

GOVERNMENT OF THE DISTRICT OF COLUMBIA

DEPARTMENT OF HEALTH



HEALTH REGULATION AND LICENSING ADMINISTRATION

Patient Safety Reporting System District of Columbia

Annual Report
Fiscal Year
2013

FOR THE REPORTING PERIOD OF:

OCTOBER 1, 2012 to SEPTEMBER 30, 2013

Prepared February 2014 by:

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Executive Summary

I. Background

In December 2006, the District of Columbia passed the Medical Malpractice Amendment Act of 2006. The act requires that any licensed healthcare provider or medical facility must report adverse events, which include the 28 serious reportable events defined by the National Quality Forum (NQF) as events that are unambiguous (identifiable and measurable), serious (resulting in death or significant disability), and usually preventable. In 2009, the act was amended to require that adverse event reports must be reported within 60 days of their occurrence. In January 2010, a web-based adverse event reporting system was implemented in the ongoing effort to improve healthcare delivery. Starting in October 2010, District facilities were required to report central-line-associated bloodstream infections (CLABSIs) in intensive care units (ICUs) through the National Healthcare Safety Network (NHSN) system, allowing the epidemiologists at the District of Columbia Department of Health to monitor and validate infection rates for District facilities and contribute District information to the Centers for Disease Control and Prevention's (CDC) national database. The current users of the web-based adverse event reporting system include hospitals (adult and pediatric acute care, long-term acute care, behavioral health, and rehabilitation) and ambulatory surgical facilities. Adverse event reports are submitted to the Department of Health through their subcontractor, ECRI Institute. These reports are confidential. The web-based reports are analyzed to identify patterns or trends, recommend methods to reduce systematic adverse events, and disseminate information and advice on best practices through various methods. In addition, technical assistance to healthcare providers and medical facilities is provided. All other facilities and providers can submit adverse event reports using the original paper-based form. The District of Columbia Department of Health Center for Policy, Planning and Evaluation's Division of Epidemiology - Disease Surveillance and Investigation provides CLABSI data from CDC's NHSN to ECRI Institute to include in the analysis.

This sixth annual report provides an update on the District of Columbia Patient Safety Reporting System, including an overview of the program's offerings, analysis of adverse event reports, and descriptions of the most significant findings from the reporting period of October 1, 2012, through September 30, 2013.

II. Data Collection—Patterns and Trends in Adverse Event Reports

Collecting and analyzing reports of adverse events is a vital component of the District of Columbia's goal to improve healthcare delivery. During the reporting period of October 2012 through September 2013, the District's healthcare providers and medical facilities submitted a total of 163 events in fiscal year (FY) 2013 to the District of Columbia Department of Health. Fifty-eight adverse event reports were submitted to the District of Columbia Patient Safety Reporting System, and 105 reports of CLABSI¹ were submitted to CDC's NHSN (which are reported to and validated by the District of Columbia Department of Health Center for Policy, Planning and Evaluation's Division of Epidemiology - Disease Surveillance and Investigation). Acute care hospitals, adult and pediatric, submitted 120 (74%) of the reports; 2 (1%) were submitted by rehabilitation hospitals, 5 (3%) were submitted by behavioral health facilities, 32 (20%) were submitted by long-term acute care facilities, 2 (1%) were submitted by ambulatory surgical centers, and 2 (1%) were submitted by other locations via paper reports. Analysis of the 58 adverse

¹ CLABSI data is provided by the District of Columbia Department of Health Center for Policy, Planning and Evaluation's Division of Epidemiology - Disease Surveillance and Investigation from the reports submitted to CDC's NHSN.

events, not including CLABSIs, revealed 10 (17%) of the reports involved a patient death; however, many of these reports did not fall into the required NQF serious reportable event categories.

The Department of Health continued to adopt NQF's list of 28 serious reportable events from 2006 as a classification system for reportable events during FY 2013; the updated NQF list from 2011 may be adopted in the future. Similar to past years, the most commonly reported event types, representing 151 (93%) of reports submitted, were CLABSIs, other events, pressure ulcers, retained foreign objects and falls.

Highlights of the data submitted to the Department of Health for the reporting period of October 2012 to September 2013 include the following:

- A total of 163 event reports were received.
- The majority of reports, 120 (74%), were submitted by acute care hospitals.
- There were 13 event types reported this fiscal year.

The adverse event reports submitted by healthcare providers and medical facilities in the sixth year of the District's reporting program represent a continued effort by District healthcare providers and medical facilities to improve patient safety. Facilities continue to show engagement by reporting events categorized as other events and by reviewing feedback provided through various publications or directly to their facility.

Introduction

I. The District's Patient Safety Reporting System

The District's Patient Safety Reporting System's goals include the following:

- Promoting patient safety
- Improving the culture of safety
- Learning from and preventing adverse events
- Providing feedback and best practices to District facilities

Aggregation of adverse event data gathered from facilities and providers throughout the District is a powerful tool to identify trends that undermine safe and effective healthcare and assists to achieve the primary goal of the reporting program to prevent the occurrence of similar adverse events in the future. The web-based adverse event reporting system provides access to aggregate data at the District level and at the ECRI Institute Patient Safety Organization (PSO) national level. Analysis of the information received through the District's reporting program will serve as the basis for meaningful insights, lessons learned, and best practices that can improve patient safety. For three of the frequently reported event categories—CLABSI, falls, and surgical (including retained foreign objects and wrong site surgery)—this report presents guidance and recommendations for helping to prevent these events from reoccurring.

Aside from the annual report, in FY 2013, the District of Columbia Patient Safety Reporting System offered the following benefits in which facilities could engage:

- **Patient safety webinars**—Offered quarterly and included the following topics:
 - Informed Consent: It's More Than a Piece of Paper
 - Medical Device Accident Investigation: Getting It Right Can Save Lives
 - Health Information Technology and Tool
 - Radiology Risks: Scanning the Evidence
- **Quarterly Navigators**—Patient safety advisory articles offered quarterly, which include a *National Navigator* article and a *District Navigator* article. Articles were provided on the following topics over FY 2013:
 - **National:**
 - Near-Miss Reporting
 - Pain Relief: How to Keep Opioid Administration Safe
 - Tackling the Most Common Laboratory Errors: Specimen Labeling Mistakes
 - Crash Cart Readiness Errors Hamper Emergency Response
 - **District:**
 - Near-Miss Reporting
 - Decreasing Opioid Errors
 - Rapid Response Equipment
- **Custom feedback on adverse events**—Resources and best practices are provided to the facilities directly on selected adverse event reports. The following are some of the topics in which feedback was provided during FY 2013:

- Air embolism
 - Documentation
 - Falls
 - Patient room safety
 - Patient violence
 - PEG tube placement
 - Physiologic monitors
 - Retained foreign objects
 - Retained guidewires
 - Sexual assault
- **Root-cause analyses and corrective action plans (CAPs)**—If a thorough root-cause analysis and CAP are submitted along with an event, it is analyzed through ECRI Institute PSO's root-cause analysis review process and then the facility can be provided with a report to further assist them in improving their process.
 - **Patient Safety Membership Update**—A monthly electronic newsletter that compiles updated patient safety news over the past month.
 - **Patient Safety E-Alerts**—Unplanned special notices on major patient safety issues that have been seen at a national level. Topics in FY 2013 included the following:
 - Health Devices Alert: Patient Fall Risk Associated with Bed-Exit Alarm Reset Time
 - Prevent "Bad Blood"—Avoid Unnecessary Waste
 - Health Devices Alert: Administration Sets with Antisiphon Valves (ASV) Should Be Used to Prevent Potential Uncontrolled Gravity Flow on B Braun Infusomat Space Pumps
 - Don't Call a Plumber for This Leaky Faucet—Be Wary of Extravasation During CT Contrast Injection

Data Collection and Analysis

I. Reportable Events

The District has mandated the reporting of adverse events by a broad range of healthcare providers and medical facilities. Adverse events that were required to be reported include the 28 NQF serious reportable events listed in 2006. During this past fiscal year, CLABSI events continued to be submitted to CDC's NHSN, and these events are reported to and validated by the District of Columbia Department of Health Center for Policy, Planning and Evaluation's Division of Epidemiology - Disease Surveillance and Investigation. Since January 2010, hospitals and ambulatory surgical centers have been required to report adverse events and CAPs using the web-based reporting system. A standardized adverse event reporting form is available to all other medical facilities and healthcare providers for this purpose. Reports must be submitted within 60 days of the occurrence of an adverse event. The Department of Health collects and analyzes the reports, providing an annual report that includes summary data and recommendations. The Medical Malpractice Amendment Act contains well-defined confidentiality provisions related to reporters and information provided to the system administrator. This annual report compiles and provides analysis on both the CLABSI data from NHSN and the NQF events submitted to the web-based reporting system.

