

LEGISLATIVE REPORT TO THE GENERAL ASSEMBLY

Adverse Event Reporting

General Statutes of Connecticut
Section 19a-127l-n

QUALITY IN HEALTH CARE PROGRAM

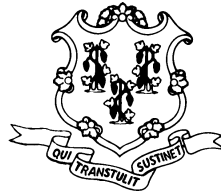
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Renée D. Coleman-Mitchell, MPH, Commissioner

Barbara S. Cass, RN, Chief, Healthcare Quality & Safety Branch

Lloyd Mueller, PhD, Supervising Epidemiologist

Jon C. Olson, DPM, DrPH, Epidemiologist



State of Connecticut
Department of Public Health
410 Capitol Avenue
P.O. Box 340308
Hartford, Connecticut 06134-0308



**State of Connecticut
 Department of Public Health
 Legislative Report to the General Assembly
 Adverse Event Reporting
 For the Period of January 1, 2018 – December 31, 2018**

Quality in Health Care Program

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EXECUTIVE SUMMARY

The number of adverse events reports (n=376) in 2018 was 7% higher than the preceding year. It was the first full year of reporting using the web-based system introduced in May 2017.

As in the previous year, the most common adverse events reported were: (1) stage 3-4 or unstageable pressure ulcers acquired after admission to a healthcare facility, (2) falls resulting in serious disability or death, and (3) retained foreign objects in the patient after surgery. Respectively, they accounted for 51.6%, 28.2%, and 7.4% of all adverse events.

After examining an adverse event report, which includes a corrective action plan, the department determines whether to initiate an investigation.

BACKGROUND

Connecticut General Statutes (CGS) §19a-127*l* required the Department of Public Health (DPH) to establish a Quality in Health Care program for health care facilities. An advisory committee, chaired by the DPH Commissioner or their designee, advises the program. Mandatory adverse event¹ reporting began October 1, 2002. After evaluating the program for more than a year, the Advisory Committee recommended adoption of the National Quality Forum (NQF) list of Serious Reportable Events, plus five or six Connecticut-specific events.

Prior to May 2017, adverse events were reported to DPH by telephone and fax machine. Beginning in May 2017, reporting is through a web-based portal. Reporting forms and definitions are provided via the DPH website under “[Forms](#)”.²

The adverse event reporting requirements were amended when CGS §19a-127*n* became law on July 1, 2004. The statute replaced the previous adverse event classification system with a list of reportable events identified by the NQF. Additionally, DPH added six Connecticut-specific adverse event definitions to supplement the NQF list. (The list appears in Appendix B.) Items on the list are of concern to both the public and healthcare professionals, are clearly identifiable and measurable, and are often preventable.³ DPH completed development of the mandated regulations for reporting of adverse events, which became effective November 1, 2007.

In May 2007, hospitals and ambulatory surgical centers were provided with the updated NQF List of Serious Reportable Events and the revised list compiled by the Commissioner of Public

¹ As discussed in Connecticut’s March 2004 Adverse Events report, adverse events are not the same as medical errors. Some adverse events do not result from medical errors, and some medical errors do not result in adverse events. Annual Reports can be accessed at <https://portal.ct.gov/dph> under Statistics and Research, “Health Care Quality”.

² <https://portal.ct.gov/DPH/Communications/Forms/Forms>

³ More fully explained in Kenneth W. Kizer, “Clearing the Confusion about Connecticut’s New Adverse Event Reporting Law,” which appears as Appendix B of Connecticut’s October 2004 Adverse Events report.

Health. A new category was included in the NQF list related to fertility clinics.⁴ The NQF category “patient death associated with a fall” was expanded to include “serious injury associated with a fall.” Reporting for this expanded category replaced the Connecticut-specific category that previously existed.

In January 2010, “Patient death or serious disability associated with surgery” was added to the list of reportable adverse events. This category includes significant hemorrhage and/or unanticipated death in a low risk (American Society of Anesthesiologists Class 2) patient.

Public Act 10-122 required that for all annual reports submitted after July 1, 2011:

the commissioner shall include hospital and outpatient surgical facility adverse event information for each facility identified (1) by the National Quality Forum's List of Serious Reportable Events category, and (2) in accordance with any list compiled by the commissioner and adopted as regulations pursuant to subsection (c) of this section. Such reports shall be prepared in a format that uses relevant contextual information. For purposes of this subsection "contextual information" includes, but is not limited to, (A) the relationship between the number of adverse events and a hospital's total number of patient days or an outpatient surgical facility's total number of surgical encounters expressed as a fraction in which the numerator is the aggregate number of adverse events reported by each hospital or outpatient surgical facility by category as specified in this subsection and the denominator is the total of the hospital's patient days or the outpatient surgical facility's total number of surgical encounters, and (B) information concerning the patient population served by the hospital or outpatient surgical facility, including such hospital's or outpatient surgical facility's payor or case mix. In addition, a hospital or outpatient surgical facility may provide informational comments relating to any adverse event reported to the commissioner pursuant to this section.

The NQF document *Serious Reportable Events in Healthcare-2011 Update*⁵ added four items, retired three items, and revised definitions, specifications, and numbering for the remaining items. The most substantial change in definition made unstageable pressure ulcers reportable in addition to stages three and four. The new items were: (1) Death or serious injury of a neonate associated with labor or delivery in a low-risk pregnancy; (2) patient death or serious injury resulting from the irretrievable loss of an irreplaceable biological specimen; (3) patient death or serious injury from failure to follow up or communicate laboratory, pathology, or radiology test results; and (4) death or serious injury of a patient associated with the introduction of a metallic object into the MRI area. A summary of NQF changes appeared in Appendix J of the October 2012 DPH report, and the revised Connecticut adverse event list in Appendix K therein. DPH promulgated guidance related to these changes during 2012 and implemented the revised list in January 2013.

In October 2016, recommendations were made to the DPH Commissioner by a DPH/hospital work group of the Quality in Health Care Advisory Committee concerning four adverse event

⁴ Prior to *Serious Reportable Events in Healthcare-2011 Update*, category 4H was “Artificial insemination with the wrong donor sperm or wrong egg.” In 2013 the Connecticut category label changed to NQF 4G.

⁵ http://www.qualityforum.org/Topics/SREs/Serious_Reportable_Events.aspx

categories that were identified as weak due to lack of clarity or lack of current effectiveness. Regarding pressure ulcers (NQF 4F), the work group concluded that the spike in reporting in 2013 was due to the definitional change to include unstageable pressure ulcers, not to any decline in patient safety or quality, and that additional reporting years are required to verify the efficacy of the expanded category. Regarding sexual abuse or assault (NQF 7C) the work group recommended changes to the existing guidance to clarify what constitutes reportable “substantiated allegations.” Additional criteria for a reportable event included any staff-witnessed sexual assault; sufficient clinical evidence to support allegations; and credible admission by the perpetrator. Additional guidance included consideration of the impact of the alleged perpetrator’s mental state on the credibility of their admission.

