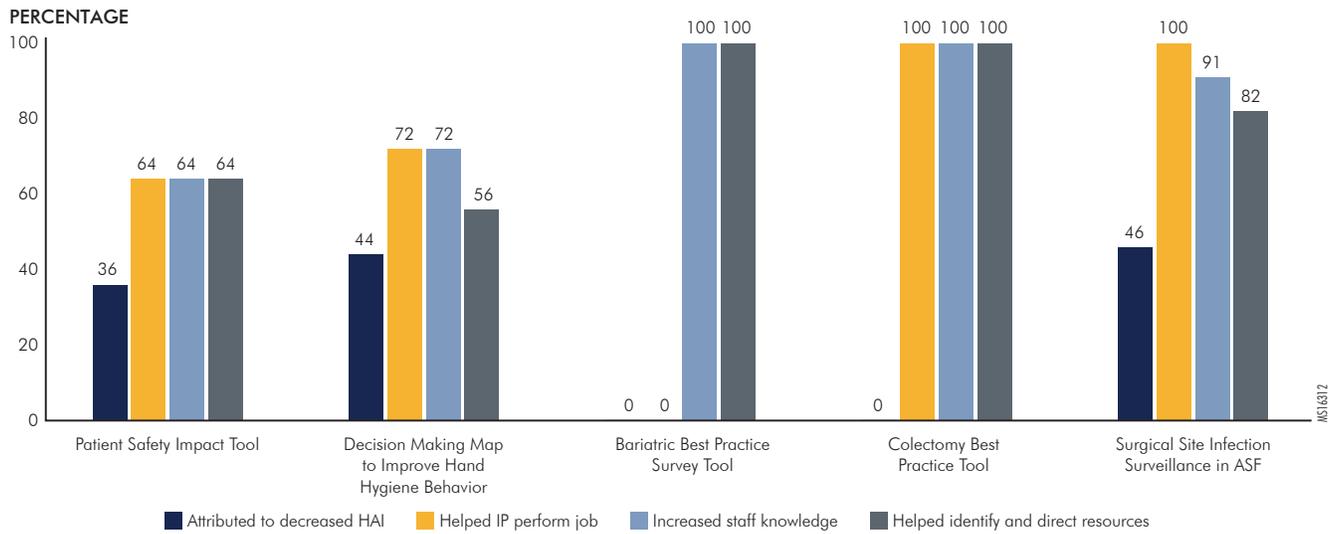
Most importantly, the majority of the Authority tools that were used were credited with contributing to a decrease in HAI. Among the hospitals and nursing homes that used the Authority infection control educational toolkits, the majority responded that the tools helped the IPs perform the infection control job, increased staff knowledge about infection control, and helped them identify specific areas in which to prioritize infection control resources (see Figures 2 and 3).

**Table 1. Changes Made as a Result of Reading an Advisory Article in the Past Year**

ADVISORY ARTICLE	NUMBER OF RESPONSES		% OF "YES" RESPONSES		CHANGES MADE AS A RESULT OF READING THE ARTICLE	
	Hospitals	Nursing Home	Hospitals	Nursing Home	Hospitals	Nursing Home
Antimicrobial Therapy for Pneumonia in Pennsylvania Long-Term Care: A Spotlight on Culture	107	112	17.8%	46.3%	3	31
Antibiotic Stewardship in Hospitals and Long-Term Care Facilities: Building an Effective Program	107	118	34.6%	48.6%	13	51
Equipment, Environment, and Ergonomics: An Enigma of Infection Risk	107	61	42.1%	25.2%	12	10
A Systems and Behavioral Approach to Improve Hand Hygiene Practice	106	124	56.6%	51.0%	20	40

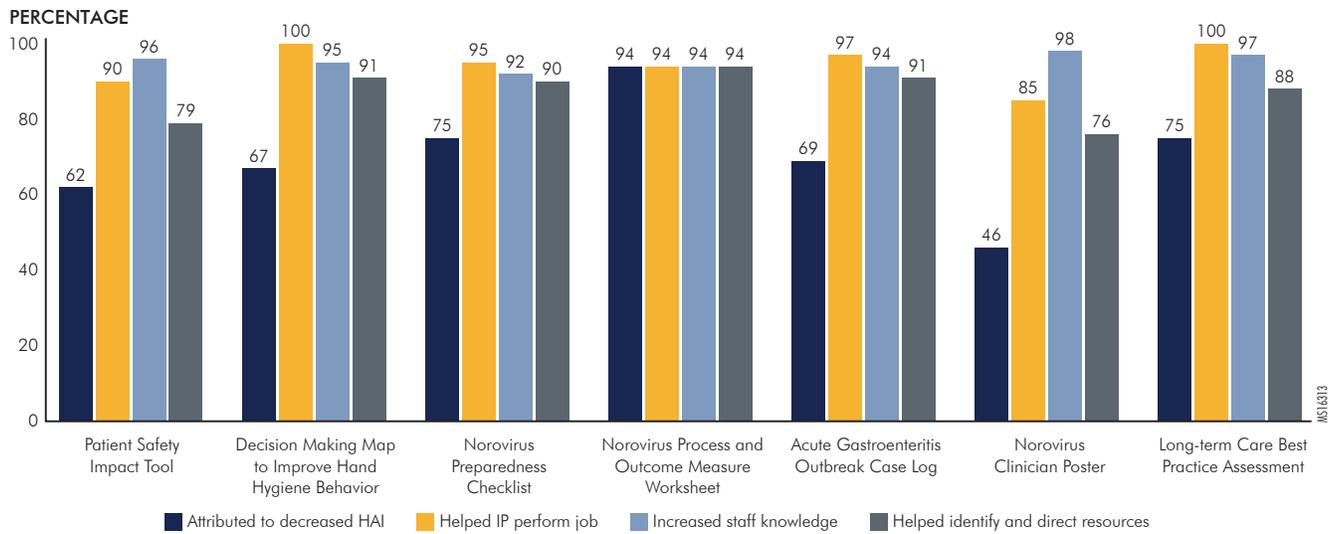
Source: Pennsylvania Patient Safety Authority. *Nursing home user survey summary* [internal report]. Harrisburg (PA): Pennsylvania Patient Safety Authority; 2015 Nov.

**Figure 2. Improvements in Hospitals Using Infection Control Tools**



Source: Pennsylvania Patient Safety Authority. Hospital user survey summary [internal report]. Harrisburg (PA): Pennsylvania Patient Safety Authority; 2015 Nov.

**Figure 3. Improvements in Nursing Homes Using Infection Control Tools**



Source: Pennsylvania Patient Safety Authority. Hospital user survey summary [internal report]. Harrisburg (PA): Pennsylvania Patient Safety Authority; 2015 Nov.

The hospital and nursing home responses to the survey also clarified opportunities for additional awareness and engagement related to antibiotic stewardship, influenza vaccination programs, methicillin-resistant *Staphylococcus aureus* (MRSA) infection surveillance, use of the *Advisory* and accompanying toolkits, and specific topics of interest.

Hospital responses revealed that 72% have an antibiotic stewardship program in place and 85% use an antibiotic to support antibiotic selection. Fifty-two percent subscribe to the *Advisory* and positive responses to the question about awareness of each of five specific Authority toolkits ranged from 5% to 21%. Sixty-one percent of hospitals have a mandatory staff influenza vaccination program and 51% require unvaccinated healthcare workers to wear masks during the influenza season. Ninety-five percent of the hospitals that responded perform active MRSA surveillance. The top three infection-control topics that hospitals are interested in having additional guidance on are environmental infection control, hand hygiene, and *C. difficile* infection.

Nursing home responses also revealed opportunities for guidance and education. Twenty-one percent of nursing

homes responded that they have an antibiotic stewardship program in place and 13% use an antibiotic. Seventy-nine percent are aware of the *Advisory* and the responses to the question about awareness of each specific toolkit ranged from 6% to 19%. Forty-eight percent of nursing homes have mandatory staff influenza vaccination programs and require wearing face masks for healthcare workers who are not vaccinated against influenza. In response to the 74% who use the PA-PSRS analytic reports for quality improvement, an April webinar is planned to demonstrate how to access and use facility specific analytics for performance improvement. Nursing homes also responded that 100% of IPDs have multiple responsibilities, and 43% of those have not received formal infection control education. The top three infection control topics in which nursing homes are interested in additional guidance are antibiotic stewardship, how to perform HAI surveillance, and influenza.

The results of the LTC annual survey responses about PA-PSRS Analytics are discussed in the “LTC Reporting Update—Analytics” section.

## Long-Term Care Data Analysis

The first full year of data from LTC was reported in 2015 via PA-PSRS using the revised McGeer criteria. The year 2015 serves as the new benchmark for LTC HAI data for Pennsylvania. As in past annual reports, once there is more than one full year of data, Authority analysts will compare year-to-year performance in HAI categories. This will begin in the 2016 Annual Report.

Authority analysts have broken several infection classifications into specific care areas, the rationale being that

without comparative data it would be difficult to provide adequate direction for LTC IPDs. Breaking down the data into care areas will provide guidance as to where to focus surveillance, resources, and prevalence investigations to continually improve the prevention of HAI.

Nursing homes in Pennsylvania submitted a total of 31,672 infection reports through PA-PSRS in 2015, a 9.9% increase from the 28,825 submitted in 2014.

### Analysis Method

Of the 702 facilities active as of December 31, 2015, 664 (94.6%), spanning five care areas, met basic validation criteria.

The Authority excluded 38 facilities for analysis based on the following:

1. Resident days were not entered for every month of 2015; 17 nursing homes were excluded, compared with 38 in 2014.

2. Nursing homes had a month during which occupancy was above 100% or below 50%. Occupancy is calculated by dividing the number of resident days by the number of beds listed for each facility. The quotient is then divided by the number of days in each month. In the 2015 data, 21 nursing homes were excluded, compared to 29 in 2014.

3. No nursing home was excluded at the unit level for reporting infections without accompanying resident days in 2015 data.
4. Seventy-eight nursing homes were excluded from analysis for catheter-associated urinary tract infections (CAUTIs) in 2015 data for reporting CAUTIs without accompanying catheter days.
5. Three hundred sixty-five nursing homes were excluded from analysis for central line-associated bloodstream infections (CLABSIs) in 2015 data for reporting CLABSIs without accompanying central line days.

## Urinary Tract Infection

Table 2 shows 2015 urinary tract infections (UTIs) in aggregate. CAUTI overall has the greatest impact of the UTI category, followed by symptomatic urinary tract infection (SUTI) then both the asymptomatic bacteremic urinary tract infection (ABUTI) types. Ventilator units seem to have significantly lower CAUTI rates as compared to other units. Dementia and skilled nursing/short-term rehabilitation (SN/STR) units appear to have the highest rates of CAUTI (Figure 4). These units also traditionally consist of more mobile, active patients, leading to the question of device utilization. The dementia units have a very low rate of device utilization, signaling that it may be difficult to lower their CAUTI rate further unless novel care practices are developed to address their care. For example, the appropriate care of the leg bag, its use and reuse, and its impact

on infection development in this population can be investigated. The SN/STR units have the highest device utilization rate; perhaps daily review of catheter necessity needs to be a focus, if it is not already. SUTI remains low overall, however it is a prevalent problem in the SN/STR units, more practice data would need to be collected to determine an appropriate path of intervention. See Figure 5.

Both ABUTI types are depicted as having pooled rates of zero. Despite the pooled rates showing zero when one looks at the numbers of infections, it is deceiving when one considers the severity of ABUTI. ABUTI signals the transformation of an asymptomatic UTI into a bloodstream infection, essentially sepsis. ABUTI should remain a focus from a prevention standpoint in all environments regardless of rate interpretation.

## Respiratory Tract Infection

Because of the switch to the revised McGeer criteria, Authority analysts are able to provide a specific breakdown for the LRTI category. For the first time, the Authority is able to view the specific impact of individual infection types by month (Table 3 and Figure 6). Pneumonia remains the predominant infection type during the majority of months and care areas. Influenza and Influenza-like illness account for seasonal variation, as expected, with the majority of

infections in January, February, and March and tapering off after April. Other LRTI types remain fairly consistent throughout the months. January is notable as having the highest impact in terms of LRTI in LTC (Figure 7). Likely due to the influence of seasonal variability much like what is experienced when looking at the impact of influenza and related secondary bacterial infection within this population of patients.

## Gastrointestinal Infection

Gastrointestinal infections in 2015 were primarily by *C. difficile* and *Norovirus*. See Table 4. There was very little under the bacterial gastrointestinal category and appears to have been seasonal in nature. See Figures 8 and 9. Interestingly *C. difficile* infection seemed to have a slightly

higher occurrence during the peak of *Norovirus* season. See Figure 10. This seasonality is difficult to explain without the addition of process metrics, which the Authority does not collect, however if facilities are burdened by the seasonal impact of gastrointestinal infections, one must

question whether the facilities are adequately resourced to handle the extra labor in terms of nursing care and environmental services/housekeeping these infections cause by their very nature. A *Norovirus* outbreak is defined by

the Authority as three or more cases of *Norovirus* defined within a three-day period.<sup>7</sup> Figure 11 shows the percent of Pennsylvania nursing homes reporting *Norovirus* in general that met the outbreak case definition for *Norovirus* in 2015.

## Skin and Soft Tissue Infection

Cellulitis, soft tissue, or wound infection remain fairly constant throughout the defined care areas, which is consistent with previous annual reports. Scabies and conjunctivitis

are new HAI categories for this report. Both scabies and conjunctivitis incidence is low in all care areas except for the ventilator dependent units. See Table 5 and Figure 12.

## Central Line-Associated Blood Stream Infection

CLABSI is split into three separate categories; dialysis lines, temporary lines, and permanent lines. The definition for each line type is available in Table 6, depicted in the category headers. Despite the pooled rates being zero, Pennsylvania nursing homes still experience CLABSI.

Mortality rates because of CLABSI may be between 12% and 25% and costs between \$3,700 and \$36,000 per occurrence.<sup>8,9</sup> CLABSI should remain a focus for all care areas that house residents with central lines regardless of very low pooled rates of infection.

## Conclusion

The analytics presented herein related to HAI are no longer static reports. LTC facilities can access their individual data as well as statewide and peer group data through the PA-PSRS Analytics tab once logged into the system; the data are updated daily. The Annual Report sets the state's

benchmarks for LTC HAI measurement; however the Authority encourages individual facilities to use the analytics within PA-PSRS to lead continuous performance improvement interventions at the facility level.

(See following pages for data tables and figures. Note: Table rows indicating totals show the number of nursing homes reporting for the given type of infection with each unit name. This is not to be confused with the sum of the unit types for that infection. There may be overlap of unit types reporting at any given facility.)