II. Reports by Event Type

In the sixth reporting period, which covers events submitted between October 1, 2012, and September 30, 2013, District medical facilities and healthcare providers submitted 163 reports to the Department of Health. The most frequently reported types of events were CLABSIs, other events, pressure ulcers, retained foreign objects, and falls, representing 151 (93%) of the reports submitted. Figure 1 summarizes the reports submitted by event type. Figure 2 provides a comparison between the number of events reported during this fiscal year and the previous fiscal year.

Figure 1. Number and Percentage of Reports by Event Type in FY 2013^{1,2,3}

Event Category	Event Type	No.	%
Surgical Events	1A - Surgery performed on the wrong body part	3	1.8
	1B - Surgery performed on the wrong patient	0	0.0
	1C - Wrong surgical procedure performed on a patient	0	0.0
	1D - Unintended retention of a foreign object in a patient after surgery or other procedure	10	6.1
	1E - Intraoperative or immediately postoperative death in an American Society of Anesthesiologists class I patient	0	0.0
Product or Device Events	2A - Patient death or serious disability associated with the use of contaminated drugs, devices, or biologics provided by the healthcare facility	0	0.0

² ECRI Institute PSO Database. Component of ECRI Institute, Plymouth Meeting, Pennsylvania.

³ National Quality Forum. Serious reportable events in healthcare—2006 update [online]. 2007 Mar [cited 2013 Nov 25].

http://www.qualityforum.org/Publications/2007/03/Serious_Reportable_Events_in_Healthcare%E2%80%932006_Update.aspx

Event Category	Event Type	No.	%
	2B - Patient death or serious disability associated with the use or function of a device in patient care in which the device is used or functions other than as intended	1	0.6
	2C - Patient death or serious disability associated with intravascular air embolism that occurs while the patient is being cared for in a healthcare facility	1	0.6
Patient Protection Events	3A - Infant discharged to the wrong person	0	0.0
	3B - Patient death or serious disability associated with patient leaving the facility without permission	1	0.6
	3C - Patient suicide or attempted suicide resulting in serious disability while the patient is being cared for in a healthcare facility	2	1.2
Care Management Events	4A - Patient death or serious disability associated with a medication error	1	0.6
	4B - Patient death or serious disability associated with a hemolytic reaction (abnormal breakdown of red blood cells) due to the administration of ABO/HLA-incompatible blood or blood products	0	0.0
	4C - Maternal death or serious disability associated with labor or delivery in a low-risk pregnancy while the patient is being cared for in a healthcare facility	1	0.6
	4D - Patient death or serious disability associated with hypoglycemia, the onset of which occurs while the patient is being cared for in a healthcare facility	0	0.0
	4E - Death or serious disability associated with failure to identify and treat hyperbilirubinemia in newborns	0	0.0
	4F - Stage III or IV pressure ulcers acquired after admission to a healthcare facility	13	8.0
	4G - Patient death or serious disability due to spinal manipulative therapy	0	0.0
	4H - Artificial insemination with the wrong donor sperm or wrong egg	0	0.0
Environmental Events	5A - Patient death or serious disability associated with an electric shock while the patient is being cared for in a healthcare facility	0	0.0
	5B - Any incident in which a line designated for oxygen or other gas to be delivered to a patient contains the wrong gas or is contaminated by toxic substances	0	0.0
	5C - Patient death or serious disability associated with a burn incurred from any source while the patient is being cared for in a healthcare facility	0	0.0
	5D - Patient death or serious disability associated with a fall while the patient is being cared for in a healthcare facility	9	5.5
	5E - Patient death or serious disability associated with the use of restraints or bedrails while the patient is being cared for in a healthcare facility	0	0.0
Criminal Events	6A - Any instance of care ordered by or provided by someone impersonating a physician, nurse, pharmacist, or other licensed healthcare provider	0	0.0
	6B - Abduction of a patient of any age	0	0.0

Event Category	Event Type	No.	%
	6C - Sexual assault on a patient within or on the grounds of a healthcare facility	2	1.2
	6D - Death or significant injury of a patient or staff member resulting from a physical assault that occurs within or on the grounds of a healthcare facility	0	0.0
Healthcare-Associated Infections	7 - Central-catheter-associated bloodstream infection ¹	105	64.4
“Other” Event Type Reported	X - “Other” non-NQF type of event reported	14	8.6
Total		163	99.8*

*Total percentage does not equal 100 due to rounding.

Figure 2. Comparison of Number of Event Types (excluding CLABSIs)²

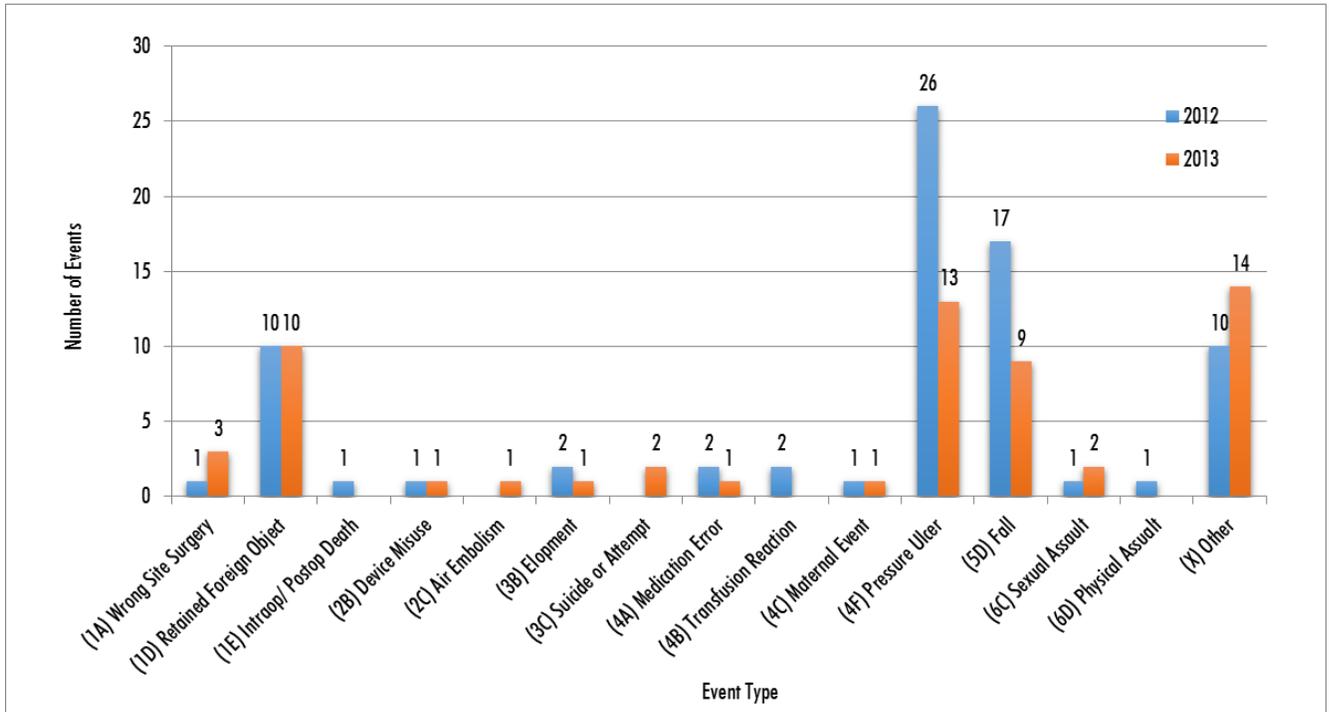


Figure 2 details the event types that had one or more events reported in that category and shows a comparison between FY 2012 and FY 2013. During the FY 2013 reporting period, there were 13 total event types reported, which was a decrease from 14 event types reported in FY 2012. Overall, the most significant increase in the number of events reported occurred with “other” events. The greatest decrease in the number of events reported occurred with pressure ulcers. This change in the number of events reported may reflect a difference in the number of events that occurred or a change in reporting.