Regarding perforations during open, laparoscopic, or endoscopic procedures (CT 1) the work group determined that the overwhelming majority of reported events are not preventable and recommended that the category be retired. Regarding patient death or serious injury as a result of surgery (CT 2), the work group concluded that the category does not provide a useful means of identifying preventable events, while five other categories which track specific surgical issues are better designed to capture meaningful data.⁶ The work group recommended that category CT 2 be retired. These recommendations were accepted. Starting January 2017, the two Connecticut-specific categories are no longer reportable to DPH, and clarifying guidance was introduced to reduce the number of unsubstantiated sexual abuse reports going forward.⁷

CGS §19a-127o identifies the primary activity of a Patient Safety Organization (PSO), which is to improve patient safety and the quality of care delivered to patients through the collection, aggregation, analysis, or processing of medical or health-related information submitted to the PSO by the health care provider. This “patient work product” may include reports, records, analyses, policies, procedures or root cause analyses prepared exclusively for the purpose of disclosure to the PSO. The patient safety work product is confidential and not subject to use or access except to the PSO and the health care provider. PSOs disseminate appropriate information or recommendations on best clinical practices or potential system changes to improve patient care to the health care providers, DPH, the Quality of Care Advisory Committee and the public. DPH has designated four PSOs: Qualidigm, the Connecticut Healthcare Research & Education Foundation (CHREF), the Ambulatory Surgical Center Patient Safety Organization (ASC PSO), and QA to QI LLC (see the DPH reports on Connecticut’s Quality of Care Program⁸).

DPH presented webinars in December 2016 and April 2017 to introduce the revised adverse event category list and implementation guidelines, and web-based reporting, to facilities that participate in adverse event reporting. The revised adverse event categories and guidance as of January 2017, slides from the April 2017 training, and an adverse event web-based user manual are available at <https://portal.ct.gov/DPH/Communications/Forms/Forms>. Following user acceptance testing, web-based adverse event reporting went live in May 2017.

⁶ Categories 1A-1E relate to surgical or invasive procedure events.

⁷ For the complete guidance, on the DPH website choose Forms, then scroll down to Licensing, Certification, and Adverse Events > Adverse Event Reporting Form (effective 1/1/17).

⁸ Quality of Health Care reports are at <https://portal.ct.gov/dph> under Statistics and Research, then choose “Health Care Quality.” The reports were discontinued after 2017.

The web-based adverse event reporting application is hosted at the Connecticut Bureau of Enterprise Systems and Technology (BEST) behind firewalls. The application uses drop-down lists to minimize data entry errors or ambiguities. Users first register and log in using a username and password. Facility users will be able to see the events at their own facility only. The application is used for tracking adverse event reports and corrective action plans, and follow-up with the DPH Facility Licensing and Investigation Section, if additional details are requested.

New fields in the web-based application collect data on the preferred language spoken by the patient who experienced the adverse event, English proficiency, race, ethnicity, and whether an interpreter was provided during the medical visit.

Adverse event data for this DPH report were obtained from the web-based application. Inpatient days and primary payer information for acute care hospitals was obtained from hospital discharge data routinely reported to the DPH. Similar information for outpatient childbirth centers, hospice, chronic disease hospitals, and hospitals for the mentally ill, and outpatient surgical centers was obtained by DPH directly from those facilities.⁹

ADVERSE EVENT DATA

The DPH electronic database contains 376 reports of adverse events reported in 2018. Demographic information for 2018 is shown in Appendix A. This reported information is influenced by several factors: varying rates of adverse events across facilities, patient case mix, quality of care, number of patients served, knowledge or interpretation of event definitions and reporting requirements, changes made to event definitions, additions to or deletions from the list of reportable events, willingness to report events, as well as the effectiveness of the institutional system to convey information from event participants to the designated reporter, and other factors.¹⁰ Consequently, clear conclusions about the causes of observed event fluctuations and differences across facilities cannot be derived simply from the number of reports or fluctuations in the number of reports.¹¹

Acute care hospitals including children's hospitals submitted 314 (84%) of the 376 adverse event reports in 2018; chronic disease hospitals, 45; hospitals for the mentally ill, 13; and outpatient surgical facilities (if not owned by a hospital), 4. Fifty-nine percent (59%) of reported adverse events occurred in males and 41% in females. The majority of reports concerned patients over

⁹ The Department thanks Lisa Winkler of the Ambulatory Surgical Care Patient Safety Organization for assistance in gathering information from outpatient surgical centers.

¹⁰ Zegers et al, "Variation in the Rates of Adverse Events between Hospitals and Hospital Departments," *International Journal for Quality in Health Care* 2011:1-8; Attenello et al, "Incidence of 'Never Events' Among Weekend Admissions Versus Weekday Admissions to US Hospitals: National Analysis," *BMJ* 2015;350:h1460.

¹¹ For additional discussion of the limitations of passive incident reporting, see the Patient Safety section of the September 2011 issue of the Agency for Healthcare Research and Quality (AHRQ), Morbidity and Mortality Rounds at <http://webmm.ahrq.gov/>; Kaveh G. Shojania, "The Elephant of Patient Safety: What You See Depends Upon How You Look," *Joint Commission Journal on Quality and Patient Safety*, 36(9); September 2010, 399.

the age of 65 years. The most common location of occurrence was reported to be the hospital adult medical ward (Appendix A).

A substantial portion of reports did not indicate race or ethnicity. Race was missing for 48% and ethnicity was missing for 44%. Of reports that recorded race, the most common were white (92%) and black (7%). Hispanic ethnicity was recorded in 10% where ethnicity was stated.

Appendix B presents the number of adverse events reported by year for 2013 through 2018, according to the lists of NQF events (1A-7D). As of 2017 there are no longer Connecticut-specific events.

As shown in the chart below and Appendix C, the most commonly reported events in 2018 were pressure ulcers. One hundred ninety-four (194) pressure ulcers comprised 52% of all 376 adverse events reported. The second most commonly reported events were falls resulting in death or serious injury, with 106 reports (28%). Retention of a foreign object in a patient after surgery or other procedure followed with 28 reports (7%). The next most commonly reported event, at 11 instances, was surgery performed on the wrong body part (3%).