Table 2. Urinary Tract Infections, Pooled Mean Rates, by Subcategory and Care Unit, Reported through PA-PSRS, 2015

UNIT NAME (n)	NUMBER OF INFECTIONS	RESIDENT DAYS	CATHETER DAYS	DEVICE UTILIZATION RATE*	POOLED INFECTION RATE (95% CI)†,‡
<b>CAUTI—Catheter in place with localizing urinary signs or symptoms or catheter removed within the last 2 calendar days at the facility</b>					
Dementia unit (20)	34	2,283,386	37,197	0.016	0.91 (0.61 - 1.22)
Mixed unit (108)	312	7,717,065	386,214	0.050	0.81 (0.72 - 0.9)
Nursing unit (108)	293	8,564,041	373,695	0.044	0.78 (0.69 - 0.87)
SN/STR unit (170)	423	9,230,985	495,693	0.054	0.85 (0.77 - 0.93)
Vent unit (5)	17	178,181	43,366	0.243	0.39 (0.21 - 0.58)
<b>Total (350)</b>	<b>1,079</b>	<b>27,973,658</b>	<b>1,336,165</b>	<b>0.048</b>	<b>0.81 (0.76 - 0.86)</b>
<b>Device-Related-ABUTI—Catheter in place without localizing urinary signs or symptoms</b>					
Dementia unit (0)		2,283,386	NA	NA	0 (0 - 0)
Mixed unit (14)	18	7,717,065	NA	NA	0 (0 - 0)
Nursing unit (9)	14	8,564,041	NA	NA	0 (0 - 0)
SN/STR unit (10)	10	9,230,985	NA	NA	0 (0 - 0)
Vent unit (1)	1	178,181	NA	NA	0.01 (0 - 0.02)
<b>Total (34)</b>	<b>43</b>	<b>27,973,658</b>	<b>NA</b>	<b>NA</b>	<b>0 (0 - 0)</b>
<b>SUTI—Catheter not present or catheter removed for more than 2 calendar days within the facility with localizing urinary signs or symptoms</b>					
Dementia unit (82)	273	2,283,386	NA	NA	0.12 (0.11 - 0.13)
Mixed unit (143)	1,252	7,717,065	NA	NA	0.16 (0.15 - 0.17)
Nursing unit (175)	1,345	8,564,041	NA	NA	0.16 (0.15 - 0.17)
SN/STR unit (249)	1,707	9,230,985	NA	NA	0.18 (0.18 - 0.19)
Vent unit (7)	13	178,181	NA	NA	0.07 (0.03 - 0.11)
<b>Total (473)</b>	<b>4,590</b>	<b>27,973,658</b>	<b>NA</b>	<b>NA</b>	<b>0.16 (0.16 - 0.17)</b>
<b>ABUTI—Catheter not present or catheter removed for more than 2 calendar days within the facility without localizing urinary signs or symptoms (may have fever)</b>					
Dementia unit (2)	2	2,283,386	NA	NA	0 (0 - 0)
Mixed unit (26)	43	7,717,065	NA	NA	0.01 (0 - 0.01)
Nursing unit (28)	55	8,564,041	NA	NA	0.01 (0 - 0.01)
SN/STR unit (40)	65	9,230,985	NA	NA	0.01 (0.01 - 0.01)
Vent unit (2)	2	178,181	NA	NA	0.01 (0 - 0.03)
<b>Total (93)</b>	<b>167</b>	<b>27,973,658</b>	<b>NA</b>	<b>NA</b>	<b>0.01 (0.01 - 0.01)</b>

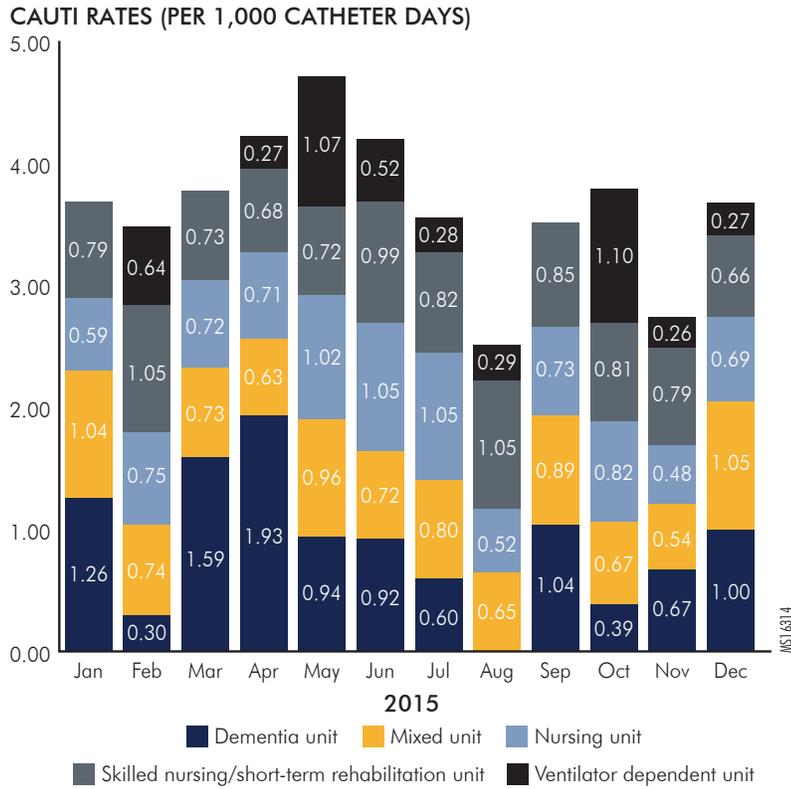
Note: ABUTI = Asymptomatic bacteremic urinary tract infection; CI = confidence interval; CAUTI = catheter-associated urinary tract infection; NA = not applicable; SN/STR = skilled nursing/short-term rehabilitation; SUTI = symptomatic urinary tract infection; vent = ventilator dependent.

\* Device utilization rate (DUR): number of urinary catheter days ÷ number of resident days

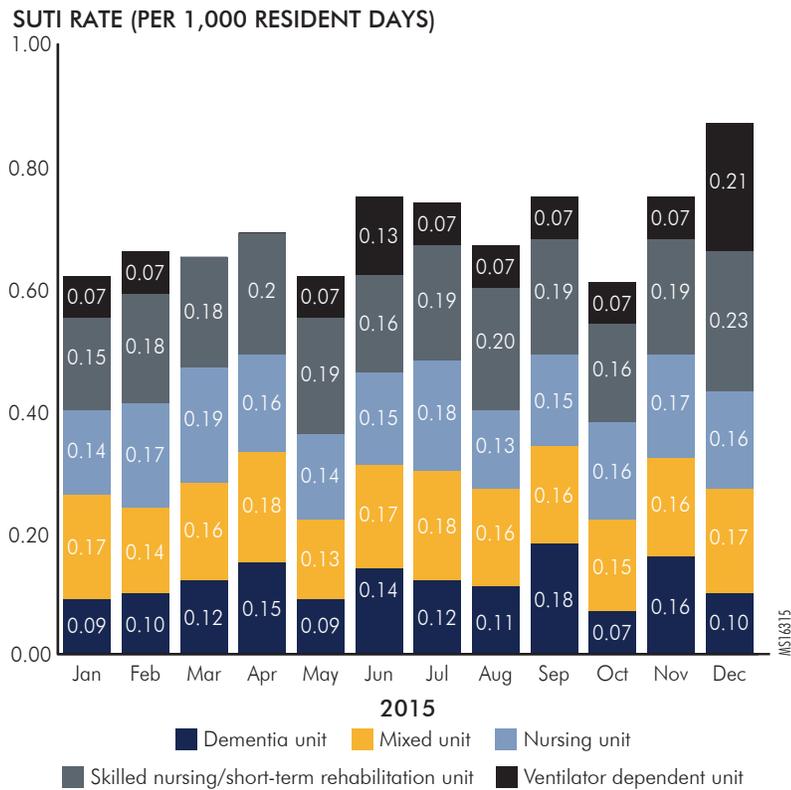
† Basic UTI rate calculation: number of UTI ÷ number of resident days × 1,000

‡ CAUTI rate calculation: number of CAUTI ÷ number of catheter days × 1,000

**Figure 4. CAUTI Rates, by Unit and Month**



**Figure 5. SUTI Rates, by Unit and Month**



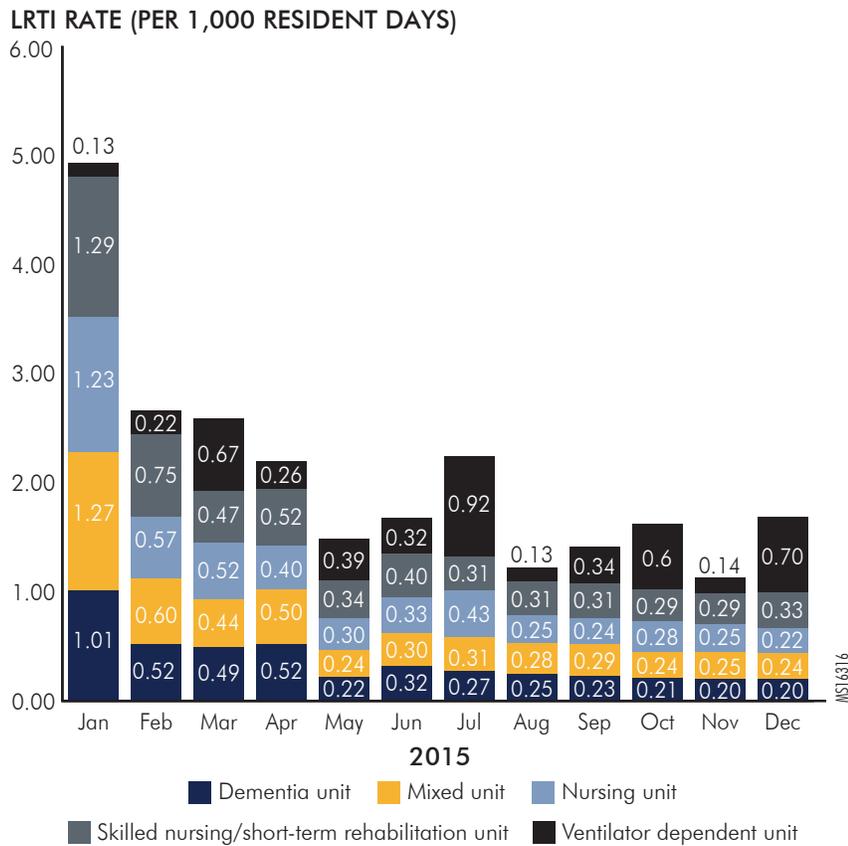
**Table 3. Respiratory Tract Infections, Pooled Mean Rates, by Subcategory and Care Unit, 2015**

<b>UNIT NAME (n)</b>	<b>NUMBER OF INFECTIONS</b>	<b>RESIDENT DAYS</b>	<b>POOLED INFECTION RATE (95% CI)*</b>
<b>Influenza—The resident has tested positive for influenza</b>			
Dementia unit (61)	158	2,283,386	0.07 (0.06 - 0.08)
Mixed unit (124)	609	7,717,065	0.08 (0.07 - 0.09)
Nursing unit (136)	584	8,564,041	0.07 (0.06 - 0.07)
SN/STR unit (180)	804	9,230,985	0.09 (0.08 - 0.09)
Vent unit (2)	3	178,181	0.02 (0 - 0.04)
<b>Total (377)</b>	<b>2,158</b>	<b>27,973,658</b>	<b>0.08 (0.07 - 0.08)</b>
<b>Influenza-Like Illness—The resident has fever, influenza is suspected. Testing for influenza is negative or not performed, there may be a dry cough, but no other overt signs</b>			
Dementia unit (18)	38	2,283,386	0.02 (0.01 - 0.02)
Mixed unit (42)	129	7,717,065	0.02 (0.01 - 0.02)
Nursing unit (47)	161	8,564,041	0.02 (0.02 - 0.02)
SN/STR unit (46)	137	9,230,985	0.01 (0.01 - 0.02)
Vent unit (0)	0	178,181	0 (0 - 0)
<b>Total (129)</b>	<b>465</b>	<b>27,973,658</b>	<b>0.02 (0.02 - 0.02)</b>
<b>Lower respiratory tract infection (LRTI)—Chest radiograph is negative for pneumonia or a new infiltrate and the resident is without fever; or no chest radiograph performed</b>			
Dementia unit (78)	267	2,283,386	0.12 (0.1 - 0.13)
Mixed unit (136)	936	7,717,065	0.12 (0.11 - 0.13)
Nursing unit (168)	1,093	8,564,041	0.13 (0.12 - 0.14)
SN/STR unit (191)	1,329	9,230,985	0.14 (0.14 - 0.15)
Vent unit (6)	14	178,181	0.08 (0.04 - 0.12)
<b>Total (418)</b>	<b>3,639</b>	<b>27,973,658</b>	<b>0.13 (0.13 - 0.13)</b>
<b>Pneumonia (PNA)—Resident’s chest radiograph is positive for pneumonia or a new infiltrate</b>			
Dementia unit (113)	380	2,283,386	0.17 (0.15 - 0.18)
Mixed unit (181)	1,516	7,717,065	0.2 (0.19 - 0.21)
Nursing unit (202)	1,766	8,564,041	0.21 (0.2 - 0.22)
SN/STR unit (290)	2,067	9,230,985	0.22 (0.21 - 0.23)
Vent unit (10)	55	178,181	0.31 (0.23 - 0.39)
<b>Total (557)</b>	<b>5,784</b>	<b>27,973,658</b>	<b>0.21 (0.2 - 0.21)</b>
<b>Total Respiratory Tract Infections</b>			
Dementia unit (132)	843	2,283,386	0.37 (0.34 - 0.39)
Mixed unit (202)	3,190	7,717,065	0.41 (0.4 - 0.43)
Nursing unit (225)	3,604	8,564,041	0.42 (0.41 - 0.43)
SN/STR unit (323)	4,337	9,230,985	0.47 (0.46 - 0.48)
Vent unit (10)	72	178,181	0.4 (0.31 - 0.5)
<b>Total (601)</b>	<b>12,046</b>	<b>27,973,658</b>	<b>0.43 (0.42 - 0.44)</b>

Note: CI = Confidence interval; SN/STR = skilled nursing/short-term rehabilitation; vent = ventilator dependent.

\* Rate calculation: number of infections ÷ number of resident days × 1,000

**Figure 6. LRTI Rates, by Unit and Month**



**Figure 7. LRTI by Type and Month**

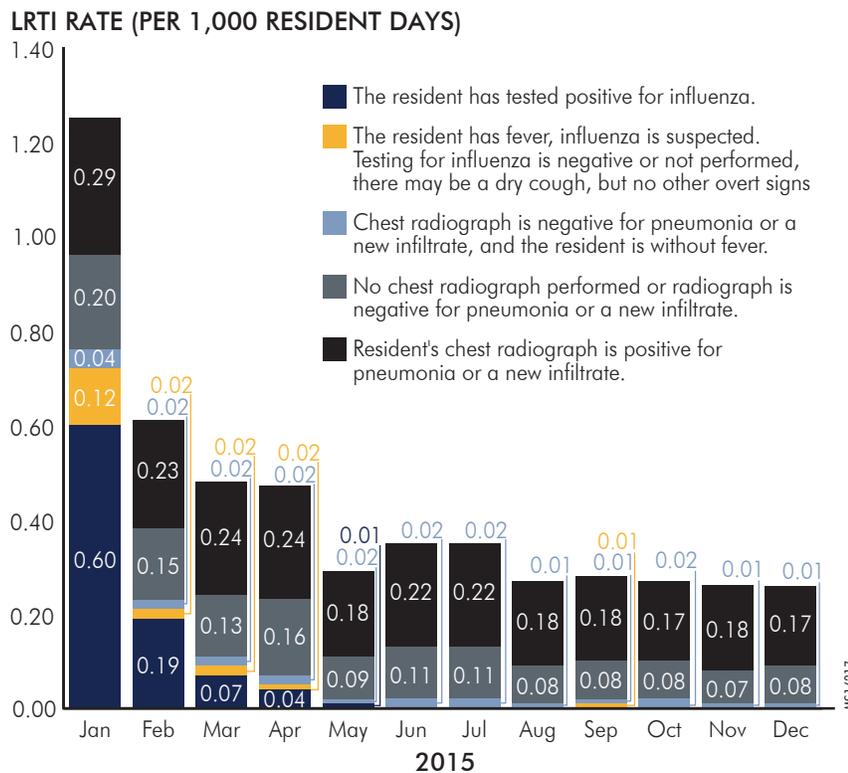


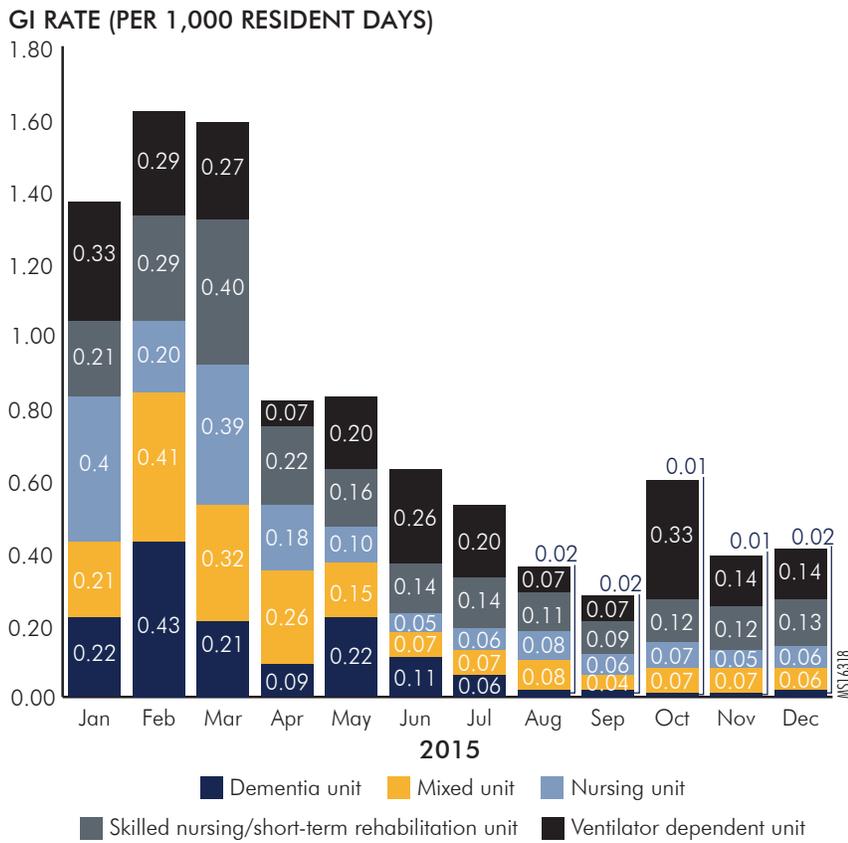
Table 4. Gastrointestinal Infections, Pooled Mean Rates, by Subcategory and Care Unit, 2015