Figure 3. Comparison of Event Type Frequency²

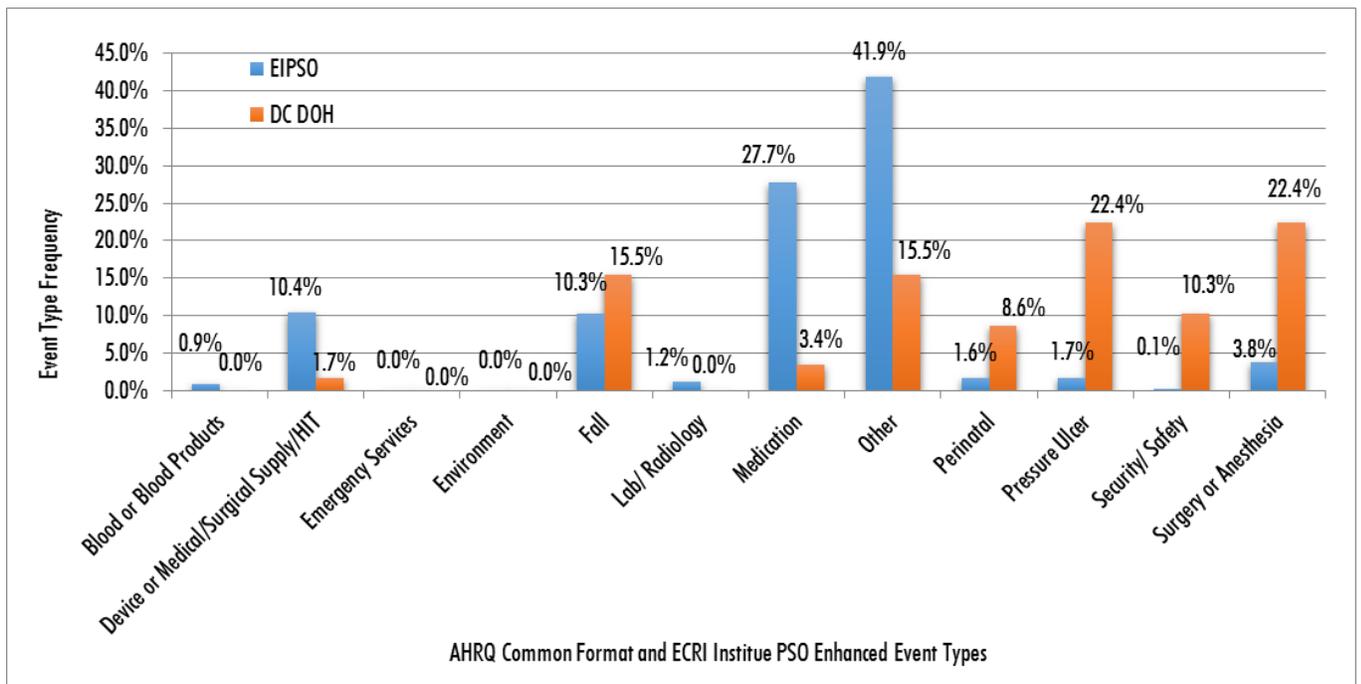


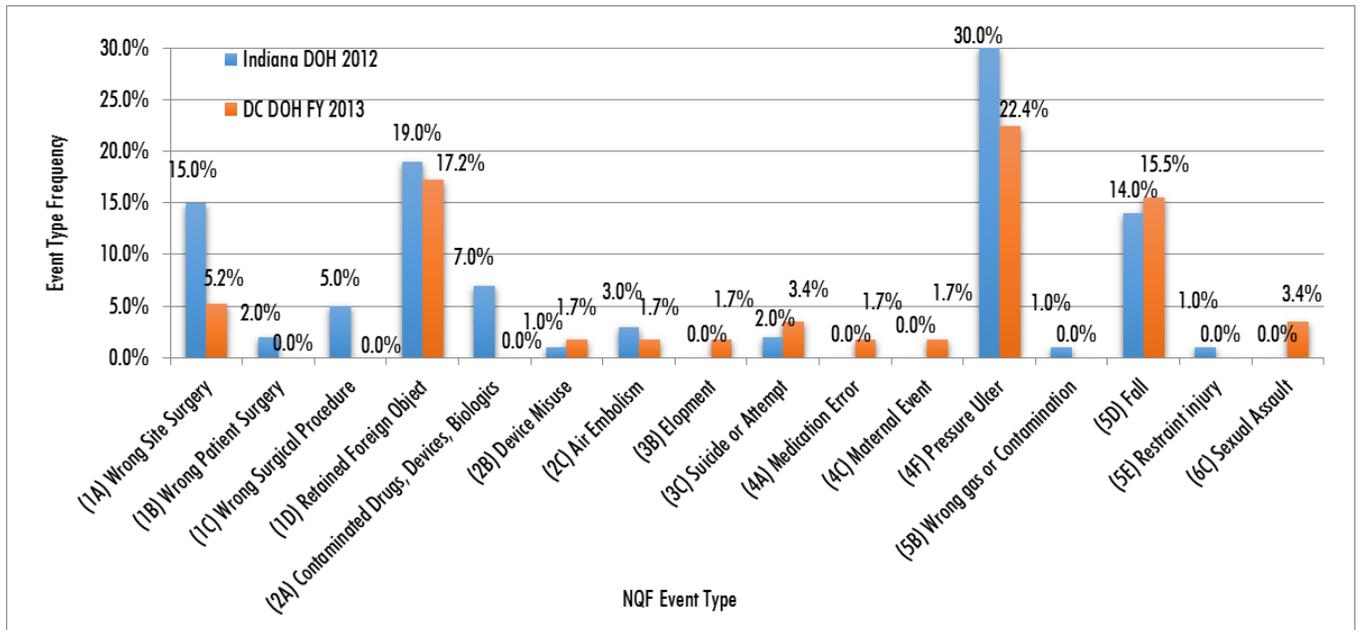
Figure 3 shows a comparison of event categories reported by District facilities between October 1, 2012, and September 30, 2013, and those in the ECRI Institute PSO (EIPSO) system overall aggregate. It should be noted that this graph cannot be considered a benchmark, as the ECRI Institute PSO system is a voluntary national event reporting database, whereas the District of Columbia Patient Safety Reporting System requires mandatory reporting of adverse events. These event types are categorized according to the Agency for Healthcare Research and Quality’s (AHRQ) Common Formats and ECRI Institute enhanced event types rather than NQF event types.

When viewed in this fashion, and excluding healthcare-associated infections (HAIs) and CLABSIs, the District’s most frequently reported event categories were pressure ulcers, surgery or anesthesia events, other events, falls, and safety/security events. The most frequently reported events in the ECRI Institute PSO database were other events, medication errors, falls, device or medical/surgical supply or health information technology (HIT) events, and surgery or anesthesia events. Again, pressure ulcers clearly stand out as the most frequently reported event in the District (22.4%), whereas they were reported 1.7% of the time in the ECRI Institute PSO aggregate. Also, similar to FY 2012, medication errors were apparent 27.7% of the time in the reports to ECRI Institute PSO and only make up 3.4% of the District’s reports. However, conclusions cannot be drawn when comparing mandatory and voluntary reporting programs. The District’s best benchmark is comparing each fiscal year’s data to past years’ data (see Figure 2).