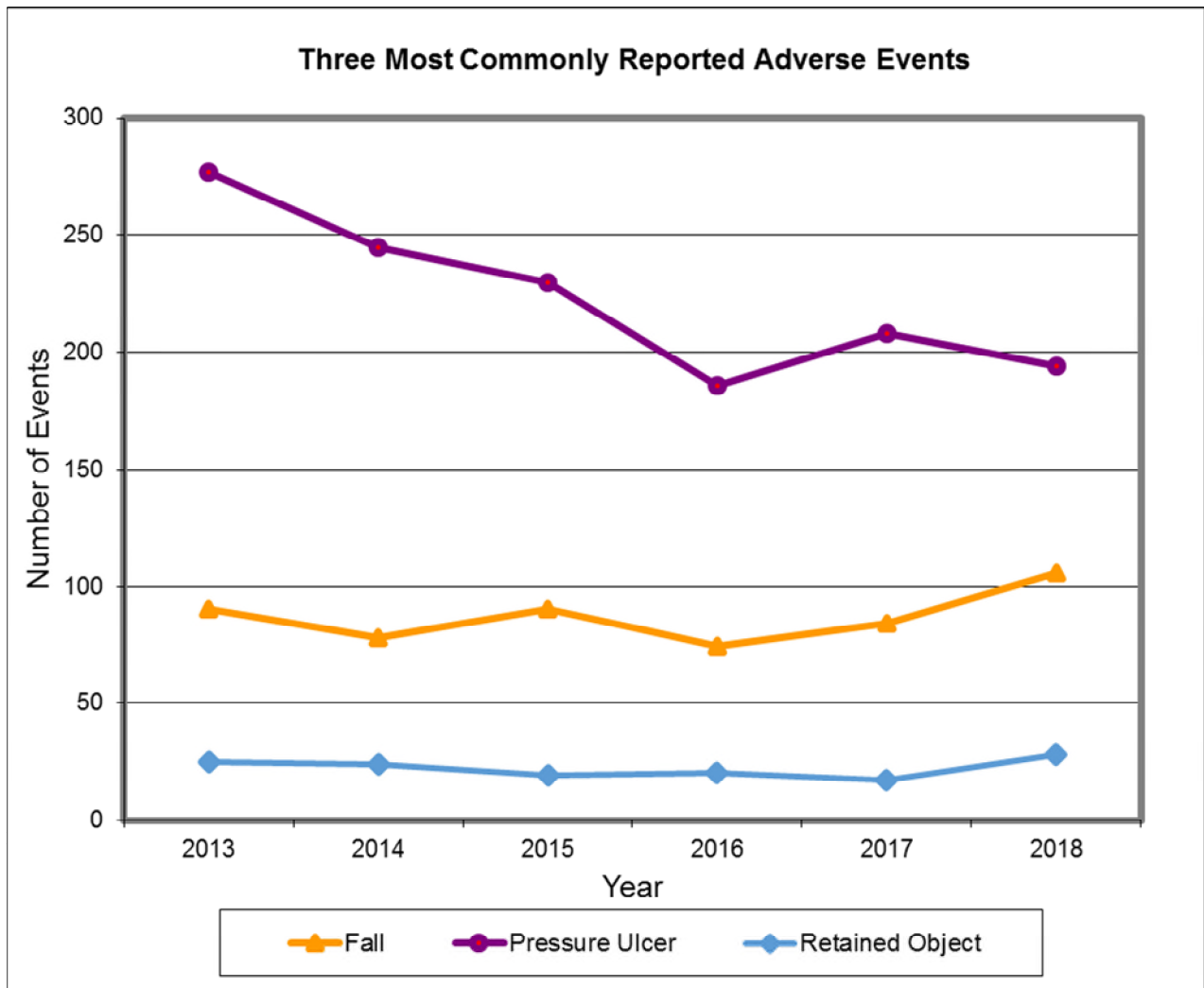
Following the peak in ulcers reported in 2013 (n=277), when unstageable ulcers became reportable, there was a decline through 2018 (n=194). As in recent years, in 2018 most (66%) ulcers were unstageable and there was a strong preponderance of males (66%) in the pressure ulcer reports. The percentage of males was highest in ages 15-44 (84%), followed by 45-64 (69%), 65-84 (66%), and 85 and older (54%). This pattern was partly caused by a dominance of men among spinal injuries in middle age, and the larger number of women living to old age, as has been reported elsewhere.¹² See the October 2014 and 2015 Adverse Event reports for additional analysis of pressure ulcers and the June 2013 Quality in Health Care Program report for subcommittee activity around pressure ulcers. Typically, Corrective Action Plans for stage 3-4 pressure ulcers include many or all of the following components:

- Inspect skin daily
- Manage moisture on skin
- Conduct a pressure ulcer admission assessment for all patients
- Minimize pressure
- Optimize nutrition and hydration
- Reassess risk for all patients daily

¹² Mervis JS, Phillips TJ, "Pressure Ulcers: Pathophysiology, Epidemiology, Risk Factors, and Presentation," *Journal of the American Academy of Dermatology* (2019), doi: <https://doi.org/10.1016/j.jaad.2018.12.069>. In 2018 the percentage of all hospitalizations in Connecticut where the patient was male was 29% in ages 15-44, 53% in ages 45-64, 49% in ages 65-84, and 38% in ages 85 and older. Among stays with primary diagnosis of spinal nerve injury (n=95; ICD-10 S14, S24, S34), 81% involved male patients, and 89% were between ages 15 and 84. Males were the large majority of spinal injury patients at every age, including the oldest. In the adverse event database, NQF 4F reports in 2018 for 17 males and 4 females contained 'spinal', 'plegia' or 'paraly' in event descriptions. An additional 8 males and 3 females had 'neuro' in the description. The male pressure ulcer predominance was present for coccyx, sacrum, or buttock (93:51), heel, nose, tracheotomy site, as well as deep tissue injury (26:14), while ear (n=8) had equal reports by sex. Some reports mentioned multiple sites (DPH analysis).

Reports of falls with serious injury or death increased from 84 in 2017 to 106 in 2018, the highest level since 2006 (but not significantly different from the average of 2004-2017; $P>0.05$). For more information about falls, see the June 2005 DPH Quality in Health Care report to the legislature.

Twenty-eight reports of “retained objects after surgery” in 2018 included sponge and packing (7), drain (4), guide wire (4), needle (2), and single mentions of different or unspecified items (11). This was an increase over 17 reports in 2017 and the highest level since the NQF reporting system was adopted in 2004 (but not significantly different from 2004-2017; $P>0.05$). There was no common theme or trend in the reports.



Eleven serious medication errors (NQF 4A) were reported in 5 males and 6 females. Five patients were age 65 and older. The only drug mentioned more than once was epinephrine (n=3), which is a known high risk medication. Twice it was administered intravenously rather than intramuscularly as intended. Once epinephrine was under-dosed in a pre-adolescent.