UNIT NAME (N)	NUMBER OF INFECTIONS	RESIDENT DAYS	POOLED INFECTION RATE (95% CI)*
<b><i>Clostridium difficile</i>—The resident has diarrhea and a stool sample is positive for <i>C. difficile</i> toxin A or B, or a toxin-producing <i>C. difficile</i> organism is identified from stool culture or by molecular testing; or, Pseudomembranous colitis identified through endoscopic examination, surgery, or biopsy</b>			
Dementia unit (32)	47	2,283,386	0.02 (0.01 - 0.03)
Mixed unit (152)	555	7,717,065	0.07 (0.07 - 0.08)
Nursing unit (155)	592	8,564,041	0.07 (0.06 - 0.07)
SN/STR unit (260)	1,094	9,230,985	0.12 (0.11 - 0.13)
Vent unit (10)	34	178,181	0.19 (0.13 - 0.25)
<b>Total (483)</b>	<b>2,322</b>	<b>27,973,658</b>	<b>0.08 (0.08 - 0.09)</b>
<b><i>Norovirus</i>—The resident has diarrhea and/or vomiting and laboratory results are positive for <i>Norovirus</i></b>			
Dementia Unit (3)	6	2,283,386	0 (0 - 0)
Mixed Unit (12)	57	7,717,065	0.01 (0.01 - 0.01)
Nursing Unit (17)	40	8,564,041	0 (0 - 0.01)
SN/STR Unit (16)	36	9,230,985	0 (0 - 0.01)
Vent Unit (0)	0	178,181	0 (0 - 0)
<b>Total (45)</b>	<b>139</b>	<b>27,973,658</b>	<b>0 (0 - 0.01)</b>
<b>Bacterial gastroenteritis—The resident has diarrhea and/or vomiting and laboratory results are positive for a bacteriologic pathogen</b>			
Dementia unit (0)	0	2,283,386	0 (0 - 0)
Mixed unit (7)	8	7,717,065	0 (0 - 0)
Nursing unit (4)	4	8,564,041	0 (0 - 0)
SN/STR unit (11)	11	9,230,985	0 (0 - 0)
Vent unit (1)	1	178,181	0.01 (0 - 0.02)
<b>Total (23)</b>	<b>24</b>	<b>27,973,658</b>	<b>0 (0 - 0)</b>
<b>Kaplan—<i>Norovirus</i> is suspected based on Kaplan criteria; the resident has diarrhea and/or vomiting and <i>C. difficile</i> results are negative</b>			
Dementia unit (24)	212	2,283,386	0.09 (0.08 - 0.11)
Mixed unit (36)	526	7,717,065	0.07 (0.06 - 0.07)
Nursing unit (34)	583	8,564,041	0.07 (0.06 - 0.07)
SN/STR unit (47)	485	9,230,985	0.05 (0.05 - 0.06)
Vent unit (0)	0	178,181	0 (0 - 0)
<b>Total (105)</b>	<b>1,806</b>	<b>27,973,658</b>	<b>0.06 (0.06 - 0.07)</b>
<b>Total Gastrointestinal Infections Reported</b>			
Dementia unit (56)	265	2,283,386	0.12 (0.1 - 0.13)
Mixed unit (163)	1,146	7,717,065	0.15 (0.14 - 0.16)
Nursing unit (169)	1,219	8,564,041	0.14 (0.13 - 0.15)
SN/STR unit (275)	1,626	9,230,985	0.18 (0.17 - 0.18)
Vent unit (10)	35	178,181	0.2 (0.13 - 0.26)
<b>Total (513)</b>	<b>4,291</b>	<b>27,973,658</b>	<b>0.15 (0.15 - 0.16)</b>

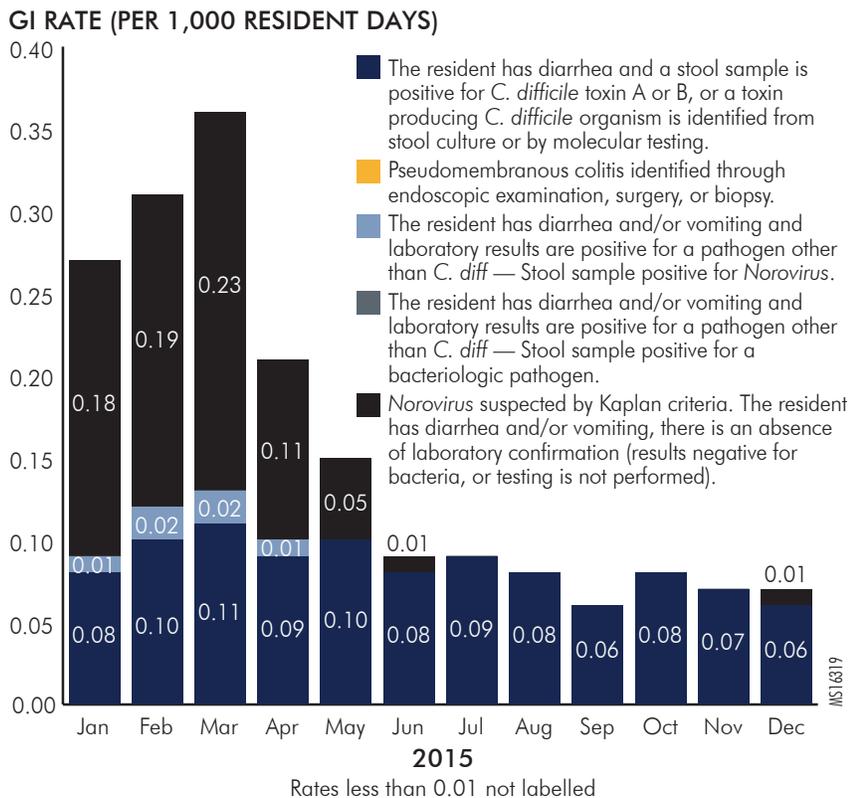
Note: CI = Confidence interval; SN/STR = skilled nursing/short-term rehabilitation; vent = ventilator dependent.

\* Rate calculation: number of infections ÷ number of resident days × 1,000

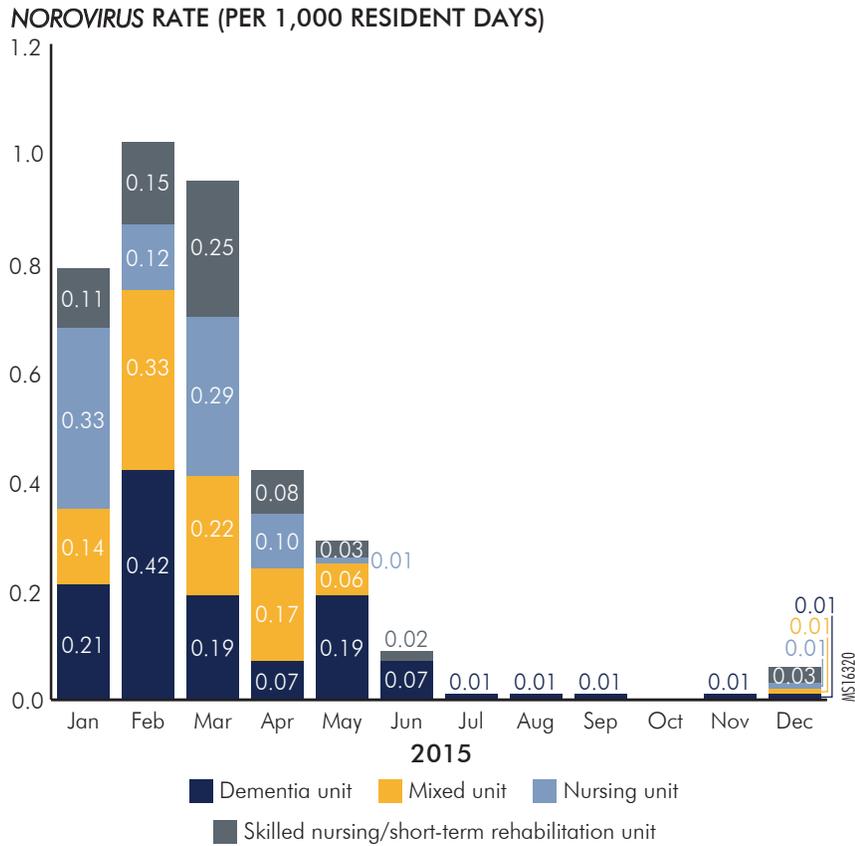
**Figure 8. GI Rates, by Unit and Month**



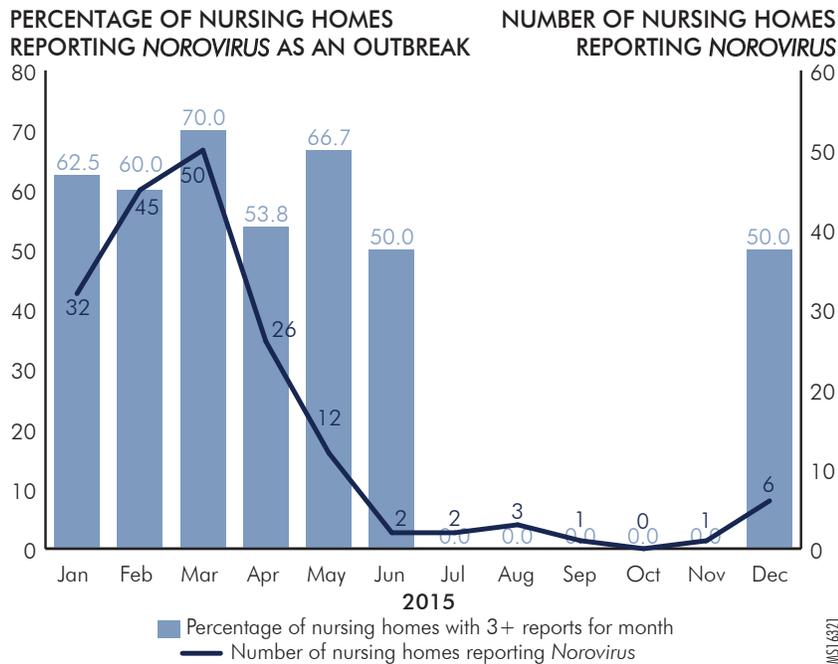
**Figure 9. Gastrointestinal Infection, by Type and Month**



**Figure 10. Norovirus, by Unit and Month**



**Figure 11. Norovirus Outbreaks by Month, 2015**



**Table 5. Skin and Soft Tissue Infections, Pooled Mean Rates, by Subcategory and Care Unit, 2015**

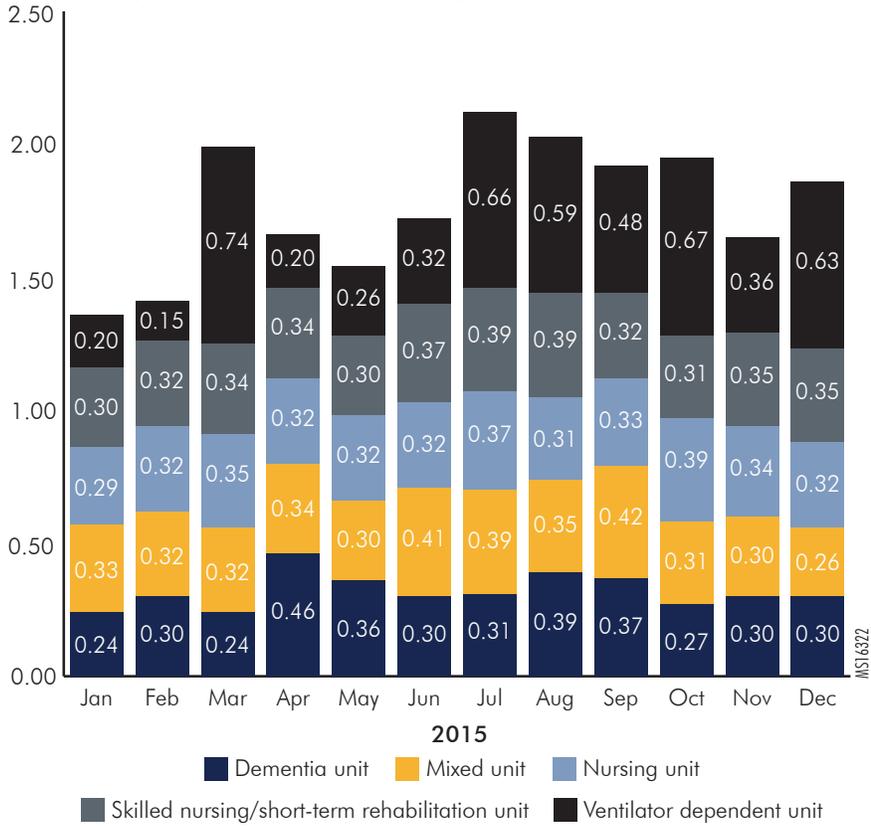
<b>UNIT NAME (n)</b>	<b>NUMBER OF INFECTIONS</b>	<b>RESIDENT DAYS</b>	<b>POOLED INFECTION RATE (95% CI)*</b>
<b>Cellulitis, soft tissue, or wound infection</b>			
Dementia unit (106)	339	2,283,386	0.15 (0.13 - 0.16)
Mixed unit (172)	1,587	7,717,065	0.21 (0.2 - 0.22)
Nursing unit (195)	1,599	8,564,041	0.19 (0.18 - 0.2)
SN/STR unit (274)	1,957	9,230,985	0.21 (0.2 - 0.22)
Vent unit (9)	24	178,181	0.13 (0.08 - 0.19)
<b>Total (538)</b>	<b>5,506</b>	<b>27,973,658</b>	<b>0.2 (0.19 - 0.2)</b>
<b>Conjunctivitis</b>			
Dementia unit (88)	358	2,283,386	0.16 (0.14 - 0.17)
Mixed unit (137)	940	7,717,065	0.12 (0.11 - 0.13)
Nursing unit (161)	1,169	8,564,041	0.14 (0.13 - 0.14)
SN/STR unit (196)	1,088	9,230,985	0.12 (0.11 - 0.12)
Vent unit (9)	49	178,181	0.28 (0.2 - 0.35)
<b>Total (420)</b>	<b>3,604</b>	<b>27,973,658</b>	<b>0.13 (0.12 - 0.13)</b>
<b>Scabies</b>			
Dementia unit (16)	32	2,283,386	0.01 (0.01 - 0.02)
Mixed unit (27)	74	7,717,065	0.01 (0.01 - 0.01)
Nursing unit (31)	70	8,564,041	0.01 (0.01 - 0.01)
SN/STR unit (25)	90	9,230,985	0.01 (0.01 - 0.01)
Vent unit (2)	5	178,181	0.03 (0 - 0.05)
<b>Total (93)</b>	<b>271</b>	<b>27,973,658</b>	<b>0.01 (0.01 - 0.01)</b>
<b>Total Skin and Soft Tissue Infections</b>			
Dementia unit (134)	729	2,283,386	0.32 (0.3 - 0.34)
Mixed unit (193)	2,601	7,717,065	0.34 (0.32 - 0.35)
Nursing unit (214)	2,838	8,564,041	0.33 (0.32 - 0.34)
SN/STR unit (295)	3,135	9,230,985	0.34 (0.33 - 0.35)
Vent unit (12)	78	178,181	0.44 (0.34 - 0.53)
<b>Total (565)</b>	<b>9,381</b>	<b>27,973,658</b>	<b>0.34 (0.33 - 0.34)</b>

Note: CI = Confidence interval; SN/STR = skilled nursing/short-term rehabilitation; vent = ventilator dependent.