In comparison with another mandatory reporting system, the Indiana Medical Error Reporting System’s report for 2012 noted 100 NQF events reported from a total of 289 facilities required to report. Indiana’s medical error reporting system is also based on NQF’s serious reportable events. Although there are many more facilities required to report, when broken down by event type percentages, Indiana’s most frequently reported events were similar to the District of Columbia Department of Health’s in that they included pressure ulcers (30.0%), retained foreign objects (19.0%), and falls

(14.0%). However, Indiana continues to report wrong-site surgery (15.0%) as the third most commonly reported event. It also reported events related to contaminated drugs, devices, and biologics (7.0%), whereas the District of Columbia has not reported this type of event. Figure 4 shows the NQF event report type frequency from the District of Columbia for FY 2013 and from Indiana’s 2012 reporting year; the percentages are based on the total number of NQF and other events, excluding CLABSI.^{2,4}

Figure 4. Comparison of Event Type Frequency (excluding CLABSI)^{2,3}



III. Reports by Level of Harm

The 2006 list of NQF’s serious reportable events includes events that resulted in serious disability or death.³ However, if adopted in the future, the 2011 list of NQF serious reportable events changes the language from “serious disability” to “serious injury” in applicable event types.⁵ Not all reportable events necessarily imply the same degree of harm, and it is often useful to distinguish among degrees of harm. To this end, the harm scale developed by the National Coordinating Council for Medication Error Reporting and Prevention continues to be applied to the event reporting system, and 58 events could be categorized based on the information provided. The CLABSI events that the Department of Health provided from NHSN does not include information on level of harm; therefore, those events could not be included in this analysis.¹ Figure 5 summarizes the level of harm among the 58 reports, and Figure 6 illustrates the percentage of the levels of harm identified.

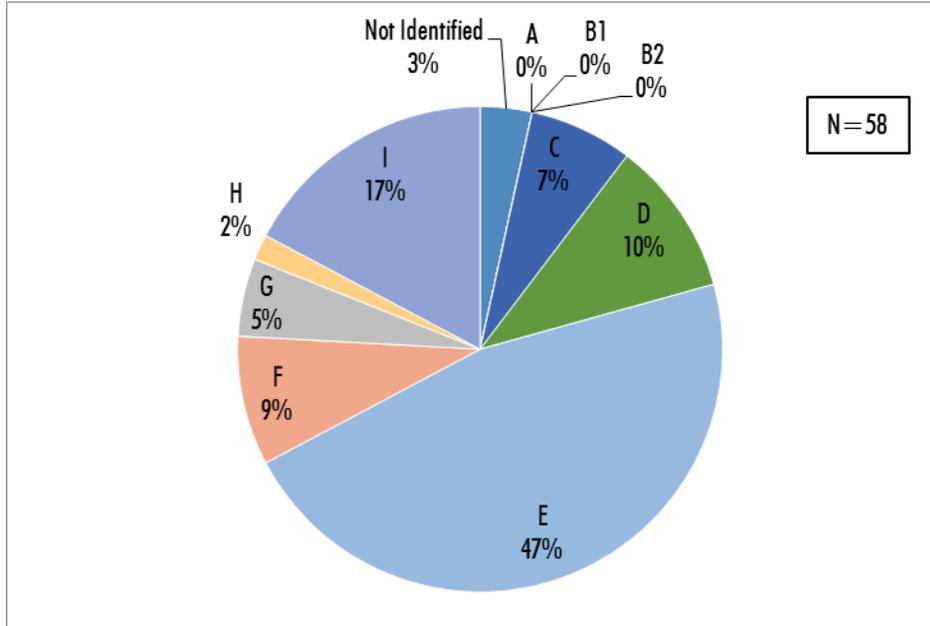
⁴ Indiana State Department of Health. Indiana Medical Error Reporting System: final report for 2012 [online]. 2013 Sep [cited 2013 Nov 25]. http://www.in.gov/isdh/files/2012_MERS_Report.pdf

⁵ National Quality Forum. Serious reportable events in healthcare—2011 update: a consensus report [online]. 2011 [cited 2013 Nov 25]. <http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=69573>

Figure 5. Number and Percentage of Reports by Level of Harm (FY 2013, excluding CLABSIs)²

Harm Score	Description	Reports	%
A	Circumstances that could cause adverse events (e.g., look-alike medications, confusing equipment)	0	0
B1	An event occurred but did not reach the individual (“near miss” or “close call”) because of chance alone	0	0
B2	An event occurred but did not reach the individual (“near miss” or “close call”) because of active recovery efforts by caregivers	0	0
C	An event occurred that reached the individual but did not cause harm and did not require increased monitoring (an error of omission, such as a missed medication dose, does reach the individual)	4	7
D	An event occurred that required monitoring to confirm that it resulted in no harm and/or required intervention to prevent harm	6	10
E	An event occurred that contributed to or resulted in temporary harm and required treatment or intervention	27	47
F	An event occurred that contributed to or resulted in temporary harm and required initial or prolonged hospitalization	5	9
G	An event occurred that contributed to or resulted in permanent harm	3	5
H	An event occurred that resulted in a near-death event (e.g., required ICU care or other intervention necessary to sustain life)	1	2
I	An event occurred that contributed to or resulted in death	10	17
	Reports with harm score not identified	2	3
Total		58	100

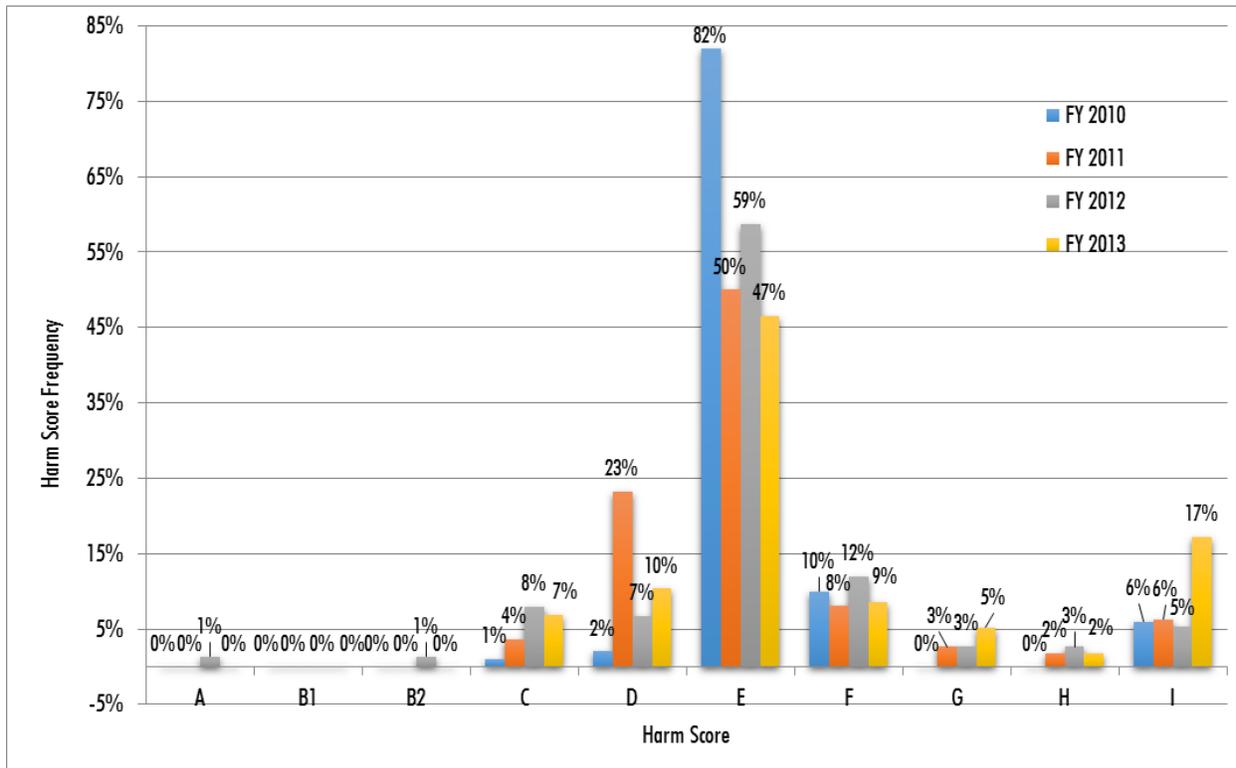
Figure 6. Percentage of Reports by Harm Score (FY 2013, excluding CLABSIs)²



The reports submitted ranged from a harm score of C (7%), an event occurred that reached the individual but did not cause harm and did not require increased monitoring, to I (17%), an event occurred that contributed to or resulted in death. The majority of the events were categorized as having a harm score of E (47%), an event that resulted in temporary harm and required treatment or intervention, which is consistent with the minimal harm score severity level described in the NQF events.