Six communication failures (NQF 4I) were reported, involving 3 males and 3 females. Four of the six were age 65 and older. In three instances a critical result was not communicated in time to the treating physician during a hospitalization. In 3 other instances a patient was not informed of a suspicious result, or did not schedule further examination until 6-18 months later when cancer was found. Among these latter, ability to speak English was “Well” in one patient, and not indicated in two events reported in 2018, but with event dates prior to the May 2017 implementation of reporting language proficiency.

Nine reports of assault (NQF 7D) involved 8 male and 1 female patients. Three were patient to patient injury, 3 were security personnel injury to patient, 2 were patient injury to nurse, and once a visitor injured the patient. No reports involved weapons. Six patients had psychiatric diagnoses and one, intoxication.

Adverse event counts, patient days, and rate by facility and event type in 2018 are shown in Appendices D-G. These represent, respectively, acute care hospitals (D), chronic care hospitals and hospices (E), hospitals for the mentally ill (F), ambulatory surgical centers, pain medicine centers, fertility centers, and outpatient childbirth centers (G). Not all adverse event categories are relevant to all facilities. For example, events associated with birth are not applicable in a facility that does not handle pregnancy, labor, and deliveries. Also, patient populations differ considerably between types of facilities.

For acute care and chronic care hospitals, the calculated rates are based on adverse events that occurred in the emergency department, inpatient, or an outpatient setting (in the numerator), but only inpatient days are used for the denominator of the rate. DPH decided to use inpatient days because previously it was found that outpatient day figures could not be reliably obtained from the acute care database. Many of the choices for “Location of Event” (Appendix A) could be either inpatient or outpatient.

Significant variation in facility reporting patterns are a common characteristic of passive surveillance systems (where the responsibility for reporting falls upon the health care provider) and this is not unique to Connecticut’s adverse events reporting system. A passive surveillance system “has the advantage of being simple and not burdensome” to administer, however “it is limited by variability and incompleteness in reporting.”¹³ Typically, data validation is a function of an active surveillance strategy that can be used to increase the completeness of reporting, as is being done in the separate Connecticut Healthcare Associated Infections program. However, data validation is often labor intensive and expensive, requiring dedicated resources. Without such validation it cannot be determined how complete facility reporting is. High reporting rates may reflect highly complete reporting in a facility with good quality of care, or perhaps modestly complete reporting in a facility with poor care, or neither better nor worse quality care, as noted earlier.

¹³ Steven M. Teutsch, “Considerations in Planning a Surveillance System,” in Steven M. Teutsch and R. Elliott Churchill, eds., *Principles and Practice of Public Health Surveillance*, 2nd ed. (New York: Oxford University Press, 2000), 22.

Appendix H is based on Connecticut inpatient billing data. It shows the primary payer for all patients seen at each facility. There is a positive correlation between the proportion of patients covered by Medicare and the average age of patients seen at a facility. Some studies have found an association between older age and greater risk of experiencing an adverse event. This hypothesis was tested for Connecticut (see the 2011 report). Due to the poor single year correlation in 2010, no calculation was made for later years. No attempt was made herein to risk adjust the rates based upon the average age of the population served or other contextual factors. Minimal correlation of age with total adverse events is partly due to adverse events being a heterogeneous category, with different causes and occurring in various locations (see the 2015 report).

Appendix I contains facility comments about safety efforts, as allowed for by PA 10-122.

CURRENT ACTIVITIES

During the course of healthcare inspection activities, DPH activities include, but are not limited to, a review of medical records to ensure that care has been provided in accordance with applicable state and federal laws and regulations and standards of care. Not only are inpatient medical records reviewed, but closed medical records as well. Such review includes compliance with the requirements of adverse event reporting and compliance with applicable state and federal laws and regulations.

Investigation of Adverse Events

The first responsibility for investigation of an adverse event lies with the facility in which the event occurred. Under Connecticut's Adverse Event reporting law, facilities are required to submit a corrective action plan to DPH for each reported adverse event.

An external investigation at a healthcare facility due to an adverse event may begin in several ways: (1) as a result of a complaint to DPH made by any person; (2) following a sentinel event report by the facility to the Joint Commission, a complaint to the Joint Commission by any person (see www.jointcommission.org), or an unannounced, onsite visit to a facility by the Joint Commission during which an adverse event becomes known; or (3) as a consequence of an adverse event report sent by the healthcare facility to DPH. The last of these routes is discussed here.

After examining an adverse event report, which includes a corrective action plan, the DPH Healthcare Quality and Safety Branch determines whether to initiate an investigation. Screening to rule out medical error is based on clinical judgment and/or objective medical criteria. The screening team consists of licensed healthcare clinicians at DPH.

The department conducts investigations regarding adverse event reports that may indicate a systems issue or issues related to inadequate standards of care. These investigations determine regulatory compliance versus noncompliance and provide additional information that may allow

one to distinguish between events that have been due to a medical error or system failure and those that have not. Investigations involving adverse events follow the same process as issues received through the public complaint process. Information is gathered through onsite inspection and observation, review of clinical records, interviews with institutional staff and vested parties as appropriate. The results of completed investigations are public, and may be obtained upon request, under the Freedom of Information (FOI) Act.

Patient Safety Organizations

Connecticut General Statutes § 19a-127*o* allows DPH to designate “Patient Safety Organizations” (PSOs) and § 19a-127*p* requires hospitals to contract with a PSO. The primary activity of a PSO is to improve patient safety and the quality of care delivered to patients through the collection, aggregation, analysis or processing of medical or health care related information submitted to the PSO by the health care provider. This “patient safety work product” may include reports, records, analyses, policies, procedures, or root cause analyses prepared exclusively for the purpose of disclosure to the PSO. The patient safety work product is confidential and not subject to use or access except to the PSO and the health care provider. The PSO will disseminate appropriate information or recommendations on best medical practices or potential system changes to improve patient care to the health care providers, DPH, the Quality of Health Care Advisory Committee, and the public. The department has designated four PSOs, including the Qualidigm Patient Safety Organization, the Connecticut Healthcare Research and Education Foundation Patient Safety Organization, the Ambulatory Surgical Center Patient Safety Organization, and QA to QI LLC.

Healthcare Associated Infections

The Healthcare Associated Infections (HAI) Committee, pursuant to § 19a-490 *n-o*, is separate from the Quality in Health Care Advisory Committee. Infections are reported through the CDC’s National Healthcare Safety Network (NHSN). Reports from the HAI Committee can be found on the DPH website (<https://portal.ct.gov/DPH/HAI/Healthcare-Associated-Infections-and-Antimicrobial-Resistance>).