\* Rate calculation: number of infections ÷ number of resident days × 1,000

**Figure 12. SSTI, by Unit and Month**

**SSTI RATE (PER 1,000 RESIDENT DAYS)**



**Table 6. Device-Related Bloodstream Infections, Pooled Mean Rates, by Subcategory and Care Unit, 2015**

<b>UNIT NAME (N)</b>	<b>NUMBER OF INFECTIONS</b>	<b>RESIDENT DAYS</b>	<b>DEVICE DAYS</b>	<b>DEVICE UTILIZATION RATE *</b>	<b>POOLED INFECTION RATE (95% CI) †, ‡</b>
<b>CLABSI Dialysis—Resident has a vascular catheter used for dialysis access</b>					
Dementia unit(0)	0	2,283,386	7,023	0.00	0 (0 - 0)
Mixed unit (4)	4	7,717,065	140,508	0.02	0 (0 - 0.06)
Nursing unit (4)	5	8,564,041	108,061	0.01	0 (0 - 0.09)
SN/STR unit (10)	12	9,230,985	210,768	0.02	0 (0 - 0.09)
Vent unit (0)	0	178,181	21,668	0.12	0 (0 - 0)
<b>Total (18)</b>	<b>21</b>	<b>27,973,658</b>	<b>488,028</b>	<b>0.02</b>	<b>0 (0 - 0.06)</b>
<b>CLABSI Temporary line—Resident has a central line (temporary)</b>					
Dementia unit (0)	0	2,283,386	7,023	0.00	0 (0 - 0)
Mixed unit (9)	10	7,717,065	140,508	0.02	0 (0 - 0.12)
Nursing unit (6)	6	8,564,041	108,061	0.01	0 (0 - 0.1)
SN/STR unit (16)	16	9,230,985	210,768	0.02	0 (0 - 0.11)
Vent unit (0)	0	178,181	21,668	0.12	0 (0 - 0)
<b>Total (30)</b>	<b>32</b>	<b>27,973,658</b>	<b>488,028</b>	<b>0.02</b>	<b>0 (0 - 0.09)</b>
<b>CLABSI Permanent line—Resident has an implanted line (port or tunneled line, not used for dialysis)</b>					
Dementia unit (0)	0	2,283,386	7,023	0.00	0 (0 - 0)
Mixed unit (1)	1	7,717,065	140,508	0.02	0.01 (0 - 0.02)
Nursing unit (3)	3	8,564,041	108,061	0.01	0.03 (0 - 0.06)
SN/STR unit (6)	6	9,230,985	210,768	0.02	0.03 (0.01 - 0.05)
Vent unit (0)	0	178,181	21,668	0.12	0 (0 - 0)
<b>Total (10)</b>	<b>10</b>	<b>27,973,658</b>	<b>488,028</b>	<b>0.02</b>	<b>0.02 (0.01 - 0.03)</b>
<b>Total Device-Related Bloodstream Infections</b>					
Dementia unit (0)	0	2,283,386	7,023	0.00	0 (0 - 0)
Mixed unit (14)	15	7,717,065	140,508	0.02	0 (0 - 0.16)
Nursing unit (12)	14	8,564,041	108,061	0.01	0 (0 - 0.2)
SN/STR unit (31)	34	9,230,985	210,768	0.02	0 (0 - 0.22)
Vent unit (0)	0	178,181	21,668	0.12	0 (0 - 0)
<b>Total (56)</b>	<b>63</b>	<b>27,973,658</b>	<b>488,028</b>	<b>0.02</b>	<b>0 (0 - 0.16)</b>

Note: CI = confidence interval; CLABSI = central line-associated blood stream infection; SN/STR = skilled nursing/short-term rehabilitation; vent = ventilator dependent

\* Device utilization rate: number of central line days ÷ number of resident days

† CLABSI rate calculation: number of CLABSI ÷ number of central line days × 1,000

‡ Rate calculation: number of infections ÷ number of device days × 1,000

## Notes

- 1 Centers for Disease Control and Prevention (CDC). Healthcare-associated Infections (HAI) progress report. (website). Atlanta (GA): CDC. <http://www.cdc.gov/hai/progress-report/index.html>
- 2 U.S. Department of Health and Human Services (HHS). National action plan to prevent health care-associated infections: road map to elimination: health care-associated infections (HAIs) (online) (cited 2016 Jan 27) <http://health.gov/hcq/prevent-hai.asp>
- 3 U.S. Department of Health and Human Services (HHS). National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination: Health Care-Associated Infections (HAIs) (online) (cited 2016 Jan 27) <http://health.gov/hcq/prevent-hai.asp>
- 4 Herzig C, Dick A, Sorbero M. Longitudinal trends in infection rates in US nursing Homes, 2006 - 2011 poster abstract session: HAI surveillance and public reporting. ID Week. Friday, October 10, 2014 <https://idsa.confex.com/idsa/2014/webprogram/Paper46630.html>
- 5 Pennsylvania Department of Health. Healthcare associated infections in Pennsylvania. 2014 Report (online). (Cited 2016 Jan 27) [http://patientsafetyauthority.org/PatientSafetyAuthority/Documents/Annual\\_Report\\_2014.pdf](http://patientsafetyauthority.org/PatientSafetyAuthority/Documents/Annual_Report_2014.pdf)
- 6 Pennsylvania Patient Safety Authority. Annual Reports (online). (Cited 2016 Jan 27) [http://www.health.pa.gov/facilities/Consumers/Healthcare%20Associated%20Infection%20\(HAI\)/Pages/HAI-Annual-Reports.aspx#.VqkHv-0o5PY](http://www.health.pa.gov/facilities/Consumers/Healthcare%20Associated%20Infection%20(HAI)/Pages/HAI-Annual-Reports.aspx#.VqkHv-0o5PY)
- 7 Said MA, Perl TM, Sears CL. Gastrointestinal flu: Norovirus in health care and long-term care facilities. *Clin Infect Dis* 2008;47:1202-8.
- 8 Centers for Disease Control and Prevention (CDC). Vital signs: central line-associated blood stream infections—United States, 2001, 2008, and 2009. *MMWR Morb Mortal Wkly Rep* 2011 Mar 4;60(8):243-8.
- 9 Scott RD. The direct medical costs of healthcare-associated infections in U.S. hospitals and the benefits of prevention. Atlanta, GA: Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention. 2009 report (online). (Cited 2016 Apr 19) [http://www.cdc.gov/hai/pdfs/hai/scott\\_costpaper.pdf](http://www.cdc.gov/hai/pdfs/hai/scott_costpaper.pdf)

# The *Pennsylvania Patient Safety Advisory*

“The *Pennsylvania Patient Safety Advisory* provides timely original scientific evidence and reviews of scientific evidence that can be used by healthcare systems and providers to improve healthcare-delivery systems and educate providers about safe healthcare practices. The emphasis is on problems reported to the Pennsylvania Patient Safety Authority, especially those associated with a high combination of frequency, severity, and possibility of solution; novel problems and solutions; and problems in which urgent communication of information could have a significant impact on patient outcomes.”<sup>1</sup>

Through its *Advisory*, the Authority continues to help improve patient safety for patients in Pennsylvania. The *Advisory* has provided more than 500 safety-focused articles to date and has been a valuable resource for Pennsylvania acute and long-term care facilities working to improve patient safety. In response to annual surveys conducted since 2005, Commonwealth facilities credit the *Advisory* with contributing to nearly 4,500 structure and process improvements.

During 2015, staff enriched both content and delivery. Staff enhanced the readability of articles by using contemporary approaches to present information and by creating

illustrative graphics and charts. Analysts continued to expand the coverage and scope of strategies designed to address patient safety issues through, for example, interviews with healthcare facility representatives who had successfully addressed similar challenges. In the articles, analysis of problems and challenges is followed by information on possible solutions; many articles include or reference toolkits that facilities can adapt and implement themselves. The *Advisory* also featured several articles addressing modern concepts and processes in patient safety and care delivery, such as using simulation to improve care, appreciating the ever-present human element in technology-driven care processes, and promoting the value of lessons learned through “good catches.” Finally, as noted in **Educational Programs: Providing a Strong Foundation for Improvement**, *Advisory*-based, concise webinars allowed participants to interact with analysts and explore the principles of patient safety and methods to implement improvements.

The following pages illustrate the depth and breadth of the Authority’s *Advisory* in 2015, as well as during its 12-volume history, and its demonstrated value in the healthcare community.

## Note

- 1 Pennsylvania Patient Safety Authority. About the Pennsylvania Patient Safety Advisory [online]. [cited 2016 Jan 28]. [http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/Documents/editorial\\_info.pdf](http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/Documents/editorial_info.pdf)

# 2015 Articles



Content is grouped according to predominant patient safety foci. For more information by areas of focus, see “Patient Safety Focus” at <http://patientsafetyauthority.org/Pages/BBTPatientSafetyFocus.aspx>.

# Scope

**505+ articles**  
published in 60 issues  
and supplements  
since March 2004

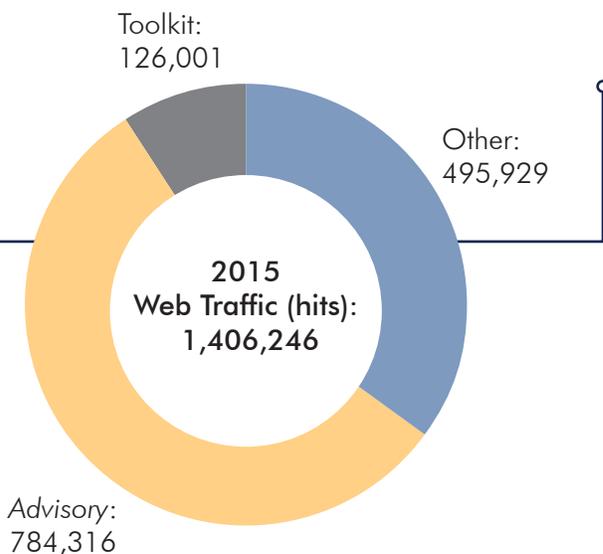


**48 toolkits** available, including  
myriad tools (2015 emphasized)



Applying the Universal Protocol to Radiology Diagnostic Radiation and Pregnancy  
 Anticoagulation Management Service Obesity ASF Infection Prevention Practices **Norovirus**  
 Managing Clinical Emergencies Diagnostic Error Drug Shortages Obstructive Sleep Apnea  
**ASF Patient Screening and Assessment** Blood Transfusion Process  
 Hospital Bed Safety Safety in the MR Environment Contrast-Induced Nephropathy Expressed Breast Milk  
 Patient Safety Practices Vacuum-Assisted Vaginal Delivery Difficult Intubation  
**Newborn Injuries** Airway Fires during Surgery **Hand Hygiene** Tubular Dressing Retainers  
 CAUTI Prevention Practices Preventing Retention of Surgical Items Clostridium Difficile Strategies  
**Preventing Wrong-Site Surgery** Bone Cement Implantation Syndrome Insulin Therapy  
 Verbal Orders Opioids Color-Coded Wristbands Temporary Epicardial Pacing Wires Care at Discharge  
 Pneumatic Tourniquets Influenza (Flu) HYDROMORPHONE Risk Reduction CLABSI Risk Reduction  
**Delirium** Nursing Home Infection Prevention Practices **Ergonomics and Infection Risk**  
 Surgical Site Infections Skin Tears Patient Flow in the Emergency Department Blood Specimen Labeling  
 Aspiration Screening **Falls** Behavioral Health Patient Safety Pneumonia

# On the Web

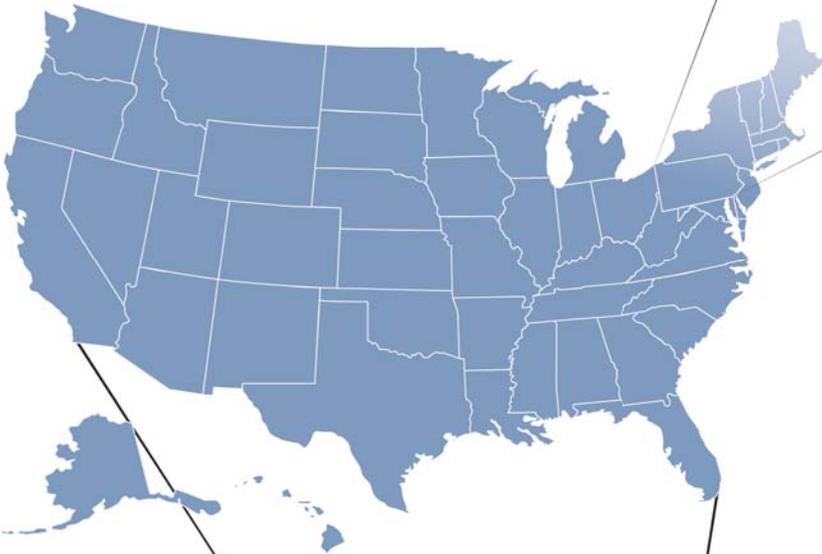
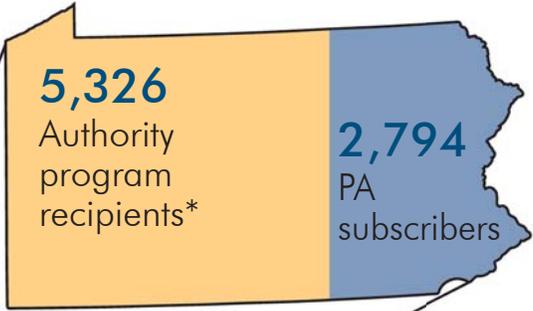


## 2015 Advisory Hits: Top Articles per Issue



**Note:** Hits as of December 31, 2015. Articles published earlier have had more time to garner hits.

# Readership

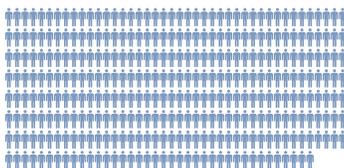


**4,622** subscribers in the United States

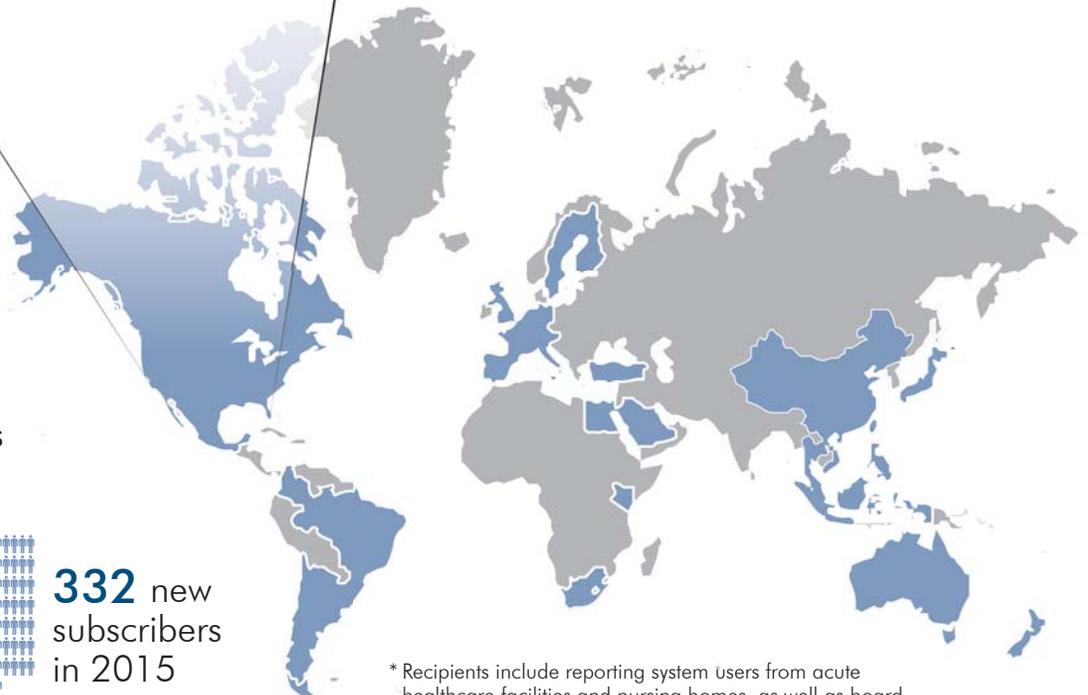
Subscribers in all **50** states, plus DC, the Virgin Islands, Puerto Rico, and other US territories.

Subscribers in **44** countries

**4,864** subscribers worldwide



**332** new subscribers in 2015



\* Recipients include reporting system users from acute healthcare facilities and nursing homes, as well as board and panel members in Pennsylvania. These recipients are not included in the total numbers of PA/U.S./worldwide subscribers indicated above.

MS16055

# Added Value

4,500+ documented\* changes in Pennsylvania acute-care facilities and nursing homes directly attributed to *Advisory* articles since 2005

## 2015 Ratings of the *Advisory*



\*According to Authority user surveys (internal reports): acute-care facilities (2005-2015) and nursing homes (2009-

## Annual Survey Respondents

“We have changed our [emergency] codes to match the recommended (sic) ones and added plain language.”

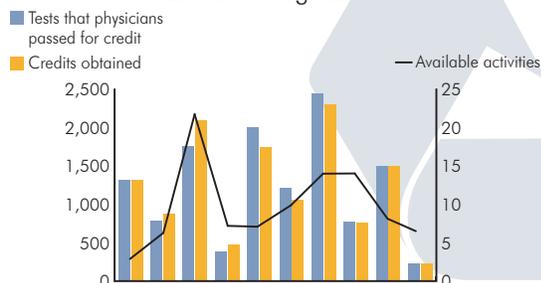
“Posted an up-to-date list of all anticoagulants at nurses station to have as a reference when performing prep screening of charts.”

“We cross check that all paperwork matches with laterality along with exact digits/toes, etc. Time-out includes these items, and if a second procedure is being done, a second time-out is done.”

“People get bored with the same approach to hand hygiene. I found a few different approaches.”

Through 2015, the media or medical literature attributed or mentioned Authority-associated content in more than **740** instances, including more than **350** references to *Advisory* articles.

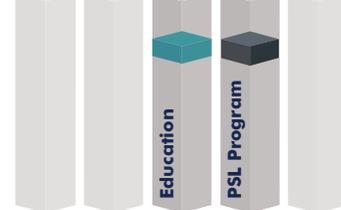
## 12,180+ *Advisory*-based CME credits, 2006 through 2015†



† The Authority applies select articles for CME credit through the Pennsylvania Medical Society (<http://www.pamedsoc.org>).