Harm score frequency during this reporting period does not include harm scores A and B but continues to include C and D (see Figure 7). NQF serious reportable events typically have a harm score of E or above. Also, there was an increase in the percentage of events with harm score I, which are events involving a death; in previous years, it was 6% or less, and this fiscal year, it was 17%. It is also important to note that 50% of the events with harm score I were categorized as other events, and we noted earlier there was an overall increase in the number of other event reports. Again, this change in the number of events reported may reflect a difference in the number of events that occurred or a change in reporting. The next diagram shows that District facilities continue to be engaged in the program and are now voluntarily reporting events that did not cause harm.

Figure 7. Comparison of Harm Score Frequency²



IV. Report Quality

During the FY 2013 reporting period, the web-based event report forms were completed sufficiently and the quality of the information provided was adequate. The “Event Description” field is a free-text field on the web-based form and can capture the most important details of the event when completed. Of the 58 reports from the District of Columbia Patient Safety Reporting System, excluding CLABSI, 71% had thorough event descriptions and 29% had minimal event descriptions. This area of reporting has shown continued improvement and coincides with the implementation of electronic reporting systems.

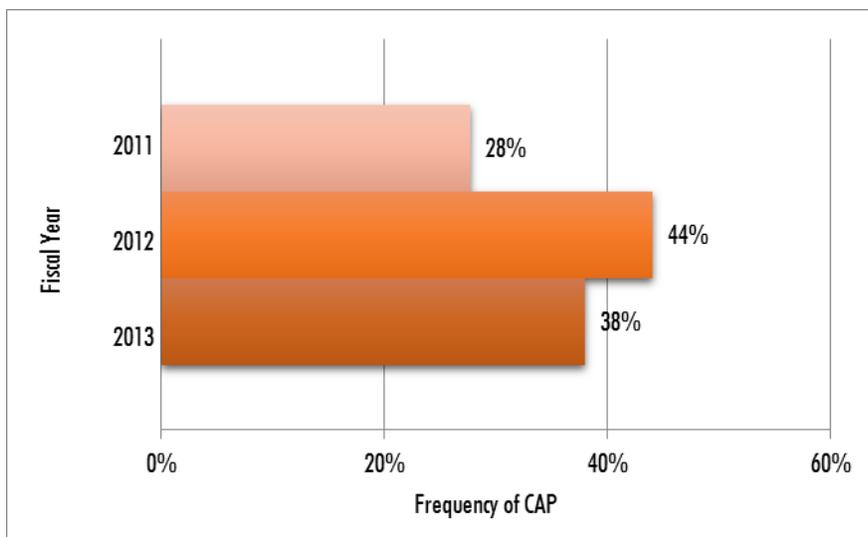
V. Root Causes and Corrective Action Plans in Reports

The District requires the submission of a CAP as a follow-up to the reported adverse event; a root-cause analysis can be submitted if applicable or if the facility would like a review. Part of the goals of the program is for an adverse event to be handled by the following steps:



A CAP describes how the facility or provider plans to prevent or reduce the risk of similar events in the future and should be based on the findings from the event investigation. The investigation of an event must look beyond the direct patient care provider to identify system failures. Of the 58 reports submitted, not including CLABSIs, 22 (38%) included a CAP submission, which is a slight decrease from FY 2012. Figure 9 indicates the percentage of CAPs submitted for the reported events during FY 2011, FY 2012, and FY 2013, excluding CLABSIs. Although some reports identified contributing factors or root causes, there were no complete root-cause analyses submitted for review during FY 2013.

Figure 8. Frequency of CAP Submissions (excluding CLABSIs)²



There is an additional field within the reporting system labeled “Supplemental Information” that some facilities have found as an easy way to incorporate their CAPs. This also allows the event details and the action plans to be stored in the same location. Currently, some facilities use this method, and others continue to submit their CAPs via secure communication. Facilities have the ability to update an event report after the event has been submitted if the RCA and CAP have not been completed at the time of the event submission.

Guidance and Recommendations

The Department of Health is charged with providing facilities and providers with recommended methods to reduce systematic adverse events and disseminating information and advice on best practices. The following is a summary of three of the frequently reported event types and a discussion of lessons learned about these types of events. Strategies are presented for helping to prevent reoccurrence. The three event types that will be presented are as follows:

- CLABSIs
- Surgical events
- Falls

As required by the Medical Malpractice Amendment Act, the information is deidentified and anonymous with regard to the facility, provider, and patient. Root causes, contributing factors, and preventive strategies identified by healthcare facilities and providers are shared. Finally, recommended best practices are provided to further assist facilities and providers in improving healthcare delivery in the District.

I. Central-Line-Associated Bloodstream Infections

CDC reports U.S. hospitals are continuing to make progress in reducing central-line-associated bloodstream infections (CLABSIs). In 2011, an estimated 12,400 CLABSIs occurred among critical care patients, costing approximately \$26,000 per infection.⁶ CDC reported a 41% reduction in CLABSIs between 2008 and 2011 (the baseline year), up from the 32% reduction reported between 2008 and 2010.⁶ A central line is a catheter that is placed in a large vein to administer antibiotics and other fluids. When aseptic technique is not used during insertion or maintenance, central lines become portals for microbes to enter the bloodstream, causing life-threatening infections. Treating a bloodstream infection prolongs a patient's stay, increasing hospital cost. These additional days may be provided at a higher level of care if the patient requires an expensive ICU bed.⁷

Facilities in the District of Columbia are required by law to report CLABSIs to CDC's NHSN. NHSN is an online tracking system that provides the District and its 10 hospitals covered by the mandate the ability to do the following:⁸

- "Identify infection prevention problems by facility, state, or specific quality improvement project"
- "Benchmark progress of infection prevention efforts"
- "Comply with state and federal public reporting mandates"
- "Drive national progress toward elimination of HAIs"

⁶ Centers for Disease Control and Prevention. 2011 national and state healthcare-associated infections standardized infection ratio report [online]. 2013 Feb 13 update [cited 2013 Dec 10]. <http://www.cdc.gov/hai/national-annual-sir/index.html>

⁷ World Health Organization. Preventing bloodstream infections from central line venous catheters [online]. [cited 2013 Dec 10]. <http://www.who.int/patientsafety/implementation/bsi/en>

⁸ Centers for Disease Control and Prevention. About NHSN [online]. 2013 Nov update [cited 2013 Dec 10]. <http://www.cdc.gov/nhsn/about.html>

Epidemiologists at the District's Department of Health Center for Policy, Planning and Evaluation perform validation studies on CLABSIs reported to NHSN. They may contact facilities if data quality problems are detected, or if infection rates are higher or lower than expected (e.g., an outlier facility). The Department of Health also audits medical records to confirm accuracy of case-finding (identification of a reportable CLABSI).⁹

About half of the nation's states (and the District of Columbia and Puerto Rico) have mandatory requirements to report CLABSIs to NHSN.⁶ Some facilities in states without mandates report CLABSI data to NHSN to comply with the Centers for Medicare and Medicaid Services' (CMS) quality reporting programs. Beginning in 2011 with critical care units, the NHSN has shared CLABSI data with CMS. The sharing of CLABSI data for non-critical-care units will begin in 2015.¹⁰ CMS's Hospital Compare website (<http://www.medicare.gov/hospitalcompare>) provides the public with hospital ratings. CLABSI rates are reported as either better than, the same as, or worse than the national average.