Healthcare Acquired Conditions (including infections)

CMS Hospital Compare includes data about patient safety indicators, surgical complications, and healthcare associated infections: CLABSI, CAUTI, SSI, MRSA, and C Diff.¹⁴ Nursing Home Compare includes data about pressure ulcers, falls, UTI, and use of restraints.¹⁵

The Medicare Patient Safety Monitoring System (MPSMS) identifies adverse events from a national sample of patients who were hospitalized for acute myocardial infarction (AMI), congestive heart failure (HF), pneumonia, or any of several surgical procedures. The MPSMS

¹⁴ <https://www.medicare.gov/hospitalcompare/search.html>

¹⁵ <https://www.medicare.gov/nursinghomecompare/search.html>

uses 21 measures of adverse events. The measures differ from the NQF list used in the Connecticut adverse event reporting system that is the subject of this annual report.

CONCLUDING STATEMENT

After many years' experience with adverse events reporting in acute care settings, it is evident to DPH that this system provides value and enhances other existing patient safety systems and interventions. Regular review of the events and revisions, where appropriate, have kept the reporting system current and focused on important safety issues. The new, more robust, electronic reporting system enhances data collection and analysis. The manual method of adverse event reporting and data collection was time consuming. Automating the process of reporting and data collection has proven to be not only efficient for the healthcare provider, but has improved the operational efficiency for the Department and the quality of the data.

In addition, language proficiency and translation data raise awareness that appropriate communication in medical settings is not only respectful, vital to shared decision making, equity, and satisfaction, but is also a safety issue.

Collection of adverse event data in accordance with statutory requirements requires careful analyses which has led to system improvements in several Connecticut hospitals. Moreover, it is anticipated that continuation of adverse event reporting will not only enhance quality of care, but will likely lead to better patient outcomes for Connecticut's healthcare beneficiaries.

APPENDICES

Appendix A:
Demographic Data from Adverse Event Reports

Appendix B:
Counts and Crosswalk of Adverse Events Codes 2013-2018

Appendix C:
Adverse Event Reports by Frequency of Occurrence

Appendix D:
Acute Care Hospital
Adverse Event Reports and Rates by Facility and Event Type

Appendix E:
Chronic Disease Hospital and Hospice
Adverse Event Reports and Rates by Facility and Event Type

Appendix F:
Hospital for the Mentally Ill
Adverse Event Reports and Rates by Facility and Event Type

Appendix G:
Ambulatory Surgical Center, Pain Medicine Center,
Fertility Center, and Outpatient Childbirth Center
Adverse Event Reports and Rates by Facility and Event Type

Appendix H:
Primary Payer Source, by Facility

Appendix I:
Comments Submitted by Facilities

Appendix J:
Selected Patient Safety Literature Abstracts and Summaries

| Appendix A. | | |
|---|-----------|---------|
| Demographic Data from Adverse Event Reports in the Electronic Database, Connecticut 2018 | | |
| Measure | Frequency | Percent |
| Facility Type (n=376) | | |
| Acute Care or Children's Hospital | 314 | 83.5% |
| Chronic Disease Hospital | 45 | 12.0% |
| Hospital for Mentally Ill Persons | 13 | 3.5% |
| Outpatient Surgical Facility | 4 | 1.1% |
| Patient Gender (n=376) | | |
| Male | 221 | 58.8% |
| Female | 155 | 41.2% |
| Patient Age (n=376) | | |
| 0-14 | 12 | 3.2% |
| 15-44 | 48 | 12.8% |
| 45-64 | 91 | 24.2% |
| 65 and older | 225 | 59.8% |
| Location of Event (n=376) | | |
| Adult Medical | 127 | 33.8% |
| Adult Surgical | 20 | 5.3% |
| Ambulatory Surgical | 5 | 1.3% |
| Cardiac Care and Telemetry | 13 | 3.5% |
| Cardiac Cath Lab | 0 | 0.0% |
| Diagnostic Services | 4 | 1.1% |
| Dialysis | 0 | 0.0% |
| Emergency Department | 22 | 5.9% |
| Medical ICU | 44 | 11.7% |
| Neonatal ICU | 3 | 0.8% |
| Obstetrical/Gynecological | 4 | 1.1% |
| Operating Room | 26 | 6.9% |
| Other | 49 | 13.0% |
| Outpatient Services | 4 | 1.1% |
| Pediatrics | 2 | 0.5% |
| Psychiatric | 26 | 6.9% |
| Rehabilitative Services | 8 | 2.1% |
| Surgical ICU | 19 | 5.1% |

| Appendix A continued. | | |
|--|-----------|---------|
| Demographic Data from Adverse Event Reports | | |
| in the Electronic Database, Connecticut 2018 | | |
| Measure | Frequency | Percent |
| Inpatient/Outpatient (n=376) | | |
| Inpatient | 339 | 90.2% |
| Outpatient | 37 | 9.8% |
| Admission Type (n=376) | | |
| Hospital Based | 364 | 96.8% |
| Off Campus Satellite Site | 6 | 1.6% |
| Ambulatory Surgical Center | 6 | 1.6% |
| Patient Race (n=194) | | |
| White | 178 | 91.8% |
| Black or African American | 13 | 6.7% |
| Native Hawaiian or Other Pacific Islander | 1 | 0.5% |
| Asian | 2 | 1.0% |
| Patient Ethnicity (n=209) | | |
| Hispanic or Latino | 19 | 9.1% |
| Other Hispanic culture or origin | 1 | 0.5% |
| Not Hispanic or Latino | 165 | 78.9% |
| Other | 24 | 11.5% |
| Spoken Language (n=200) | | |
| English | 187 | 93.5% |
| Greek | 1 | 0.5% |
| Spanish | 9 | 4.5% |
| Other Language | 3 | 1.5% |
| English Proficiency (n=174) | | |
| Not Well | 1 | 0.6% |
| Not at All | 1 | 0.6% |
| Well | 29 | 16.7% |
| Very Well | 96 | 55.2% |
| Unknown | 39 | 22.4% |
| Interpreter Used? (n=376) | | |
| No | 366 | 97.3% |
| Yes | 10 | 2.7% |
| Patient Expired (n=376) | | |
| No | 355 | 94.4% |
| Yes | 21 | 5.6% |
| Frequency and percent reflect only the non-missing values. | | |