Select *Advisory* article topics are adapted as periodic entries in the *American Journal of Nursing's* “Safety Monitor” column. The 2015 column about newborn injuries, and its follow-up social media post by an AJN editor, prompted more than **15,000** Facebook responses and **1,200** Tweets.





# Educational Programs: Providing a Strong Foundation for Improvement

Knowledge is a foundational key for change. While education does not equal improvement, it is often its catalyst. The Authority continues its commitment to provide Pennsylvania healthcare workers with a comprehensive scope of educational programs, offered through various modalities. Each program is designed to not only present information but also to provide learners with resources and/or tools to improve patient safety in their organizations. Education is provided by Authority staff, including Patient Safety Liaisons (PSLs), patient safety analysts, physicians, and infection prevention analysts, as well as outside subject matter experts and representatives from healthcare facilities. PSLs are located regionally throughout Pennsylvania and provide education and consultation to acute care facilities under the Medical Care Availability and Reduction of Error (MCARE) Act on various patient safety issues, including Just Culture™, root cause analysis, failure modes and effects analysis, wrong-site surgery, teamwork, and near miss reporting.

Educational programs, such as regional events and webinars, are scheduled regularly throughout the Commonwealth. Additionally, educational programs are provided at the request of individual healthcare facilities, health systems, institutions of higher learning, professional

organizations, and accountable care organizations. The Authority provided 192 educational programs in 2015, excluding individual education/orientation for new Patient Safety Officers. These new Patient Safety Officers received 89 just-in-time education/orientation sessions. In all, 6,946 health care workers were given education in 2015.

The Authority continued to expand its educational outreach in 2015 by using an online educational program to educate facility patient safety officers/designees, patient safety liaisons, and Pennsylvania health facility quality examiners on new reporting guidelines. This program was accessed by nearly 1,000 users in 2015, with about 700 users completing the required modules. Ease of access, quality content, and individualized pacing are some key factors to the success of online learning programs. A new online learning program on event reporting will be available to all Pennsylvania healthcare workers in 2016. This user-role customized program will allow the healthcare worker to choose a learning path that best matches his or her role in the healthcare environment. Continuing Education credits for registered nurses and Continuing Medical Education credits for physicians will be awarded upon completion.

# 2015 Education Programs

Alarm Management  
Ambulatory Surgery Facility (ASF)  
Cancellations and Transfers  
Autism  
Falls  
Hand Hygiene  
Influenza  
Intravenous Catheters  
Dwell Time

Medication Safety:  
Opioids and Anticoagulants  
Newborn Safety  
Pressure Ulcers  
Right Diet  
Wrong-Site Surgery  
**Webinars;**  
**1,180 attendees**

Antibiotic Stewardship  
ASF Screening and Assessment  
Catheter-associated Urinary Tract Infection (CAUTI) Prevention  
Health Literacy  
Infection Prevention  
Medication Reconciliation  
Norovirus

Nursing Leadership:  
Role in Patient Safety  
Patient Safety Economics  
Proactive Event Reporting  
Reporting Standardization  
Root Cause Analysis  
Simulation  
Wrong-Site Surgery

**Other: Professional organizations, schools, Accountable Care Organizations;**  
**1,746 attendees**

**Facility:**  
**2,588 attendees**

Alarm Management  
Failure Modes and Effects Analysis  
Falls  
Distractions  
Health Literacy  
Infection Prevention  
Just Culture™  
Medication Safety  
Operating Room Fire Safety  
Proactive Event Reporting  
Reporting Standardization Guidelines  
Root Cause Analysis  
Teamwork  
Wrong-Site Surgery

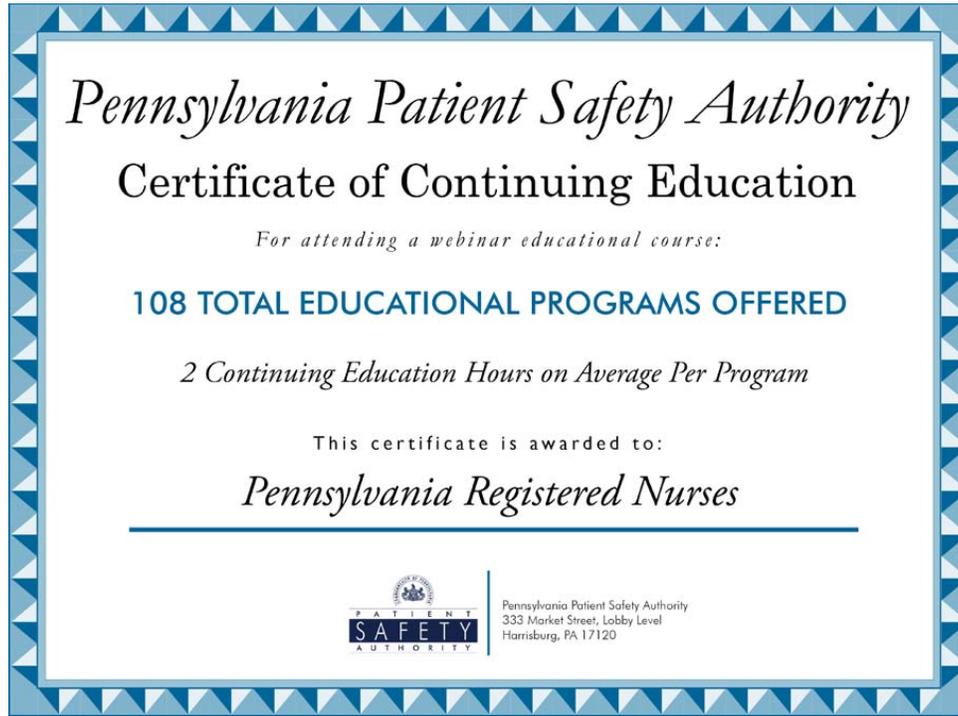


**Online:**  
**724 attendees**  
Reporting Standardization

**Regional: 708 attendees**

Ambulatory Surgery Symposiums  
Data and Measurement  
Infection Prevention  
Just Culture™  
Medication Safety  
Patient Safety Basics  
Patient Safety Beyond Basics  
Root Cause Analysis  
Teamwork

## Continuing Education Credits



MST16265



CMEs available for select educational programs in 2016 through partnership with UPMC Center for Continuing Education in the Health Sciences.

MST16266

Reporting facilities that either hosted Authority events or attended Authority regional events

**55%**  
in 2015

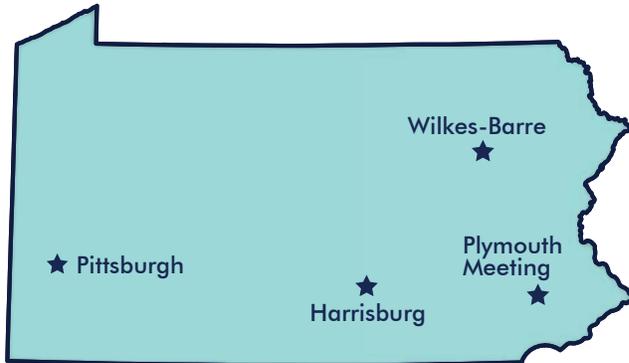
**42%**  
in 2014

Note: The Authority is committed to providing education in modalities that are convenient to the user. However, we believe there is additional value in learning in an environment that promotes networking with peers and sharing collective knowledge.

MST16267

## In the Spotlight

# ASF SYMPOSIA 2015



First annual symposia held to meet the specific requests and educational needs of Ambulatory Surgery Facilities.

## TOPICS

- **Are you ready for change?**  
Hot topics in the CMS ASC Quality Measures – provided in partnership with Quality Insights of Pennsylvania
- **Medication Errors in Ambulatory Surgery Facilities**
- **Simulation: What Can Smart People Learn from Dummies**
- **Infection Prevention**



### Lunch and Learn:

Hands-on simulator demonstrations provided by the Peter M. Winter Institute for Simulation Education Research at UPMC, the Center for Simulation at the Children's Hospital of Philadelphia, and Penn State Hershey Clinical Simulation Center at Penn State Hershey College of Medicine.



MS16268

# Patient Safety Liaison (PSL) Program

Providing facilities with a personal link to the Authority, the PSL program continues to provide a unique resource to Pennsylvania hospitals, ambulatory surgery facilities, birthing centers, and abortion facilities. The PSLs work with acute care facilities under the MCARE Act to provide education, consultation, and awareness of all available resources to them through the Authority. The year 2015 was one of transition. Three new PSLs joined the Authority mid-year, which led to some restructuring. The program consists of eight regional PSLs who provide on-site and remote support, consultation, and education.

## Facility Engagement



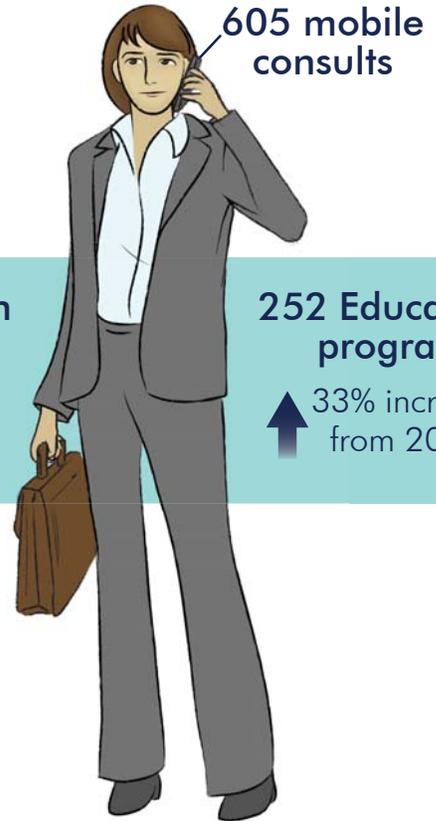
Source: Pennsylvania Patient Safety Authority. *Acute facilities user survey summary* [internal report]. Harrisburg (PA): Pennsylvania Patient Safety Authority; 2015 Nov.

824 In-person visits

↓ 9% decrease from 2014

252 Educational programs

↑ 33% increase from 2014

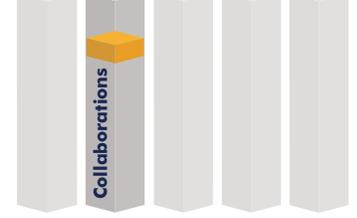


## Value of PSL Program



Source: Pennsylvania Patient Safety Authority. *Acute facilities user survey summary* [internal report]. Harrisburg (PA): Pennsylvania Patient Safety Authority; 2015, 2014, 2013, and 2012.





# Building Improvement in Patient Safety through Collaboration and Partnerships

*Alone we can do so little; together we can do so much.*

– Helen Keller

The Pennsylvania Patient Safety Authority has fostered Pennsylvania facilities' efforts to work together to improve patient safety. In 2015, the Authority facilitated collaborations that have begun to enhance improvement in specific areas of healthcare. All collaborations use evidence-based best practices and provide education, tools, resources, and opportunities for facility networking and sharing. The Authority evaluates grant and other funding opportunities to support collaborative efforts. External funding opportunities provide the Authority with additional resources to work on more patient safety improvement efforts.

The Authority has partnered with the Health Research and Educational Trust (HRET) on a 14-month collaboration that began in late 2014 to develop and implement an infection prevention and safety program to support long-term care facilities in adopting evidence-based infection prevention

practices to reduce catheter-associated urinary tract infections (CAUTIs). The Authority also partnered with the Hospital and Healthsystem Association of Pennsylvania (HAP), in the fourth quarter 2015, to begin working on the second Hospital Engagement Network (HEN) contract.\* The Authority fostered collaborative partnerships in 2015 with organizations including the National Patient Safety Foundation, the Pennsylvania Society of Anesthesiologists, the Quality Insights Quality Innovation Network, and the Association for Professionals in Infection Control and Epidemiology.

The Authority has improved patient safety through collaborative efforts, and facilities in Pennsylvania are encouraged to become involved in collaborations and partnerships. Following is a summary of the Authority's collaborative and partnership activities in 2015.

## Collaborative Feedback

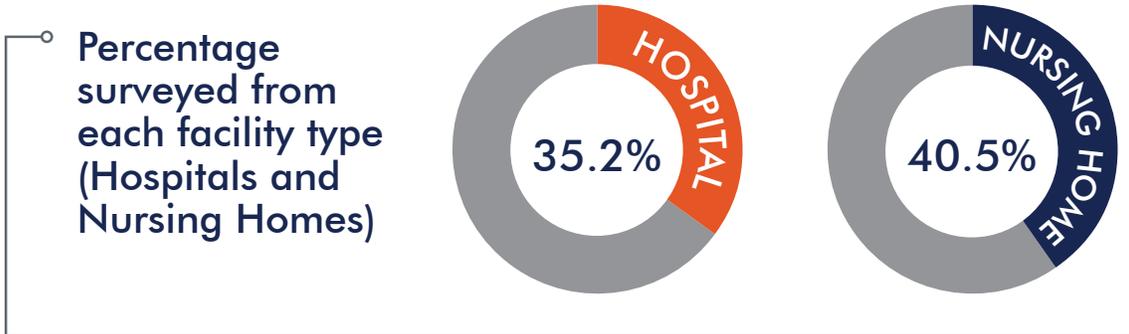
### Annual Survey Collaborative Results

The Authority has surveyed Pennsylvania facilities and identified questions to help target areas that facilities are interested in for collaboration. A summary of the results is shown in the following infographic.

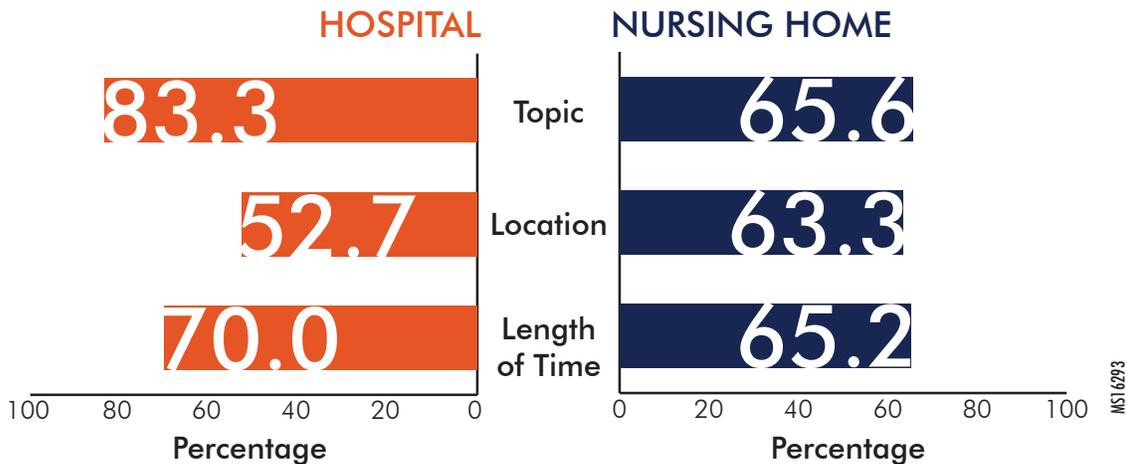
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\*The Hospital Engagement Network figures were analyzed as part of Contract Number HHSM-500-2015-00300C, titled, "Partnership for Patients Hospital Engagement 2.0 Contract."

# We Hear You!



## Factors that Determine Participation in Collaborations



### Hospital Topic Interests:

Infection prevention (overall)

Falls

Simulation to improve patient safety

### Nursing Home Topic Interests:

Infection prevention (overall)

Antibiotic stewardship

Respiratory infection

### Hospital and nursing homes responded:

- o Topic is the biggest determinant of participation in a collaborative.
- o A six-month collaborative would be preferred.
- o Current resources at facilities would allow for participation in one collaborative project annually.

MS16293

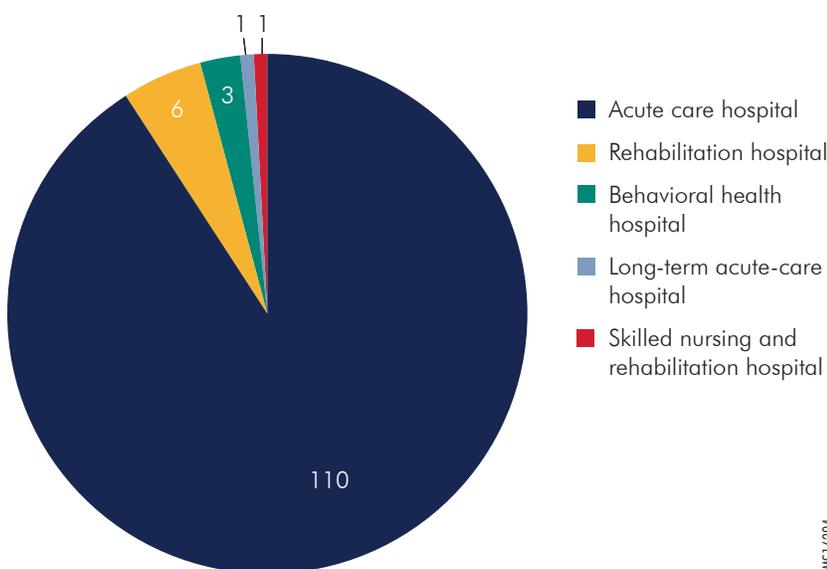
# Hospital and Healthsystem Association of Pennsylvania Hospital Engagement Network\*

On September 24, 2015, HAP was awarded the primary federal contract for Pennsylvania’s Hospital Engagement Network 2.0 (HAP PA-HEN 2.0). The Authority has formed partnerships with HAP and other Pennsylvania healthcare organizations to work with Pennsylvania hospitals to reduce healthcare-acquired conditions. In Pennsylvania, 121 hospitals are participating in the HAP PA-HEN (Figure 1).