Benchmark Data: 2008 through 2011

CDC reported a 31% reduction in the District's CLABSIs between 2008 and 2011, with 117 infections reported by 8 hospitals. In 2011, 8 of the 12 acute care facilities located in the District reported CLABSIs to NHSN. Reporting units included 20 ICUs, 6 neonatal ICUs, and 7 wards. In 2010, these same 8 acute care facilities reported a 38% reduction in the District's CLABSIs. The data indicates that two-thirds of the facilities located in the district reported CLABSIs in 2011, and steady progress was made by these facilities towards the U.S. Department of Health and Human Services' (HHS) five-year goal of a 50% reduction in CLABSIs (see the Additional Resources section for a link to the National Action Plan).¹¹

New Data: Fiscal Year (FY) 2013

The following data was provided by the District of Columbia Department of Health Center for Policy, Planning and Evaluation's Division of Epidemiology - Disease Surveillance and Investigation, from NHSN, in advance of publication by CDC: during FY 2013, 24 ICUs and 6 neonatal ICUs from 10 hospitals reported CLABSI data.¹ The following charts compare CLABSI data by year. In the nation's ICUs, central lines are used about half of the time (this is called the device utilization rate^{12,13}). Hospitals should examine their CLABSI and device utilization rates together because central lines are a risk factor for CLABSI. Interventions aimed at reducing the use of central lines (a desirable goal) may result in an increase in the CLABSI rate because the remaining patients are at a higher risk of infection.

⁹ Centers for Disease Control and Prevention. District of Columbia activities to prevent healthcare-associated infections [online]. 2013 Feb 11 update [cited 2013 Dec 10]. <http://www.cdc.gov/HAI/stateplans/state-hai-plans/dc.html>

¹⁰ Centers for Disease Control and Prevention. Reporting requirements and deadlines in NHSN per CMS current rules [online]. 2013 Sep [cited 2013 Dec 10]. <http://www.cdc.gov/nhsn/PDFs/CMS/CMS-Reporting-Requirements-Deadlines.pdf>

¹¹ U.S. Department of Health and Human Services. National action plan to prevent health care-associated infections: road map to elimination [online]. 2013 Feb 13 update [cited 2013 Dec 10]. <http://www.hhs.gov/ash/initiatives/hai/actionplan>

¹² Central-line-days are calculated by counting the number of patients with a central line each day for each unit. At the end of the month, the daily totals for each unit are added up to calculate monthly totals. To be counted, the line must be in place and in use for more than two calendar days. For more information on calculating central-line-days, refer to the most recent update to the CDC's *NHSN Patient Safety Component Manual* at <http://www.cdc.gov/nhsn>.

¹³ Dudeck MA, Horan TC, Peterson KD, et al. National Healthcare Safety Network (NHSN) report, data summary for 2011, device-associated module [online]. 2012 [cited 2013 Dec 05]. <http://www.cdc.gov/nhsn/PDFs/dataStat/NHSN-Report-2011-Data-Summary.pdf>

Figure 9. CLABSI Rate: District Hospitals, FY 2011 to 2013¹

Fiscal Year	CLABSI Count	Central-Line-Days	CLABSI Rate (count per 1,000 central-line-days)
2013	105	101,388	1.04
2012	141	87,651	1.61
2011	180	88,414	2.04

The CLABSI data in the above figures was provided by the District of Columbia Department of Health Center for Policy, Planning and Evaluation’s Division of Epidemiology - Disease Surveillance and Investigation from the reports submitted to CDC’s NHSN. The data is not risk-adjusted for different patient populations and units and also represents a different mix of hospitals and units for each year.

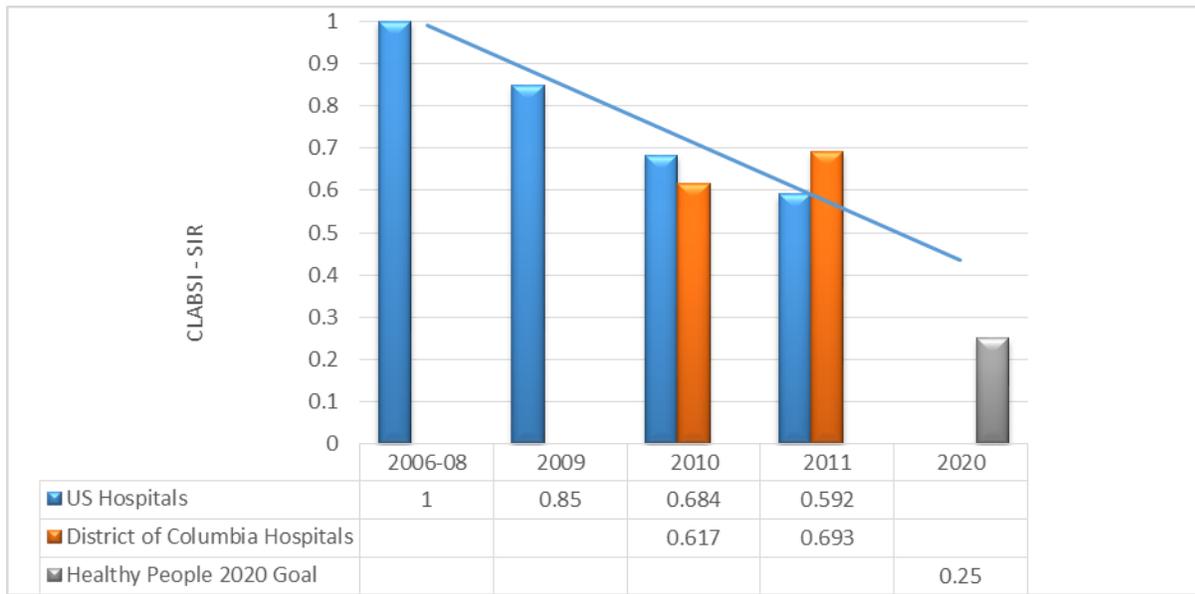
Data Trends

The U.S. hospital rate of CLABSIs, as measured by the standardized infection ratio (SIR),¹⁴ declined each year from data collected during the baseline years (2006 to 2008) through 2011 from a 1.0 SIR to a 0.59 SIR (see trend line in below graph). The SIR for the District’s hospitals increased from a 0.62 SIR in 2010 to a 0.69 SIR in 2011. This includes only hospitals that submitted data in both years, and the slight negative trend is not considered by CDC to be statistically significant.⁶ Because U.S. hospitals are approaching the HHS five-year goal of a 50% reduction in CLABSIs, the Healthy People 2020 goal to reduce CLABSIs by 75% (.25 SIR) over the 2008 baseline year is shown as the next national target.¹⁵

¹⁴ The SIR sets the baseline years of 2006 to 2008 at 1.0 and shows the reduction on a scale of 0 to 1 rather than as a percentage.

¹⁵ Health People 2020. Health-care associated infections, objectives [online]. 2013 Aug update [cited 2013 Dec 10]. <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=17>

Figure 10. CLABSI Standardized Infection Ratio (SIR)⁶



The data in the above figures was published by CDC. The data is risk-adjusted for different patient populations and units and represents a consistent mix hospitals and units for each year.

Recommendations

District hospitals participated in a Comprehensive Unit-based Safety Program (CUSP) during 2009 and 2010.⁹ CUSP was a nationwide AHRQ-sponsored initiative to prevent CLABSI and catheter-associated urinary tract infection (CAUTI) that reached over 1,000 hospitals. The CLABSI initiative was called On the CUSP: Stop BSI.¹⁶ The CUSP toolkit contents, available on the AHRQ website (see Additional Resources below) are aligned with the below four E’s:¹⁷

- “Engage: How will this make the world a better place?”
- “Educate: How will we accomplish this?”
- “Execute: What do I need to do?”
- “Evaluate: How will we know we made a difference?”