Appendix B. Counts of Adverse Event Codes 2013-2018

| Event Code | Description | Number of Reports | | | | | |
|------------|---|-------------------|------|------|------|------|------|
| | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| NQF 1A | Surgery performed on the wrong site | 13 | 15 | 13 | 18 | 10 | 11 |
| NQF 1B | Surgery performed on the wrong patient | 1 | 0 | 1 | 1 | 0 | 0 |
| NQF 1C | Wrong surgical procedure performed on a patient | 1 | 4 | 1 | 6 | 3 | 7 |
| NQF 1D | Retention of a foreign object in a patient after surgery or other procedure | 25 | 24 | 19 | 20 | 17 | 28 |
| NQF 1E | Intraoperative or immediate postoperative/postprocedure death in an ASA class I patient | 0 | 1 | 1 | 1 | 1 | 0 |
| NQF 2A | Patient death or serious injury associated with the use of contaminated drugs, devices, or biologics provided by the healthcare setting | 0 | 3 | 0 | 1 | 1 | 2 |
| NQF 2B | Patient death or serious injury associated with the use or function of a device in patient care in which the device is used or functions other than as intended | 3 | 2 | 5 | 1 | 1 | 0 |
| NQF 2C | Patient death or serious injury associated with intravascular air embolism that occurs while being cared for in a healthcare setting | 0 | 0 | 1 | 0 | 2 | 1 |
| NQF 3A | Discharge or release of a patient/resident of any age, who is unable to make decisions, to other than an authorized person | 0 | 0 | 1 | 2 | 0 | 1 |
| NQF 3B | Patient death or serious injury associated with patient elopement (disappearance) | 1 | 0 | 0 | 0 | 0 | 0 |
| NQF 3C | Patient suicide, attempted suicide, or self-harm that results in serious injury, while being cared for in a healthcare setting | 5 | 0 | 3 | 5 | 3 | 4 |
| NQF 4A | Patient death or serious injury associated with a medication error (e.g., errors involving the wrong drug, wrong dose, wrong patient, wrong time, wrong rate, wrong preparation or wrong route of administration) | 6 | 1 | 7 | 7 | 4 | 3 |
| NQF 4B | Patient death or serious injury associated with unsafe administration of blood products | 0 | 0 | 0 | 0 | 0 | 0 |
| NQF 4C | Maternal death or serious injury associated with labor or delivery in a low-risk pregnancy while being cared for in a healthcare setting | 2 | 0 | 1 | 3 | 0 | 1 |
| NQF 4D | Death or serious injury of a neonate associated with labor or delivery in a low-risk pregnancy | 1 | 4 | 5 | 2 | 1 | 0 |
| NQF 4E | Patient death or serious injury associated with a fall while being cared for in a healthcare setting | 90 | 78 | 90 | 74 | 84 | 106 |
| NQF 4F | Any Stage 3, Stage 4, or unstageable pressure ulcer acquired after admission/ presentation to a healthcare setting | 277 | 245 | 230 | 186 | 208 | 194 |
| NQF 4G | Artificial insemination with the wrong donor sperm or wrong egg | 0 | 0 | 0 | 0 | 0 | 0 |

Appendix B (cont.). Counts of Adverse Event Codes 2013-2018

| Event Code | Description | Number of Reports | | | | | |
|----------------------|---|-------------------|------------|------------|------------|------------|------------|
| | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| NQF 4H | Death or serious injury resulting from irretrievable loss of an irreplaceable biological specimen | 3 | 0 | 0 | 0 | 0 | 1 |
| NQF 4I | Patient death or serious injury resulting from failure to follow up or communicate laboratory, pathology, or radiology test results | 2 | 0 | 3 | 2 | 0 | 4 |
| NQF 5A | Patient or staff death or serious injury associated with an electric shock in the course of a patient care process in a healthcare setting | 0 | 0 | 0 | 0 | 0 | 0 |
| NQF 5B | Any incident in which systems designated for oxygen or other gas to be delivered to a patient contains no gas, the wrong gas, or are contaminated by toxic substances | 1 | 0 | 0 | 0 | 0 | 0 |
| NQF 5C | Patient death or serious injury associated with a burn incurred from any source in the course of a patient care process in a healthcare setting | 0 | 1 | 0 | 4 | 8 | 2 |
| NQF 5D | Patient death or serious injury associated with the use of physical restraints or bedrails while being cared for in a healthcare setting | 1 | 0 | 2 | 0 | 1 | 1 |
| NQF 6A | Death or serious injury of a patient or staff associated with the introduction of a metallic object into the MRI area. | 0 | 0 | 0 | 0 | 0 | 0 |
| NQF 7A | Any instance of care ordered by or provided by someone impersonating a physician, nurse, pharmacist, or other licensed healthcare provider | 2 | 1 | 0 | 0 | 0 | 0 |
| NQF 7B | Abduction of a patient/resident of any age | 1 | 0 | 0 | 0 | 0 | 1 |
| NQF 7C | Sexual abuse/assault on a patient or staff member within or on the grounds of a healthcare setting | 4 | 9 | 10 | 24 | 5 | 5 |
| NQF 7D | Death or serious injury of a patient or staff member resulting from a physical assault (i.e.battery) that occurs within or on the grounds of a healthcare setting | 3 | 1 | 0 | 2 | 2 | 4 |
| Total Reports | | 442 | 389 | 393 | 359 | 351 | 376 |

The definition of NQF 7C was clarified to include only substantiated allegations beginning January 2017.

Appendix C. Connecticut Adverse Events in 2018
Most Frequently Reported Events
NQF List (1A-7D)

| Event | Description | Frequency | Percent of All Events |
|-----------------------------------|---|------------|-----------------------|
| 4F | Unstageable, stage 3 or 4 pressure ulcers acquired after admission to a healthcare facility | 194 | 51.6% |
| 4E | Patient death or serious injury associated with a fall while being cared for in a healthcare facility | 106 | 28.2% |
| 1D | Retention of a foreign object in a patient after surgery or other procedure | 28 | 7.4% |
| 1A | Surgery performed on the wrong body part | 11 | 2.9% |
| 1C | Wrong surgical procedure performed on a patient | 7 | 1.9% |
| All other reported adverse events | | 30 | 8.0% |
| Total | | 376 | 100.0% |

Appendix D. Adverse Event Reports by Event Type and Facility
Acute Care Hospitals, Connecticut, 2018.*