The goals of the national Partnership for Patients (PfP) Hospital Engagement Network (HEN) are:

1. Reduce all-cause preventable inpatient harm by 40%.
2. Reduce 30-day all-cause readmissions by 20%.

**Figure 1. HAP PA-HEN Participating Facility Types**



Note: The analyses upon which this publication is based were performed under Contract Number HHSM-500-2015-00300C, entitled, “Partnership for Patients Hospital Engagement 2.0 Contract.”

The Authority will continue to build on the success of HEN 1.0 by continuing to manage the PassKey website, the Falls with Harm Reduction Project (Falls), and the Preventing Harmful Adverse Drug Events Related to Anticoagulants, Insulin and Opioids projects (ADE). Additionally, the Authority will assist HAP with the healthcare-associated infection (HAI) projects and co-lead the culture of safety program. The Authority will use evidence-based best practices, education, tools, resources, and facility networking and sharing to reduce harm in these areas.

The Falls, ADE, and HAI projects completed initial recruitment, education, and training on project data collection at the end of 2015. PassKey provides a secured collaborative site for each project to use to communicate and share information with project participants. In 2016, each project will work more intensively with the hospitals enrolled to reduce harm and improve safety across the board.\*

\*The analyses upon which this publication is based were performed under Contract Number HHSM-500-2015-00300C, titled, “Partnership for Patients Hospital Engagement 2.0 Contract.”

# Agency for Healthcare Research and Quality (AHRQ) Safety Program for Long-Term Care: HAIs/CAUTI

The Authority has formed a partnership with Health Research and Educational Trust (HRET) on a 14-month collaboration, AHRQ Safety Program for Long-Term Care: HAIs/CAUTI, that began in late 2014 to develop and implement an infection prevention and safety program to support long-term care facilities in adopting evidence-based infection-prevention practices. The goals of this

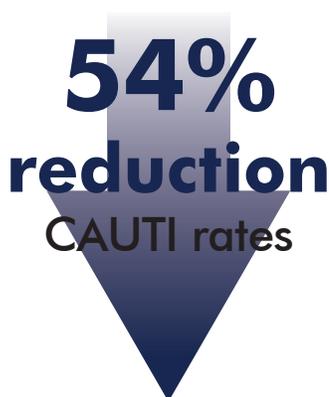
collaboration were to reduce CAUTIs and improve safety culture. Pennsylvania was part of HRET's Cohort 2 which consisted of nine states. Fifteen long-term care facilities in Pennsylvania completed the collaborative. The facilities were offered educational and expert resources from HRET and the Authority's infection prevention analysts throughout the project.



Areas of focus during this collaboration included team building, data analysis, sustainability, and evidence-based infection prevention practices. This collaboration also provided the opportunity for the Authority to build relationships with long-term care facilities and provide one-on-one assistance in meeting project requirements. The collaboration increased awareness of the Authority and the Authority's Infection Prevention Analysts in the long-term care community.

The participating facilities increased their knowledge of infection prevention and safety, improved their understanding and application of criteria, and increased their proficiency in data collection and analysis.

This project was successful in reducing CAUTI rates by 54% and reducing catheter-use rates by 3%. The facilities were also given the opportunity to assess their culture by surveying their staff. Staff offered positive responses to the questions regarding their perception of resident safety, feedback and communication about incidents, and supervisor or manager expectations and actions promoting patient safety. Areas within the survey that staff perceived could be improved were non-punitive responses to mistakes, staffing levels, and communication openness.



Janice C. Diana of the Charles Morris Nursing and Rehabilitation Center, provided the following feedback about the Authority:

*Pennsylvania Patient Safety Authority not only conducted a project that helped to decrease Foley catheter use, decrease the number of CAUTIs, increase safety awareness and gather statistical information but provided a support group of educated professionals in infection prevention and control for the LTC Infection Preventionist. They were very generous with their time, always presented with a positive*

*attitude, words of encouragement and support. Their support was not only in regard to the CAUTI Project but also addressed general infection issues, assisted in program readiness for the Department of Health annual inspection and words of encouragement and direction in overcoming obstacles when they arose. With the Pennsylvania Patient Safety Authority's assistance, this Infection Preventionist's knowledge increased greatly in the past year. I know this is not the end of contact with them; it is a relationship that will continue for years to come.*

## Partnership Aims to Prevent Wrong-Site Anesthesia Nerve Blocks in Pennsylvania

Wrong-site local and regional anesthesia nerve blocks represent a significant portion of wrong-site operating room procedures. Between July 1, 2004, and September 30, 2015, wrong-site nerve blocks performed by anesthesiologists and surgeons comprised 27% of all wrong-site procedures reported to the Pennsylvania Patient Safety Authority's Patient Safety Reporting System. Given that only a fraction of patients who are vulnerable to wrong-site surgery receive anesthesia in the form of blocks, the proportion of wrong-site anesthesia blocks is more notable.

In an attempt to reduce the occurrence of wrong-site/site blocks by anesthesia providers in Pennsylvania, representatives of the Authority and the Pennsylvania Society of Anesthesiologists have partnered to do the following:

- Evaluate current practices for preventing wrong-site/site blocks through engagement of an expert

panel proficient in performing and managing nerve blocks, and conduct a systematic literature review.

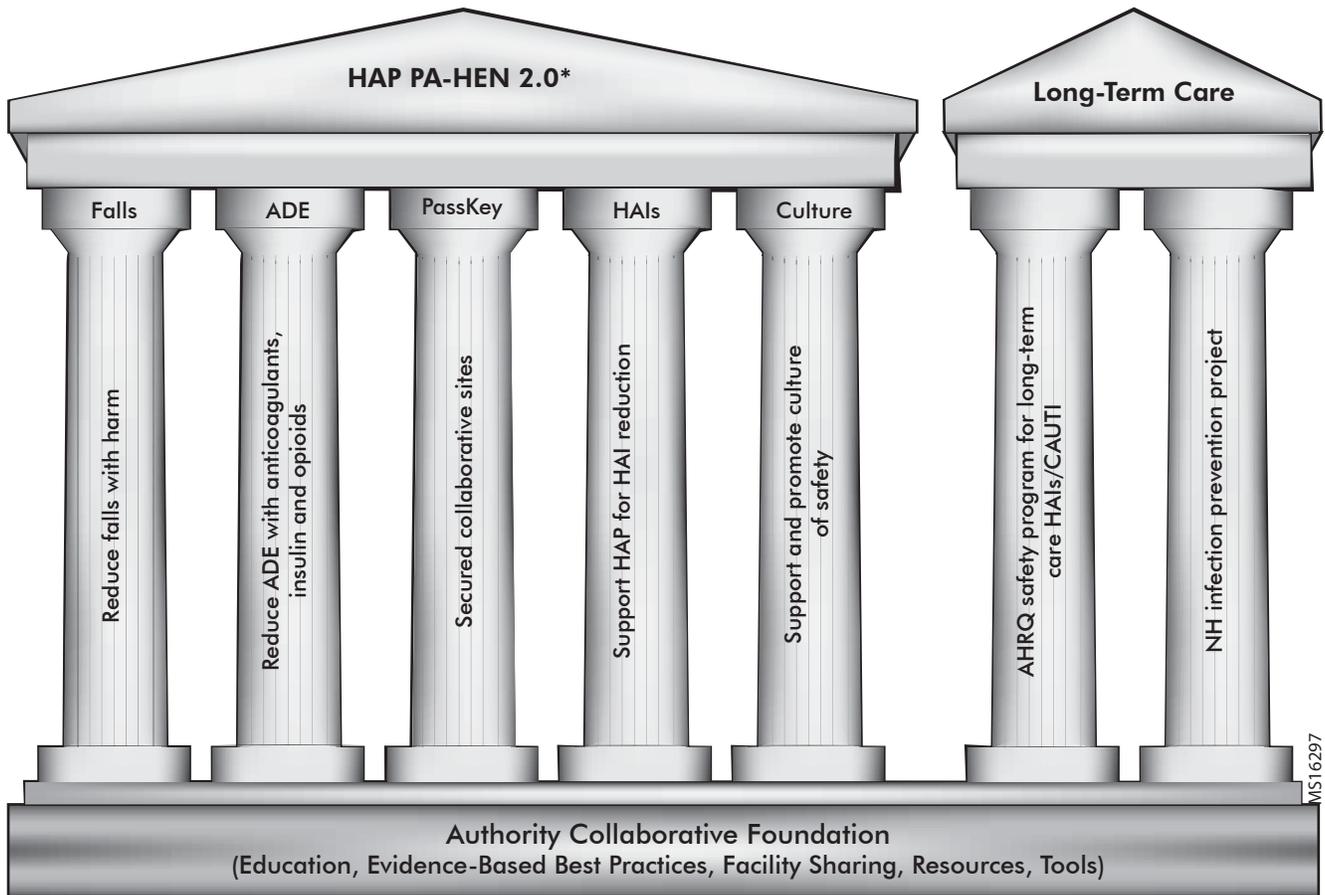
- Update Authority educational and guidance materials consistent with evidence-based best practices, and assess the need to develop other resources to improve clinical outcomes.
- Disseminate revised guidance materials to anesthesiologists, surgeons, surgical team members performing nerve blocks, anesthesiology department chairs, and hospital administrators to standardize procedures, enhance culture of safety, and influence behaviors and processes to prevent wrong-site/site blocks in Pennsylvania.

## Collaborative Partnerships

### CDC NHSN

The Authority has begun to have discussions with the Centers for Disease Control and Prevention (CDC) Division of Healthcare Quality Promotion to explore a possible interface with CDC's National Healthcare Safety Network (NHSN) for long-term care facilities. The Authority is assessing the cost and other requirements of the interface.





\*The analyses upon which this publication is based were performed under Contract Number HHSM500-2015-00300C, entitled, "Partnership for Patients Hospital Engagement 2.0 Contract."

## Association for Professionals in Infection Control and Epidemiology

The Association for Professionals in Infection Control and Epidemiology (APIC) is the leading professional association for infection preventionists (IPs). Their mission is to create a safer world through the prevention of infection. Although the majority of APIC members are affiliated with acute-care settings, members are also involved in long-term care, home health, and other practice settings where

infection prevention and control is an increasing area of responsibility for nurses and other healthcare personnel.<sup>1</sup>

All of the Authority's infection prevention analysts are active members of the Pennsylvania chapters. An infection prevention simulation panel was presented to the Delaware Valley Chapter for 70 participants and an antibiotic stewardship presentation was done for 20 participants.

## Health Care Improvement Foundation

The Authority has partnered with the Health Care Improvement Foundation (HCIF) to disseminate information on health literacy. The Authority's Patient Safety Liaisons will be the host for four regional offerings in the spring of 2016.

## Health Research and Education Trust

The Authority has partnered with HRET to provide an infection-prevention expert to participate in its CAUTI measurement and evaluation committee and advisory council. The Authority's representative assists the national project team with redesigning the educational and measurement tools, is responsible for developing and presenting the

educational section on "Understanding the Definitions," and provided training to the HRET national partners on methods of using process and outcome-measure data. The Authority expert is also collaborating with the national team to develop a manuscript on evidence-based practices for use of urinary leg bags.

## Kendal Outreach, LLC

The Authority formed a partnership with Kendal Outreach, LLC, to complete a webinar series on infection prevention. The series has been recorded and can be found on its website (<https://kendaloutreach.kendal.org/shop/recorded-webinars/>). Kendal Outreach serves the long-term care industry by providing education and training

to healthcare professionals, providers, and consumers; demonstrating care methods proven to enhance outcomes for older people; partnering with like-minded individuals and institutions interested in quality care techniques; and fostering the spirit of generosity by broadening Kendal's mission beyond Kendal's walls.<sup>2</sup>

## National Patient Safety Foundation

The Authority is participating on the National Patient Safety Foundation (NPSF) research oversight committee for a research study on non-ventilator-associated

hospital-acquired pneumonia (NV-HAP). The Authority's infection prevention analyst will participate in committee meetings and provide expertise on NV-HAP.

## One and Only Campaign

The Authority has joined the One and Only Campaign to raise awareness about safe injection practices in health-care. This is a public health campaign, led by the CDC and

the Safe Injection Practices Coalition (SIPC), to raise awareness among patients and healthcare providers to eliminate infections resulting from unsafe injection practices.<sup>3</sup>

## Pennsylvania Association of Directors of Nursing Administration

The Authority has an infection prevention analyst who is a member of the Pennsylvania Association of Directors of Nursing Administration (PADONA). PADONA represents directors, assistant directors, nursing supervisors, and other professionals in long-term care and consultants to

directors of nursing in long-term care. The Authority will attend PADONA's 28th annual conference.

## Pennsylvania Department of Health

### HAI Grant

The Authority has partnered with the Pennsylvania Department of Health and other organizations to submit a proposal for funding to improve HAI rates and preparedness in Pennsylvania. The Authority is developing an interagency agreement with the Department. Activities that the Authority would accomplish with this grant include the following:

- Maintain the state HAI Advisory Panel and endorse new members to complete the work under this grant opportunity.
- Participate in the development of a new state HAI plan.
- Participate in the CDC Rapid Ebola Preparedness Team on-site visits needed by the Department.
- Work collaboratively with partners to determine the most effective means of detecting and responding to outbreaks in hospitals, long-term care facilities (LTCFs), and non-acute-care facilities.
- The Authority will complete on-site assessments of select LTCFs and work with the partners to develop toolkits and educational material.
- Participate in the development of an infection control continuing education curriculum.

### HAI Prevention

The Authority also works closely with the Department's Healthcare-Associated Infection Prevention team to

provide infection-prevention educational content for its Healthcare-Associated Infection Prevention Newsletters.

## Philadelphia Department of Public Health

The Philadelphia Department of Public Health (PDPH) is facilitating a two-year Hemodialysis Infection Prevention Improvement Collaborative. The Authority has formed a partnership with PDPH to support the goals of the collaborative: improving infection-control practices and

reducing infections in outpatient hemodialysis centers. The Authority has provided an infection prevention analyst for this collaborative who participates in coaching calls, conference calls, and webinars. The Authority has developed and will maintain a PassKey website for the collaborative.

## Quality Insights Quality Innovation Network

The Quality Insights Quality Innovation Network (QIN) has partnered with the Authority to improve HAI. The QIN has asked the Authority to review its e-learning module for Comprehensive Unit-Based Safety Practices (CUSP). The Authority will review this module and provide feedback to the QIN.

The QIN has requested data on *Clostridium difficile* infections (CDIs) in nursing homes as part of a report it will need to write for its scope of work. The Authority has provided the QIN with the aggregate number of CDIs per QIN region.

The Authority has recorded a short video on the HAP PAHEN ADE Opioid Knowledge Assessment. The video has been posted on the QIN website (<https://www.qualityinsights-qin.org/ResourcesFolder/Care-Coordination/Files/Opioid-Knowledge-Assessment.aspx>). It was also featured in its quarterly e-newsletter and the QIN plans to incorporate it as a component of its e-learning platform.

## Quality Insights Renal Network 4

Quality Insights Renal Network 4 is identifying clinical process measures to decrease bacteremia in outpatient dialysis centers. The Authority has an infection prevention

analyst who will support the goals of this work by attending coaching calls, conference calls, and webinars.