CLABSI is one of 10 core areas of the 26 Hospital Engagement Networks (HENs) formed in 2012 as part of HHS’s Partnership for Patients. The District of Columbia Hospital Association has partnered with the American Hospital Association’s affiliate, Health Research & Educational Trust (HRET) HEN. In the District, five hospitals have joined the HRET-HEN and are engaged in several of its initiatives. (Other District hospitals may have joined other HENs.) The HRET-HEN CLABSI initiative is a continuation of CUSP. Resources include a checklist of the top 10 evidence-based interventions for preventing CLABSI:¹⁸

¹⁶ On the CUSP: STOP BSI [online]. 2013 [cited 2013 Dec 10]. <http://www.onthecuspstopbsi.org/on-the-cuspstop-bsi>

¹⁷ Agency for Healthcare Research and Quality. Tools for reducing central line-associated blood stream infections [online]. 2012 Jan [cited 2013 Dec 05]. <http://www.ahrq.gov/professionals/education/curriculum-tools/clabsitools/index.html>

¹⁸ Health Research and Educational Trust Hospital Engagement Network. CLABSI top ten checklist [online]. 2013. [cited 2013 Dec 10]. http://www.hret-hen.org/index.php?option=com_content&view=article&id=4&Itemid=129

- Implement insertion bundle
- Implement "Stop the Line" approach to insertion bundle
- Implement insertion checklist to help with compliance and monitoring
- Incorporate daily review of line necessity into workflow
- Adopt maintenance bundle of dressing changes
- Use a chlorhexidine-impregnated sponge dressing
- Use 2% chlorhexidine-impregnated cloths for daily skin cleansing
- Do not routinely replace central venous catheters, peripherally inserted central catheters, hemodialysis catheters, or pulmonary artery catheters
- Use a non-suture securement device
- Use ultrasound guidance to place lines if this technology is available

The greatest opportunity to achieve national goals, according to CDC, may be to focus improvement efforts on high-outlier facilities: those that are not improving or have higher than expected CLABSI rates. Low outliers may indicate under-reporting, and CDC urges facilities to improve their skills in case-finding and data self-validation.⁶ Frequent updates to the NHSN surveillance definitions and reporting guidelines necessitate ongoing education of hospital staff. In May 2013, the District of Columbia Hospital Association and the Delmarva Foundation hosted NHSN training for staff from seven District hospitals.¹⁹

Additional Resources

- Agency for Healthcare Research and Quality. Tools for reducing central line-associated blood stream infections. 2012 Jan. <http://www.ahrq.gov/professionals/education/curriculum-tools/clabsitools/index.html>
- Centers for Disease Control and Prevention. NHSN validation guidance and toolkit; validation for 2012 central line-associated bloodstream infection (CLABSI) in ICUs [online]. 2013 Mar 12 update. <http://www.cdc.gov/nhsn/toolkit/validation-clabsi>
- Health Research and Educational Trust Hospital Engagement Network. central line associated blood stream infections (CLABSI) resources. 2013. http://www.hret-hen.org/index.php?option=com_content&view=article&id=4&Itemid=129
- Institute for Healthcare Improvement. How-to guide: prevent central line-associated bloodstream infection. 2012 Mar 29 update. <http://www.ihc.org/resources/Pages/Tools/HowtoGuidePreventCentralLineAssociatedBloodstreamInfection.aspx>
- SHEA/IDSA/AHA/APCI/CDC/Joint Commission. FAQs about catheter-associated healthcare infections [patient education materials]. http://www.shea-online.org/Assets/files/patient%20guides/NNL_CA-BSI.pdf
- U.S. Department of Health and Human Services. National action plan to prevent health care-associated infections: road map to elimination. 2013 Feb 13 update. <http://www.hhs.gov/ash/initiatives/hai/actionplan>

¹⁹ District of Columbia Hospital Association. DCHA and Delmarva Foundation host training on updated NHSN definitions [online]. 2013 May 20 [cited 2013 Dec 10]. <http://www.dcha.org/2013/05/dcha-and-delmarva-foundation-host-training-on-updated-nhsn-definitions>

II. Surgical Events

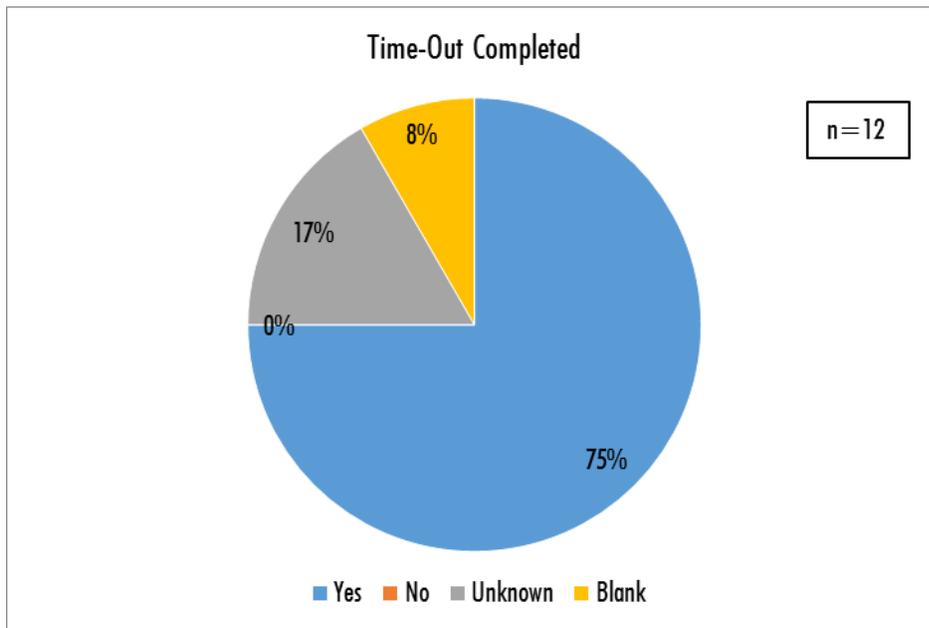
Surgical events reported include the following:

- Surgery performed on the wrong body part
- Unintended retention of a foreign object in a patient after surgery or other procedure

For FY 2013, 3 wrong-site surgeries were reported, whereas there was 1 wrong-site surgery reported for the previous fiscal year. There continued to be 10 retained foreign-object reports, also referred to as unintentionally retained surgical items. The most commonly reported surgical event continues to be retained foreign objects. Although the number of surgeries performed on the wrong body part is small, the consequences of a wrong-site surgery can be devastating. Performing a proper time-out prior to surgery, as well as other invasive procedures such as those done at the bedside, is a key element to preventing wrong-site surgery. According to the Association of periOperative Registered Nurses (AORN) 75% of time-outs are done inadequately.²⁰

When reviewing the surgical events, it was noted that in 75% of those submitted, a time-out was reported to have been completed. The remainder either did not complete that field in the system (8%) or reported that it was unknown (17%). See figure 10 for an overview of time-outs with surgical event reports.

Figure 10. Time-Outs for Surgical Events



²⁰ Association of periOperative Registered Nurses. 4 keys to a better time out, now [online]. 2013 May 15 [cited 2013 Dec 10]. <https://www.aorn.org/News.aspx?id=24882&terms=time%20out>

Performing a proper time-out for surgical and other invasive procedures is accepted as best practice; however, what are the best steps follow?

Recommendations

AORN developed a surgical checklist that incorporates both the guidelines from the Joint Commission and the World Health Organization. The following are the best practices outlined for time-outs:²¹

- Perform prior to incision
- Started by one team member and include an introduction of all team members
- Stop all other activities unless emergent (such as ventilation)
- Include the following verifications by each team member:
 - Patient identification
 - Right procedure
 - Right site with site marked
 - Right consent
- Ensure imaging is correctly labeled and displayed
- Review equipment concerns
- The surgeon should foresee and report the following:
 - Any critical or unique tasks
 - The length of the time for the surgery
 - Estimated blood loss
- The anesthesia provider should foresee and report the following:
 - Prophylactic antibiotics given within one hour window before incision
 - Any additional concerns
- The scrub and circulating nurse should foresee and report the following:
 - Sterilization indicators are verified
 - Any additional concerns

Additional Resources

- Time-out! Wrong-site surgery update. Pa Patient Saf Advis [online] 2011 Jun [cited 2013 Dec 3]. [http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2011/jun8\(2\)/Pages/80.aspx](http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2011/jun8(2)/Pages/80.aspx)
- Pennsylvania Patient Safety Authority. Wrong-site surgery error analysis form [online]. 2010 [cited 2013 Dec 3]. http://patientsafetyauthority.org/EducationalTools/PatientSafetyTools/PWSS/Pages/wss_error_analysis.aspx

²¹ Association of periOperative Registered Nurses. Comprehensive surgical checklist [online]. [cited 2013 Dec 10]. http://www.aorn.org/Clinical_Practice/ToolKits/Correct_Site_Surgery_Tool_Kit/Comprehensive_checklist.aspx

III. Falls

Falls include a patient death or serious disability associated with a fall while the patient is being cared for in a healthcare facility. The Department of Health received 9 reports of falls coinciding with the NQF definition, down from 18 falls reports last fiscal year.