| Hospital | Adverse Event Reports by Event Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|-------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 1A | 1B | 1C | 1D | 1E | 2A | 2B | 2C | 3A | 3B | 3C | 4A | 4B | 4C | 4D | 4E | 4F | 4G | 4H | 4I | 5A | 5B | 5C | 5D | 6A | 7A | 7B | 7C | 7D |
| Backus | | | | 1 | | | | | | | | | | | | 4 | 3 | | | | | | | | | | | | |
| Bridgeport | | | | 2 | | | | | | | | | | | | 3 | 15 | | | | | | 1 | | | | | | |
| Bristol | 1 | | 2 | | | | | | | | | | | | | 2 | 1 | | | | | | | | | | | 1 | |
| Ct Children's Medical Cntr | 1 | | | | | | | | | | 1 | | | | | 1 | 1 | | | | | | | | | | | | |
| Danbury | | | 1 | | | | | | | | | | | | | 6 | 7 | | | | | | | | | | | | |
| Day Kimball | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dempsey | | | | | | | | | | | | | | | | 4 | 2 | | | 1 | | | | | | | | | |
| Greenwich | 1 | | | 2 | | | | | | | | | | | | 4 | 4 | | | | | | | | | | | | |
| Griffin | 1 | | | | | | | | | | | | | | | 2 | 1 | | | | | | | | | | | | 1 |
| Hartford | | | 2 | 2 | | | | | | | | | | 1 | | 5 | 15 | | | 1 | | | | | | | | 2 | |
| Hungerford | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | |
| Hospital of Central Ct | | | | 1 | | | | | | | | | | | | 3 | 9 | | | | | | | | | | | | |
| Johnson | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | 1 |
| Lawrence & Memorial | | | | | | | | | | | | | | | | | 4 | | | | | | | | | | 1 | | |
| Manchester | | | 1 | 1 | | | | | | | | | | | | 1 | 1 | | 1 | | | | | | | | | | |
| Middlesex | | | | | | | | | | | 2 | | | | | 2 | 2 | | | | | | | | | | | 1 | |
| MidState | 1 | | | | | | | | | | | | | | | 2 | 3 | | | | | | | | | | | | |
| Milford | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Norwalk | | | | | | | | | | | | | | | | 5 | 7 | | | 1 | | | 1 | | | | | | |
| Rockville | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| St Francis | 1 | | | 1 | | | | | | | 1 | | | | | 1 | 22 | | | | | | | | | | | | 1 |
| St Mary's | | | | 2 | | | | | | | 1 | | | | | 2 | 4 | | | 1 | | | | | | | | | |
| St Vincent's | | | | 1 | | | | | | | | | | | | 5 | 6 | | | | | | | | | | | | |
| Sharon | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | | |
| Stamford | | | | 3 | | | | | | | | | | | | 6 | 22 | | | | | | | | | | | | |
| Waterbury | | | | 1 | | | | | | | | | | | | 3 | 6 | | | | | | | | | | | | |
| Windham | | | | | | | | | | | | | | | | 3 | 1 | | | | | | | | | | | | |
| Yale-NH | 2 | | | 9 | | 1 | | 1 | 1 | | | | | | | 6 | 34 | | | | | | 1 | | | | | | |
| All Acute Care | 8 | 0 | 6 | 27 | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 2 | 0 | 1 | 0 | 75 | 173 | 0 | 1 | 4 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 4 | 3 |

* Zero count cells are suppressed except in totals

Appendix D (continued).

Adverse Event Reports and Rates by Facility

Acute Care Hospitals, Connecticut, 2018.

| | CY 2018 | Patient | Rate per |
|---|------------|------------------|-------------|
| | Reports | Days* | 100,000 |
| Hospital | Total | CY 2018 | Pt Days* |
| William W. Backus Hospital | 8 | 48,984 | 16.3 |
| Bridgeport Hospital | 21 | 107,064 | 19.6 |
| Bristol Hospital | 7 | 28,108 | 24.9 |
| Connecticut Children's Medical Center | 4 | 44,627 | 9.0 |
| Danbury and New Milford Hospitals | 14 | 97,016 | 14.4 |
| Day Kimball Healthcare | 0 | 15,131 | 0.0 |
| John Dempsey Hospital | 7 | 43,777 | 16.0 |
| Greenwich Hospital | 11 | 52,229 | 21.1 |
| Griffin Hospital | 5 | 30,695 | 16.3 |
| Hartford Hospital | 28 | 243,442 | 11.5 |
| Charlotte Hungerford Hospital | 2 | 24,013 | 8.3 |
| Hospital of Central Connecticut | 13 | 66,552 | 19.5 |
| Johnson Memorial Hospital | 3 | 12,340 | 24.3 |
| Lawrence and Memorial Hospital | 5 | 64,184 | 7.8 |
| Manchester Memorial Hospital | 5 | 43,936 | 11.4 |
| Middlesex Hospital | 7 | 53,506 | 13.1 |
| Milford Hospital | 6 | 8,541 | 70.2 |
| MidState Medical Center | 1 | 36,179 | 2.8 |
| Norwalk Hospital | 14 | 51,843 | 27.0 |
| Rockville General Hospital | 1 | 15,193 | 6.6 |
| Saint Francis Hospital | 27 | 142,374 | 19.0 |
| Saint Mary's Hospital | 10 | 45,237 | 22.1 |
| Saint Vincent's Medical Center | 12 | 81,841 | 14.7 |
| Sharon Hospital | 3 | 5,441 | 55.1 |
| Stamford Hospital | 31 | 72,145 | 43.0 |
| Waterbury Hospital | 10 | 53,470 | 18.7 |
| Windham Community Memorial Hospital | 4 | 11,170 | 35.8 |
| Yale-New Haven Hospital | 55 | 432,078 | 12.7 |
| All Acute Care Hospitals | 314 | 1,931,116 | 16.3 |
| * Inpatient patient days are used as rate denominators. | | | |

**Appendix E. Adverse Event Reports by Event Type, Facility, and Rate per 100,000 Inpatient Days,
Chronic Disease Hospitals and Hospice, Connecticut, 2018.***

| Facility | Adverse Event Reports by Event Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|-------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1A | 1B | 1C | 1D | 1E | 2A | 2B | 2C | 3A | 3B | 3C | 4A | 4B | 4C | 4D | 4E | 4F | 4G | 4H | 4I | 5A | 5B | 5C | 5D | 6A | 7A | 7B | 7C | 7D |
| Ct Hospice | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gaylord | | | | | | | | | | | | | | | | 3 | 3 | | | | | | | | | | | | |
| Hsp Special Care | | | | 1 | | | | | | | | | | | | 4 | 15 | | | | | | | | | | | | 1 |
| Masonicare | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | |
| Mount Sinai | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| Veterans | | | | | | | | | | | | 1 | | | | 5 | 3 | | | | | | | | | | | | 1 |
| Hebrew Home | | | | | | | | | | | | | | | | 5 | | | | | | | | | | | | | |
| Chronic Disease | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 19 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

* Zero count cells are suppressed except in totals

| Facility | Reports Total | Patient* | Rate per |
|--------------------------------------|------------------|--------------|--------------------|
| | | Days 2018 | 100,000 Pt Days |
| The Connecticut Hospice | 0 | 9,691 | 0.0 |
| Gaylord Hospital | 6 | 39,287 | 15.3 |
| The Hospital for Special Care | 21 | 78,000 | 26.9 |
| Masonicare Health Center | 2 | 3,263 | 61.3 |
| Mount Sinai Rehabilitation Hospital | 1 | 12,594 | 7.9 |
| Levitow Veterans Health Center | 10 | 36,500 | 27.4 |
| Hebrew Home and Hospital | 5 | 7,875 | 63.5 |
| All Chronic Disease Hospitals | 45 | | |

* Inpatient days are used for rate calculation.