## The Pennsylvania Society for Post-Acute and Long-Term Care Medicine

The Authority presented an education program, “Stop HAIs: How the PSA and PMDA can Work Together,” to the Pennsylvania Society for Post-Acute and Long-Term Care Medicine (PMDA). The presentation was held in four locations with a total of 47 attendees. PMDA is an organization of long-term care professionals committed to

the continuous improvement of quality care for Pennsylvanians across the long-term care continuum. PMDA provides advocacy, education, and professional development services for medical directors, physicians, nurse practitioners, and other healthcare team members.<sup>4</sup>

### Notes

- 1 About APIC [website]. [cited 2016 Jan 25]. Washington DC; Association for Professionals in Infection Control and Epidemiology, Inc. Available from Internet: <http://www.apic.org/About-APIC/About-APIC-Overview>
- 2 Kendal Outreach [website]. [cited 2016 Jan 25]. Kennett Square (PA); The Kendal Corp. Available from Internet: <http://kendaloutreach.kendal.org/about-2/>
- 3 About the Campaign [website]. [cited 2016 Jan 25]. One and Only Campaign. Available from Internet: <http://www.oneandonlycampaign.org/>
- 4 About PMDA [website]. [cited 2016 Jan 25]. Harrisburg (PA); Pennsylvania Medical Directors Association. Available from Internet: <http://www.pamda.org/>



# Authority-Recognized Healthcare Providers are Committed to Patient Safety



*Michael C. Doering, MBA  
Executive Director  
Pennsylvania Patient Safety Authority*

## Introduction

The Pennsylvania Patient Safety Authority's annual I Am Patient Safety contest promotes individuals and groups within Pennsylvania's healthcare facilities who have demonstrated an exceptional commitment to patient safety. The contest gives patient safety officers an opportunity to promote progress being made at their facilities to improve patient safety. As one of the judges for the competition, I am consistently encouraged by the attention individuals and groups give to patient safety throughout Pennsylvania. This year we had more than 170 nominations, nearly twice as many as last year. Each year the judging becomes more challenging, but it remains inspirational to see all of the good work being done. The judging panel, comprised of Authority board members and management staff, evaluated submissions using the following criteria: the person or group (1) had a discernible impact on patient safety for one or many patients, (2) demonstrated a personal commitment to patient safety, and (3) demonstrated that a strong patient safety culture is present in the facility. The panel paid additional consideration to submissions that demonstrated initiative taken by an individual. Winners' photos and patient safety efforts were highlighted on posters that could be displayed within their facilities in time for Patient Safety Awareness Week, March 13 to 19,

2016. They also received a certificate and an I Am Patient Safety recognition pin from the Authority. Winners were invited to attend the March 2016 Patient Safety Authority Board of Directors meeting and a luncheon to meet Authority board members and staff. I want to thank everyone who participated in the contest. This year those who nominated an individual or group, but did not receive their own poster, received I Am Patient Safety posters in recognition of their efforts.

The next round of nominations begins May 2, 2016; please continue to nominate individuals or groups you think should be recognized for their patient safety efforts. The Authority board members and I appreciate the time taken for you to tell us what your colleagues are doing to improve patient safety in Pennsylvania.

Thank you, again, to all who participated in the I Am Patient Safety poster recognition contest, and join me in congratulating the individuals recognized for their efforts to improve patient safety in Pennsylvania's healthcare facilities. We applaud your commitment to patient safety.

The individuals and groups recognized for the I Am Patient Safety poster contest and their achievements are grouped by name of facility.\*

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\*Any included numbers and/or results were provided for publication by the recognized healthcare facilities. The Pennsylvania Patient Safety Authority has not confirmed, and bears no responsibility or liability for, these numbers and/or results.

# I AM

# Patient Safety



*Tammie Moritz, PA-C  
Surgical Physician Assistant  
Forbes Hospital  
Allegheny Health Network*

A patient was scheduled to have surgery on the left side of her neck to prevent a stroke. Upon chart review and discussion with the patient, who was slightly confused, there was a question as to which side of the neck was to be operated on. As a surgical physician assistant, Tammie initiated a “hard stop” at this point and pulled the patient’s records so the surgeon could review them. It was discovered that the patient should have surgery on the right side of her neck to prevent a stroke, not the left.



*Brenda Prabhakar, RN  
Emergency Department, Doylestown Hospital*

As a nurse in the emergency department (ED), Brenda focused on reviewing each case to allow early detection of the septic (infection) state, proper collection of blood cultures, aggressive administration of intravenous fluids, routine ordering of lactate-level tests, and administration of clinically appropriate antibiotics. With her findings, Brenda educates clinical staff with best practices to improve patient outcomes and plans to expand education to include staffers in Emergency Medical Services.



*Tania Hoyer, RN, BSN, CCRN-CSC  
Clinical Educator, Intensive Care Unit (ICU),  
Cardiovascular Intensive Care Unit (CVICU),  
Interventional Cardiology Unit (IVU), and  
Post Anesthesia Care Unit (PACU)  
Doylestown Hospital*

As a Clinical Educator, Tania coordinated a comprehensive unit safety program to implement decreased sedation and early mobility protocols. Working with ICU nurses, respiratory therapists, and physical therapists, Tania helped ICU patients be more alert and more mobile without more restraints and without more adverse events (e.g., falls). Tania’s efforts also helped the nursing culture shift from one in which all ICU patients were “too sick” to get out of bed to a culture of mobilizing all patients, as appropriate based on their medical condition. In the nonsurgical patient population, the average time on a ventilator decreased from 4.2 days to 3.5 days. In November 2013, the baseline ICU length of stay (LOS) in this same population averaged 5.6 days; in January 2015, the average LOS decreased to 3.8 days.



*Mashiul Chowdhury, MD  
Chief of Infectious Diseases, Director of Infection  
Control and Antibiotic Stewardship Program  
Cancer Treatment Centers of America®  
(CTCA) at Eastern Regional Medical Center*

As Chief of Infectious Diseases, Dr. Chowdhury developed and launched guidelines for surgical antibiotic prophylaxis, post-splenectomy vaccination, appropriate pneumococcal vaccination, and antibiotic prophylaxis and vaccination for patients undergoing stem cell transplants. He also improved the turnaround time for receiving all culture results and led a multidisciplinary Ebola task force. Dr. Chowdhury is described by a colleague as “singularly focused on achieving the best possible outcome for the patient. He has succeeded in bringing the principles of clinical medicine, antibiotic stewardship, and infection prevention together to meet this objective.”



*Anne Gennaria, RN, BSN  
Diagnostic Testing Nurse  
Suzanne Popowicz, BSN  
Einstein Medical Center Montgomery*

Anne and Suzanne recognize the importance of positive patient identification and always take the time to follow the appropriate process for identifying patients in the surgical/procedural areas. Their commitment and diligence in adhering to this important procedure prevents wrong-site surgeries.



*Tony Wise  
Environmental Services  
Einstein Medical Center Montgomery*

As a member of the environmental services team, Tony stands out as someone willing to step outside his comfort zone to keep patients safe. Tony was buffing hospital floors with his “Zamboni-like” machine. As he was passing one of the rooms, a bed alarm began to ring and he noticed an elderly patient trying to get up. Tony immediately stopped his machine and went to talk to the patient. He asked the patient to stay in bed until the nurse responded soon after. All agreed Tony’s quick thinking and engagement of the patient in a conversation helped to keep the patient safe from a fall. When he was later thanked for his quick action, Tony said, “That is what we do. We are here to help our patients and keep them safe.”



*Dorothy Borton, RN, BSN, CIC  
Infection Prevention Manager  
Einstein Medical Center Philadelphia  
Einstein Medical Center Elkins Park  
MossRehab and Willowcrest*

As Infection Prevention Manager, Dorothy (Dottie) focused on decreasing surgical site infections (SSIs) associated with hip and knee arthroplasty. When an increase in SSIs was identified, Dottie developed

interventions within the facility that included establishing a multidisciplinary team from all areas across the continuum of care. She led the team to develop an electronic SSI database that was used as an audit tool to monitor process measures of surgical-site bundle. Dottie worked closely with the SSI team and joined the Surgical Unit Safety Initiative collaborative to address cultural and teamwork issues. The interventions resulted in fewer SSIs associated with hip and knee arthroplasty, from 2.85% (CY 2013) to 1.12% (CY 2014).



*Bonnie Morris, RN, MSN  
Oncology Manager  
Guthrie Robert Packer Hospital*

Bonnie understands how important hand hygiene is to prevent healthcare-associated infections (HAIs), especially when caring for cancer patients. When an automated hand hygiene monitoring system showed below-average compliance levels within the unit, Bonnie encouraged the staff to do better. She posted monthly results of staff progress in meeting their goals of better hand hygiene. Using Halloween and football themes to encourage progress, Bonnie and the staff celebrated success at every turn. Today the unit boasts a consistent compliance rate of more than twice the national average. The unit had zero central line-associated blood stream infections (CLABSIs) and zero catheter-associated urinary tract infections (CAUTIs) in 2015.



*Lauren Bailey, Registered Dietitian  
Becky Bryson, Dietary Hostess  
Sally Loyd, Dietary Hostess  
Julie Spickler, Dietary Hostess  
Harrisburg Hospital – Pinnacle  
Health System*

As members of the dietary staff, Lauren, Becky, Sally, and Julie have used their simulated falls prevention education to change the culture where they work. Each has taken ownership of falls prevention on the nursing units and fostered positive working relationships with clinical staff. Becky alone has saved at least eight patients from serious harm due to a fall. Whether responding to bed alarms or paying close attention to patients identified as a fall risk, the dietary staff is committed to preventing falls with harm.

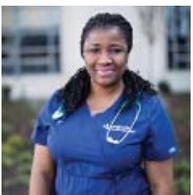
# I AM

# Patient Safety



*George Miller, RPh  
Clinical Pharmacy Manager  
Jeanes Hospital*

As a Clinical Pharmacy Manager, George worked closely with physician leadership, nursing staff, and the hospital pharmacy and therapeutics committee to develop protocols to improve the efficiency of anticoagulant therapy and other medications. Because of George's efforts, the protocols have resulted in an 80% reduction of adverse events related to warfarin. As a member of Jeanes Hospital Patient Safety Committee, George actively works with staff to reduce medication safety events by partnering with them, not blaming them. He also encourages staff to engage and is accessible at all times.



*Adebola Onanuga, RN  
Medical Surgery Geriatric  
Lehigh Valley Hospital - Cedar Crest*

A surgeon placed orders for an insulin drip for a patient being prepared for surgery. Adebola questioned the order because the patient did not have a history of diabetes. After reviewing the patient's lab work, she discovered the patient's glucose level was high. The notes also showed the patient was

receiving glucose through IV fluids. Adebola tested the patient's glucose level. She notified the surgeon of the different readings. It was suspected the bloodwork performed in the morning may have been collected near the IV where the glucose was being infused into the patient, thereby causing a false reading for high glucose. The surgeon ordered another glucose test to confirm Adebola's findings, and it showed the patient's glucose level was normal, not elevated. The surgeon discontinued the insulin drip.



*Lee Ann Hollingsworth  
Patient Care Technician,  
Preadmission Testing Unit  
Pennsylvania Hospital of the University  
of Pennsylvania*

As a Patient Care Technician, Lee Ann works in the preadmission testing unit, where patients receive preoperative testing prior to surgery. While performing a routine electrocardiogram (EKG) on a patient scheduled for surgery, Lee Ann noticed an abnormal reading indicating a heart attack. The patient was scheduled for surgery unrelated to anything cardiovascular, and he told Lee Ann he felt fine. Lee Ann remained calm and tested the patient several more times. All of the EKGs read abnormal as well, and even though the patient said he felt fine and resisted going to the emergency room (ER), Lee Ann called ahead to the ER and assured the patient he would be taken right away. She even called his wife and together they encouraged him to allow Lee Ann to call 911. The patient was admitted to the hospital and had heart surgery the next morning.



*Janice Reppert  
Environmental Services Manager  
St. Luke's University Health Network -  
Anderson Campus*

As the Environmental Services Manager, Janice participates on the hospital's patient safety and quality infection control committees. She offered to be a TeamSTEPPS™ trainer and encouraged many team members to become "secret shoppers" in a program she helped develop to reduce *Clostridium difficile* (*C. diff*) infection among patients at the facility. Janice also coordinates the "bleach cycle" cleaning of all clinical units, with team huddles every day to discuss progress towards or barriers to keeping patients safe. She is always ready to lend a helping hand and does bedside environmental services rounds with patients to get feedback on hospital cleanliness.



*Rachel Benensky, RN  
Med/Surg Telemetry  
Phoenixville Hospital*

As an RN, Rachel received instruction from the off-going RN that the physician for a patient, who had just undergone a complex urological surgical procedure, verbally ordered that the patient be discontinued from his suprapubic tube. Rachel questioned the appropriateness of this order and whether this was in the scope of practice for an RN. Rachel called the physician to verify the order and receive clarification. The physician stated he wanted the patient's urinary bladder catheter removed, not the suprapubic catheter, which would have compromised the patient's recovery. The next day, Rachel also reported her experience to the facility's Safety Huddle so that all staff could learn from the incident.



*Madonna Nowak, RN  
Operating Room (OR)  
Phoenixville Hospital*

A patient who sustained a broken hip was admitted to the hospital for surgery. During preoperative testing, the patient was found to have a positive blood culture, which was reported directly to the ordering physician. At the same time, the patient was transported to the preoperative holding area and assessed by the surgeon and anesthesiologist. Upon completing patient identification, consent, and other assessments per hospital policy, the patient was moved to the OR suite to be prepared for surgery. Madonna, the circulating nurse that day, reviewed the patient's medical-record data and discovered the positive blood culture results. Recognizing the clinical significance and potential safety issue, she immediately notified the surgeon. He had not been notified of the positive blood culture results. The surgery was postponed until the patient received treatment for the infection.



*Jodi Cheeks, RN  
Unit Coordinator  
Kimberley DiBlassio, RN  
Med/Surg Telemetry  
Phoenixville Hospital*

When a patient was admitted to the facility with uncontrollable hiccups, Kim questioned the medication prescribed to the patient because it was not the type of medication she knew to be prescribed for hiccups. When pharmacy staff was not readily available, she contacted her unit coordinator, Jodi, to ask if she had known of the medication being prescribed for hiccups. Jodi did not. The pharmacy staff checked with the physician and confirmed it was the wrong medication for the patient. The patient was given the correct medication. The information concerning the look-alike, sound-alike drug was shared with the facility's Safety Huddle as a "good catch."



# Recommendations to the Department of Health

As mentioned in the **Reporting Standardization: Guidance for Acute Healthcare Reporting** section of this report, 28 guiding principles went into effect in April 2015 to improve consistency in event reporting through the Pennsylvania Patient Safety Reporting System (PA-PSRS). Healthcare facilities had requested that the reporting requirements be clarified. A small multidisciplinary workgroup consisting of Authority board members, staff, the Pennsylvania Department of Health, the Hospital and Healthsystem Association of Pennsylvania, the Healthcare Council of Western Pennsylvania, and the Pennsylvania Ambulatory Surgery Association worked together to determine the principles.

The guidance was developed to help provide consistent standards to acute healthcare facilities in Pennsylvania in determining whether occurrences within their facilities meet the statutory definitions of Serious Events, Incidents, and Infrastructure Failures as defined in the Medical Care Availability and Reduction of Error (MCARE) Act. The Authority, the Department, and healthcare facility staff will work together toward a shared understanding of the requirements.

Since its inception, the Authority has had a special focus on preventing surgical procedures from being performed on the wrong patient, wrong body part, wrong side of the body, or wrong level of a correctly identified anatomic

site—collectively referred to as “wrong-site surgery.” The Authority’s analysis of several hundred of these reports allowed the Authority to identify principles that, when followed, can prevent these events. Having developed the evidence base for these principles and demonstrated that facilities adopting them can drastically reduce the occurrence of wrong-site surgery, the Authority took the initial steps toward issuing formal recommendations on wrong-site surgery prevention. The Authority met with the Department in January 2012 to discuss the process for making recommendations and obtained its agreement in principle that recommendations on this topic would benefit the Commonwealth.

In March 2012, the Authority distributed draft recommendations for public comment to the patient safety officers of all acute-care facilities that perform surgery, as well as to the Pennsylvania chapters of relevant clinical specialty societies and professional associations. The Authority received feedback from these entities on whether they envisioned any barriers to implementing the principles. In November 2012, the Authority published a supplement to its journal, the *Pennsylvania Patient Safety Advisory*, discussing the feedback received from the Pennsylvania professional organizations. The Authority will work with Department to address the wrong-site surgery recommendations, once education and implementation of the standardization guiding principles is complete.

# Anonymous Reports

The Medical Care Availability and Reduction of Error (MCARE) Act includes an important provision that permits individual healthcare workers to submit what the act defines as an “anonymous report.” Under this provision, a healthcare worker who has complied with section 308(a) of the act may file an anonymous report regarding a Serious Event. The MCARE Act requires facilities to make anonymous report forms available to healthcare workers. The Authority rarely receives anonymous reports.

The Authority makes the forms available on the Pennsylvania Patient Safety Reporting System (PA-PSRS) website, which is accessible without a password. The reporting form is a simple, one-page questionnaire. To ensure healthcare workers are aware of the option to submit an anonymous report, the Authority developed an anonymous report pamphlet. The pamphlet includes an anonymous report form with guidelines for filing a report; patient safety officers can make the pamphlets easily

accessible to hospital staff. While making their routine visits to facilities in their regions, the Authority’s patient safety liaisons (PSLs) also ensure patient safety officers are making the anonymous report forms accessible to employees. Healthcare workers can submit anonymous reports according to the protocols established through PA-PSRS. Individuals completing the form do not need to identify themselves, and the Authority assigns professional clinical staff to conduct any subsequent investigations. The Authority encourages healthcare workers to submit anonymous reports when they believe their facility is not responding appropriately to a Serious Event.