According to AHRQ, falls are the most frequently reported incident in adult inpatient units. The rate of falls ranges from 1.3 to 8.9 falls per 1,000 patient-days, with geriatric psychiatry patients having the highest risk.²² In addition, falls are associated with increased lengths of stay, higher rates of discharge to nursing homes, and greater healthcare utilization.²³

CDC reports that fractures are the most common and costly of the nonfatal injuries from falls. Over one-third of the nonfatal injuries are fractures, yet the costs of the latter account for 61% of the cost of nonfatal injuries.²⁴

During the current reporting period, the District reported nine falls-related events. Eight of the nine events resulted in fractures. The harm score reported ranged from level E to level H, with the majority of falls reported having a harm score of E (an error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention). See Figure 5 for a definition of all harm scores.

Prevention of Falls

Development and implementation of successful falls prevention strategies are dependent upon successfully conducting of a falls risk assessment to determine which strategies would be best to employ to reduce the likelihood of a fall. This assessment should be a standardized assessment that evaluates the different dimensions of risk, including the patient's fall history, mobility, medications, mental status, continence, and other factors, such as poor vision.²⁵

More than half of the falls reports indicated that the patient was identified on admission as being at high risk for a fall during the hospital stay; the rest were unknown or not identified. Within all of the falls reports, there was a total of 26 interventions implemented prior to the event occurring. The graph below demonstrates the frequency with which each of the interventions was implemented.

²² Currie LM. Fall and injury prevention. Chapter 10. In: Agency for Healthcare Research and Quality (AHRQ). *Patient safety and quality: an evidence-based handbook for nurses*. AHRQ publication no. 08-0043. Rockville, MD: AHRQ; 2008.

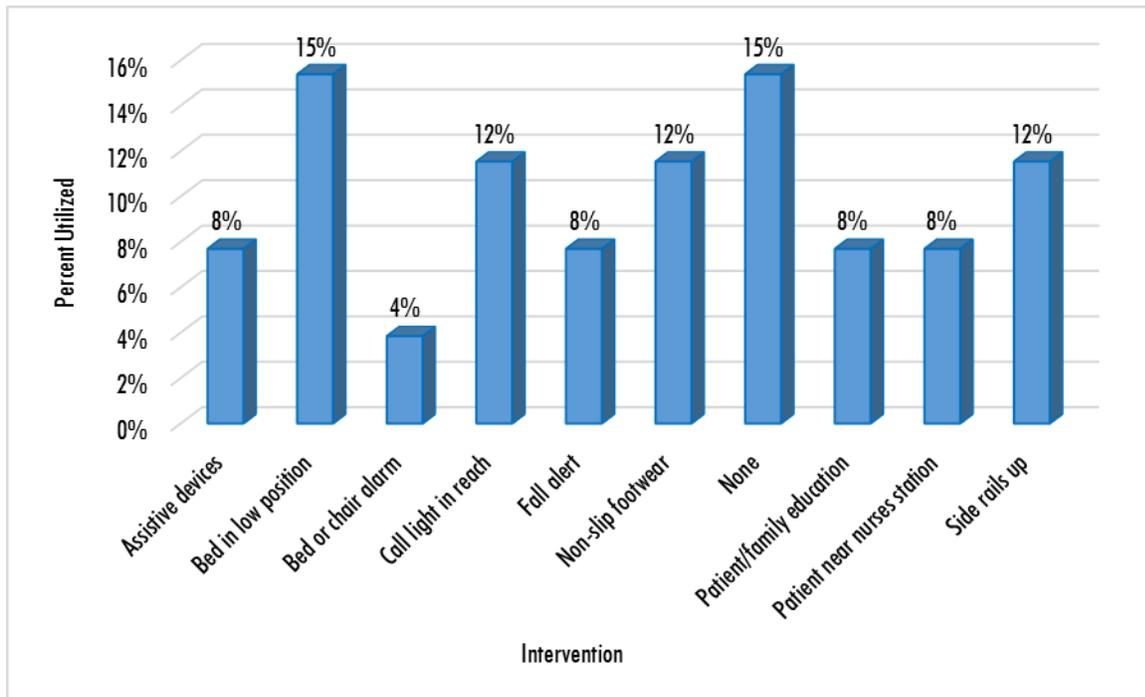
²³ Oliver D, Healey F, Haines TP. Preventing falls and fall-related injuries in hospitals. *Clin Geriatr Med* 2010;26(4):645-92.

²⁴ Centers for Disease Control. Costs of falls among older adults [online]. [cited 2013 Nov 25].

<http://www.cdc.gov/HomeandRecreationalSafety/Falls/fallcost.html>

²⁵ Hartford Institute for Geriatric Nursing. Fall prevention: assessment, diagnosis, and intervention strategies [online]. 2012 Aug [cited 2013 Dec 10]. http://consultgerirn.org/topics/falls/want_to_know_more

Figure 11. Prior Falls Interventions²



Falls Reduction Strategies

Both intrinsic and extrinsic factors should be considered when determining a patient's risk for falling. Intrinsic factors include age, history of falls, incontinence, lower-extremity weakness, medications, hypotension, neuropathy, and loss of hearing. Extrinsic factors include furniture with sharp edges, wheelchairs or beds without locking wheels, staffing levels, lack of handrails, communication, and staff training.²⁶ Below are some best practices and recommendations for preventing falls that could be considered for inclusion in relevant CAPs.

Best practice identifies universal fall precautions as those initiatives that should be in place for all patients regardless of their fall risk.²⁵ These initiatives include the following:

- Keeping the patient's personal items and call light within reach
- Keeping the hospital bed in a low position
- Keeping floor surfaces clean and dry
- Keeping the hospital bed and wheelchair brakes locked
- Use of rubber-soled shoes or nonskid slippers
- Performing walking or safety rounds
- Reducing clutter in rooms and walkways
- Use of corrective lenses when walking
- Ensuring regular toileting at specified times or using another similar continence program

²⁶ ECRI Institute. Falls. *Healthc Risk Control* 2009 Mar;2:Safety and security 2.

Those patients who are identified to be at higher risk require individual care plans that will meet the needs of the patient as well as the facility. These interventions should be tailored to the individual needs of the patient and correlate with the falls risk assessment findings. They may need to be used in combination rather than as stand-alone interventions and include the following:

- Identify those patients at high risk so that the interdisciplinary team is aware
- Implement hourly rounds
- Use sitter programs with educated sitters
- Place stickers on medications to identify them as those that may contribute to putting a patient at risk for falling
- Reduce any intrinsic and extrinsic factors that can be controlled

Additional Resources

- Agency for Healthcare Research and Quality. Preventing falls in hospitals. <http://www.ahrq.gov/professionals/systems/long-term-care/resources/injuries/fallpxtoolkit/index.html>

Conclusion

Medical facilities and providers in the District continue to take important steps in reducing the number of adverse events by submitting adverse event reports under the Medical Malpractice Amendment Act of 2006. The success of the reporting program continues to rely on the willingness of healthcare facilities and providers to disclose NQF events and submit meaningful reports. The focus of the District's Patient Safety Reporting System is to analyze events to better understand how and why adverse events occur. The vision for the reporting system is to provide a tool for quality improvement and education. Dissemination of lessons learned and best practices facilitates system changes that consistently promote the delivery of safe patient care. In 2014, the District will have continued opportunities to benefit from custom feedback to support this objective, with the delivery of safe patient care as the ongoing goal of the program.

Technical Credits

This report was prepared for the Department of Health by ECRI Institute. ECRI Institute, a nonprofit organization, dedicates itself to bringing the discipline of applied scientific research in healthcare to uncover the best approaches to improving patient care. As pioneers in this science for over 40 years, ECRI Institute marries experience and independence with the objectivity of evidence-based research. More than 5,000 healthcare organizations worldwide rely on ECRI Institute's expertise in patient safety improvement, risk and quality management, and healthcare processes, devices, procedures, and drug technology.