The MCARE Act requires that the annual report includes the number of (1) anonymous reports filed and (2) reviews conducted by the Authority. The Authority received no anonymous reports in 2015 that complied with MCARE Act requirements. The Authority has received a total of 11 anonymous reports since reporting began in 2004.

# Referrals to Licensure Boards

The Medical Care Availability and Reduction of Error (MCARE) Act requires the Authority to identify the number of referrals to licensure boards for failure to submit reports under the act’s reporting requirements. MCARE specifies that it is the medical facility’s responsibility to notify the licensee’s licensing board of failure to report.

No such situations were reported to the Authority during 2015. However, it is important to note that the Authority is unlikely to receive information related to a referral to a licensure board because Pennsylvania Patient Safety Reporting System (PA-PSRS) reports do not include the names of individual licensed practitioners.

# Fiscal Statements and Contracts

The Medical Care Availability and Reduction of Error (MCARE) Act establishes the Patient Safety Trust Fund as a separate account in the Pennsylvania Treasury. Under the MCARE Act, the Pennsylvania Patient Safety Authority determines how those funds are used to effectuate the patient safety provisions of the Act and administers funds in the Patient Safety Trust Fund. Funds come primarily from assessments made by the Department of Health on certain medical facilities.

The Authority recognizes that Pennsylvania hospitals, birthing centers, ambulatory surgical facilities, abortion facilities, and nursing homes bear financial responsibility for costs associated with complying with mandatory reporting requirements. Accordingly, the Authority has focused on two fiscal goals: to be prudent in the use of moneys contributed by the healthcare industry and to assure that healthcare facilities paying for the Pennsylvania Patient Safety Reporting System (PA-PSRS) receive direct benefits from the system and from Authority programs in return. Pursuant to Section 304(A)(4) of the MCARE Act, as a general rule, the Authority is authorized to receive funds from any source consistent with the Authority's purposes under the Act. Consistent with this mandate, the Authority at times contracts with and receives funding from other healthcare related entities to reduce medical errors and promote patient safety in the Commonwealth. These contracts in 2015 are described in a section below, "Contracts under which the Authority Received Revenue as Contractor," and include contracts with the Health Research & Educational Trust (HRET) and the Hospital and Healthsystem Association of Pennsylvania (HAP).

In this regard, within the design of PA-PSRS, the Authority included a variety of integral and analytical tools that provide immediate, real-time feedback to facilities on their

own adverse event and near-miss reports and activities. The Authority recently provided nursing homes with an infection analytic system within PA-PSRS. Facilities can use these tools for their internal patient safety and quality improvement programs. In 2015, the Authority implemented upgrades within PA-PSRS—incorporating standardized statutory definitions developed with collaborative guidance from its Board of Directors, the Department, representatives of the Hospital and Healthsystem Association of Pennsylvania, the Healthsystem Council of Western Pennsylvania, the Pennsylvania Ambulatory Surgery Association—after full public comment (see [Reporting Standardization: Guidance for Acute Healthcare Reporting](#)).

The Authority provides numerous training and education programs, including topics such as Patient Safety Officer Basics Education, Beyond the Basics, regional Root Cause Analysis seminars, Failure Mode Effect and Analysis, reduction of methicillin-resistant *Staphylococcus aureus* (MRSA) infection in ambulatory surgical facilities, and Evidence-based Best Practice in Preventing Wrong-Site Surgery. The Authority also publishes the *Pennsylvania Patient Safety Advisory*, a scholarly journal issued quarterly that includes detailed analysis and identification of trends of reports submitted through PA-PSRS. All these programs are offered for free to the facilities. As identified elsewhere in this report, the Authority expanded its services by organizing and supporting research collaboratives with reporting facilities and other patient-safety-centric organizations. The Authority also provides continuing medical education and patient safety curriculum development. By directly offering clinical guidance, feedback, and educational programs to providers about actual events that occur in Pennsylvania, the Authority provides measurable value back to the healthcare industry that contributes to funding this program.

# Funding Received from Hospitals, Ambulatory Surgical Facilities, Birthing Centers, and Abortion Facilities

The MCARE Act set a limit of \$5 million on the total aggregate assessment on acute-care facilities for any one year beginning in 2002, plus an annual increase based on the consumer price index (CPI) for each subsequent year. For fiscal year 2015-2016, the maximum allowable assessment is \$6,929,365, against the Authority Board’s approved aggregate assessment of \$6,500,000.

On December 8, 2015, the Authority Board authorized a recommendation to the Department of Health that the FY 2015-2016 acute-care assessment surcharges should total \$6.5 million. This amount is a \$300,000, or 4.8%, increase over the FY 2014-2015 acute-care assessment and is 6.2% less than the maximum annual amount that could have been assessed for the year pursuant to Section 305(d) of the MCARE

Act. Beginning in 2015, the Authority Board authorized the use of the Northeast Medical Professional Services CPI to calculate annual adjustments to maximum assessments.

At the time of this recommendation, the Patient Safety Authority Board took several points into consideration, including the following:

- The Patient Safety Authority’s FY 2015-2016 budget totals about \$8.3 million, with approximately \$7.1 million funding expenditures other than healthcare-associated infection (HAI).
- The Patient Safety Authority’s FY 2015-2016 budget increased by \$100,000, or 1.3%, from the previous fiscal year budget.

**Table 1. Acute Care Facility (A) Assessments**

<b>FISCAL YEAR</b>	<b>NUMBER OF FACILITIES ASSESSED BY DEPARTMENT OF HEALTH<sup>A</sup></b>	<b>APPROVED ASSESSMENTS</b>	<b>TOTAL ASSESSMENTS RECEIVED BY DEPARTMENT OF HEALTH<sup>B</sup></b>
2002-03	356	\$5,000,000	\$4,663,000
2003-04	377	\$2,500,000	\$2,542,316
2004-05	414	\$2,500,000	\$2,508,787 <sup>C</sup>
2005-06	450	\$2,500,000	\$2,500,149
2006-07	453	\$2,500,000	\$2,500,034
2007-08	526	\$5,400,000	\$5,391,583
2008-09	524	\$4,000,000	\$3,972,677
2009-10	519	\$5,000,000	\$4,989,781
2010-11	542	\$5,000,000	\$4,981,443
2011-12	550	\$5,100,000	\$5,063,723
2012-13	545	\$5,500,000	\$5,504,549
2013-14	556	\$5,500,000	\$5,492,002
2014-15	564	\$6,200,000	\$6,209,459
2015-16 <sup>D</sup>		\$6,500,000	
			<b>\$56,319,503</b>

<sup>A</sup> The number of facilities assessed by the Department of Health differs from the number of the Medical Care Availability and Reduction of Error (MCARE) Act’s facilities cited elsewhere in this report because of differences in the dates chosen to calculate the number of facilities for these two different purposes.

<sup>B</sup> Amounts assessed and amounts received differ because a few facilities may have closed in the interim or are in bankruptcy. In a few cases, the Department of Health is pursuing action to enforce facility compliance with the MCARE Act’s assessment requirement.

<sup>C</sup> Total assessments received are greater than assessments made because some funds received were late payments for the previous year’s assessment.

<sup>D</sup> 2015-16 missing figures were not available at the time of publication and will appear in next year’s Annual Report.

- The FY 2015-2016 acute-care assessment of \$6.5 million has increased by \$1.5 million from the Authority's initial acute-care assessment in FY 2002-2003 of \$5.0 million, a 3.24% per year increase.
- Since the Authority's FY 2007-2008 acute-care assessment of \$5.4 million, the acute-care assessment had increased by 2.99% per year.
- Also considered in authorizing this increase were staff and program growth, significant increases in Commonwealth of Pennsylvania mandated burdened benefit rates, and the cessation of Hospital Engagement Network (HEN) contract revenue in December 2014.

## Funding Received from Nursing Homes

Act 52 of the MCARE Act allows the Department of Health to assess Pennsylvania nursing homes up to an aggregate amount of \$1 million per year for any one year beginning in 2008, plus an annual increase based on the CPI for each subsequent year. In 2008, following the Authority's suggestion, the Department assessed 725 nursing home facilities a total of \$1,000,000 and transferred \$1,000,782 to the Patient Safety Trust Fund for FY 2008–2009. This money could be spent only on activities related to HAI and implementation and maintenance of Chapter 4 of the MCARE Act. For FY 2015–2016, the Act 52 maximum allowable assessment is

\$1,118,711, against the Authority Board's approved aggregate assessment of \$1,080,000.

On December 8, 2015, the Authority Board authorized a recommendation to the Department that the FY 2015–2016 nursing home assessment surcharges should total \$1.08 million. This amount is \$30,000 more than the previous year's assessment, and is approximately 3.5% below the maximum assessment permitted under Act 52 based on annual CPI adjustments. Beginning in 2015, the Authority Board authorized the use of the Northeast Medical Professional Services CPI to calculate annual adjustments to maximum assessments.

**Table 2. Nursing Home Assessments**

<b>FISCAL YEAR</b>	<b>NUMBER OF FACILITIES ASSESSED BY DEPARTMENT OF HEALTH</b>	<b>APPROVED ASSESSMENTS</b>	<b>TOTAL ASSESSMENTS RECEIVED BY DEPARTMENT OF HEALTH</b>
2008-09	725	\$1,000,000	\$1,000,782
2009-10	711	\$800,000	\$799,382
2010-11	707	\$800,000	\$799,829
2011-12	707	\$800,000	\$804,473 <sup>A</sup>
2012-13	711	\$900,000	\$913,315 <sup>A</sup>
2013-14	698	\$1,000,000	\$998,751
2014-15	703	\$1,050,000	\$1,049,842
2015-16 <sup>B</sup>		\$1,080,000	
			<b>\$6,366,374</b>

<sup>A</sup> Total assessments received are greater than assessments made because in a few cases funds received were late payments for the previous year's assessment.

<sup>B</sup> FY 2015-2016 missing figures were not available at the time of publication and will appear in the next year's Annual Report.

# Annual Expenditures

During calendar year 2015, the Authority spent approximately \$7.757 million and received HEN-related

reimbursement of \$70,000, resulting in net expenditures of \$6.686 million (Table 3).

**Table 3. Expenditures for Calendar Year 2015**

<b>CONTROL LEVEL</b>	<b>AMOUNT</b>
61: Personnel	\$2,236,704
63: Operating	\$5,520,202
44: Hospital Engagement Network (HEN) augmentation	-\$70,457
Net expenditures	<b>\$7,686,449</b>

## Patient Safety Authority Contracts

The MCARE Act requires the Authority to identify a list of contracts entered into pursuant to the Act, including the amounts awarded to each contractor.

During calendar year 2015, the Authority received services under the following contracts (FC, funds commitment; PO, purchase order).

### **ECRI Institute, FC # 4000018888**

Four-year, nine-month contract for program administration, clinical analysis, training and data collection, and reporting infrastructure services.

October 1, 2014, through June 30, 2019.

Total contract amount: \$24,227,233  
over 4 years and 9 months.

Amount invoiced for 2014: \$1,135,983.79  
(October through December)

Amount invoiced for 2015: \$4,824,833.20  
(January through December)

November and December 2015 invoices - unaudited

### **IKON Office Solutions, PO # 4500712922**

B&W copier lease

August 1, 2013, to June 30, 2017 @ \$202.62/month

12-month lease expense (Jan-Dec)  
paid in CY 2015: \$2,431.44

### **XEROX Corp., PO # 4500734462**

Color copier lease

October 1, 2013, to August 31, 2017 @ \$398.39/  
month with no overage charge

12-month lease expense (Jan-Dec): \$4,780.68

### **DELL Marketing LP, PO # 4300446203**

SAS Visual Analytics software maintenance

Issue date January 27, 2015. Total PO: \$11,837.59

Valid from March 31, 2015 – March 31, 2016

Amount expended in 2015: \$11,837.59

### **SAS Institute, Inc., FC # 4000018726**

Professional services agreement for installation and development of SAS Visual Analytics software

SAS contract # S4033-1. Effective July 29, 2014

Total commitment: \$36,683.52

Amount expended in 2015: \$1,950.19

**Contracts under which the Authority Received Revenue as Contractor:**

**HRET Subcontract Agreement – CAUTI LTC Cohort 2**

Federal fixed price – HHSA2902010000251, Task Order #8  
 Option period: \$25,000.00  
 Amount invoiced by Authority in 2015: \$25,000.00

**HAP/CMS subcontract agreement - HAP-PA Hospital Engagement Network (HEN)\***  
 Option Year 1 – contract HHSM-500-2012-022C.3  
 Amount invoiced by Authority in 2015: \$70,456.74

**Patient Safety Authority Balance Sheet**

The following balance sheet reflects the status of the Patient Safety Trust Fund as of December 31, 2015:

**Table 4. Patient Safety Trust Fund Balance Sheet (Unaudited), as of December 31, 2015**

<b>ASSETS</b>	
Temporary investments	\$4,981,900
<b>Total Assets</b>	<b>\$4,981,900</b>
<b>LIABILITIES AND FUND BALANCE</b>	
<b>Liabilities</b>	
Accounts payable and accrued liabilities	\$91,646
Invoices payable	2,061
Accrued payables goods receipts	—
<b>Total Liabilities</b>	<b>\$93,707</b>
<b>FUND BALANCE</b>	
Restricted for:	
Encumbrances	\$3,537,800
Health-related programs	1,350,393
<b>Total Fund Balance</b>	<b>\$4,888,193</b>
<b>Total Liabilities and Fund Balance</b>	<b>\$4,981,900</b>

Source: Comptroller Operations, Commonwealth Bureau of Accounting and Financial Management

\*The analyses upon which this publication is based were performed under Contract Number HHSM-500-2015-00300C, titled, "Partnership for Patients Hospital Engagement 2.0 Contract."



# Board of Directors and Public Meetings

Members of the board of directors are appointed by the governor and the general assembly according to certain occupational or residence requirements. As of December 31, 2015, members included:

**Physician appointed by the Governor who serves as Chair:**

**Rachel Levine, MD, Physician General**  
Residence: Middletown (Dauphin County)

**Appointee of the President pro tempore of the Senate:**

**Daniel Glunk, MD**  
Residence: Williamsport (Lycoming County)

**Appointee of the Minority Leader of the Senate:**  
**Cliff Rieders, Esq.**

Residence: Williamsport (Lycoming County)

**Appointee of the Speaker of the House:**  
**Stanton N. Smullens, MD, Vice Chair**

Residence: Philadelphia (Philadelphia County)

**Appointee of the Minority Leader of the House:**  
**Eric Weitz, Esq.**

Residence: Lower Merion (Montgomery County)

**Nurse appointed by the Governor:**

**Joan M. Garzarelli, MSN, RN**  
Residence: Irwin (Westmoreland County)

**Pharmacist appointed by the Governor:**

**Gary A. Merica, MBA/HCM, BSc**  
Residence: Red Lion (York County)

**Hospital employee appointed by the Governor:**

**Radheshyam Agrawal, MD**  
Residence: Pittsburgh (Allegheny County)

**Healthcare worker appointed by the Governor:**

**Jan Boswinkel, MD**  
Residence: Havertown (Delaware County)

**Non-healthcare worker appointed by the Governor:**

**Lorina L. Marshall-Blake**  
Residence: Philadelphia (Philadelphia County)

**Physician appointed by the Governor:**

**John Bulger, DO, MBA**  
Residence: Danville (Montour County)

The Medical Care Availability and Reduction of Error (MCARE) Act requires the board of directors to meet at least quarterly. During 2015, the board met frequently to assess and develop future patient safety educational and advocacy activities, including developing standards for more consistent reporting. Representatives of healthcare, consumer, and other stakeholder groups, including the general assembly, have attended and spoken at public meetings. Following are the dates of all public board meetings held by the Authority during 2015:

- January 27, 2015
- March 10, 2015
- April 21, 2015
- June 9, 2015
- July 21, 2015 (cancelled)
- September 8, 2015
- October 20, 2015 (cancelled)
- December 8, 2015

Summary minutes of the public meetings are available on the Authority's website at <http://www.patientsafetyauthority.org>.

**Address:** Pennsylvania Patient Safety Authority  
333 Market Street, Lobby Level  
Harrisburg, PA 17120

**Phone:** (717) 346-0469

**Fax:** (717) 346-1090

**E-mail:** [patientsafetyauthority@pa.gov](mailto:patientsafetyauthority@pa.gov)







P A T I E N T  
**S A F E T Y**  
A U T H O R I T Y

An independent agency of the Commonwealth of Pennsylvania

Phone | (717) 346-0469  
Fax | (717) 346-1090  
E-mail | [patientsafetyauthority@pa.gov](mailto:patientsafetyauthority@pa.gov)  
Website | [www.patientsafetyauthority.org](http://www.patientsafetyauthority.org)

Address  
333 Market Street  
Lobby Level  
Harrisburg, PA 17120