**Appendix F. Adverse Event Reports by Event Type, Facility, and Rate per 100,000 Inpatient Days
Hospitals for Mentally Ill Persons, Connecticut, 2018.***

| Adverse Event Reports by Event Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Facility | 1A | 1B | 1C | 1D | 1E | 2A | 2B | 2C | 3A | 3B | 3C | 4A | 4B | 4C | 4D | 4E | 4F | 4G | 4H | 4I | 5A | 5B | 5C | 5D | 6A | 7A | 7B | 7C | 7D |
| Natchaug | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| Silver Hill | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| Masonicare | | | | | | | | | | | | | | | | 11 | | | | | | | | | | | | | |
| Mental Health | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

* Zero count cells are suppressed except in totals

| Facility | Reports | Patient | Rate per |
|--|---------|---------|----------|
| | | Days | 100,000 |
| Total | Total | 2018 | Pt Days |
| Natchaug Hospital | 1 | 20,088 | 5.0 |
| Silver Hill Hospital | 1 | 11,271 | 8.9 |
| Masonicare Behavioral Health | 11 | 10,824 | 101.6 |
| All Hospitals for Mentally Ill Persons | 13 | | |

Appendix G. Adverse Event Reports by Event Type for Ambulatory Surgical Centers, Pain Medicine Centers, Fertility Centers, and Childbirth Centers. Connecticut, 2018.

| Facility | Adverse Event Reports by Event Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|-------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| | 1A | 1B | 1C | 1D | 1E | 2A | 2B | 2C | 3A | 3B | 3C | 4A | 4B | 4C | 4D | 4E | 4F | 4G | 4H | 4I | 5A | 5B | 5C | 5D | 6A | 7A | 7B | 7C | 7D | |
| Ct Childbirth & Women | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aesthetic Surg Center | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bloomfield ASC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Center for Adv Reprod | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Central Ct Endoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coastal Digestive Care | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Conn Eye, South | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Connecticut Fertility | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Connecticut Foot | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Conn GI Endoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Conn Orthopaedic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Conn Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CVW (Leif Nordberg) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Constitution Surg, East | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Danbury Surgical | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diagnostic Endoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Digestive Dis Endosc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eastern Ct Endoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endoscopy Center of Ct | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endoscopy, Fairfield | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Endoscopy, Northwest | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Evergreen Endoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye Surgery Center | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fairfield Surgery | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gary J. Price MD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Glastonbury Endoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Glastonbury Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gregory Brucato MD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Guilford ASC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hartford Surgical | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| John J. Borkowski MD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Laser and Vision Surg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Litchfield Hills Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Middlesex Endoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Middlesex Orthopedic | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naugatuck Endoscopy | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEMG Gastroenterology | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| New England Fertility | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| New Vision Cataract | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Haven Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Norwalk Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Orthopaedic Neurosurg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Orthopedic Associates | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plast Surg of South Ct | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reproductive Medicine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| River Valley/Ct Surg Arts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St Francis GI Endosc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shoreline Colonoscopy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shoreline Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Southington Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Speciality Surg Ctr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Split Rock Surgical | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SSC II | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Surg Center Fairfield | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Surg Center-Ct Hand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Waterbury Outpatient | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Western CT Ortho Surg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wilton Surgery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Yale Health Services | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| All Ambulatory Facilities | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Appendix G (continued). Adverse Event Reports and Rates, Outpatient Visits for Ambulatory Surgical Centers, Pain Medicine Centers, Fertility Centers, and Childbirth Centers, Connecticut, 2018.

| Facility | Location | Reports Total | Patient | per 100,000 |
|--|-----------------|------------------|----------------|---------------------------|
| | | | Visits 2018 | Pt visits Rate 2018 |
| Connecticut Childbirth & Women's Center | Danbury | 0 | 91 | 0.0 |
| Aesthetic Surgery Center ¹ | New Haven | 0 | 347 | 0.0 |
| Bloomfield Ambulatory Surgery Center ⁴ | Bloomfield | 0 | 1,634 | 0.0 |
| Center for Advanced Reproductive Services | Farmington | 0 | 2,128 | 0.0 |
| Central Connecticut Endoscopy Center | Plainville | 0 | 6,623 | 0.0 |
| Coastal Digestive Care Center | New London | 0 | 6,448 | 0.0 |
| Connecticut Eye Surgery Center South ⁴ | Milford | 0 | 8,052 | 0.0 |
| Connecticut Fertility (CLOSED) ² | Bridgeport | 0 | 253 | 0.0 |
| Connecticut Foot Surgery Center (Becoming Milford Surgery Center) ¹ | Milford | 0 | 354 | 0.0 |
| Connecticut GI Endoscopy | Bloomfield | 0 | 5,718 | 0.0 |
| Connecticut Orthopaedic | Hamden | 0 | 4,204 | 0.0 |
| Connecticut Surgery | Hartford | 0 | 1,686 | 0.0 |
| Constitution Eye Surgery Center East | Waterford | 0 | 6,723 | 0.0 |
| CVW Body Design (Leif O. Nordberg, MD) ⁴ | Stamford | 0 | 301 | 0.0 |
| Danbury Surgical Center | Danbury | 0 | 6,549 | 0.0 |
| Diagnostic Endoscopy | Stamford | 0 | 6,210 | 0.0 |
| Digestive Disease Associates Endoscopy Suite | Branford | 0 | 2,323 | 0.0 |
| Eastern Connecticut Endoscopy Center | Norwich | 0 | 5,188 | 0.0 |
| Endoscopy Center of Connecticut | Guilford/Hamden | 0 | 8,571 | 0.0 |
| Endoscopy Center of Fairfield, The | Fairfield | 0 | 10,391 | 0.0 |
| Endoscopy Center of Northwest Connecticut | Torrington | 0 | 3,413 | 0.0 |
| Evergreen Endoscopy Center ⁴ | South Windsor | 0 | 5,300 | 0.0 |
| Eye Surgery Center, The | Bloomfield | 0 | 1,476 | 0.0 |
| Fairfield Surgery Center | Fairfield | 1 | 1,680 | 59.5 |
| Gary J. Price, MD, Center for Aesthetic Surgery | Guilford | 0 | 120 | 0.0 |
| Glastonbury Endoscopy Center, LLC | Glastonbury | 0 | 7,887 | 0.0 |
| Glastonbury Surgery Center | Glastonbury | 0 | 4,778 | 0.0 |
| Guilford Surgery Center | Guilford | 0 | 2,350 | 0.0 |
| Hartford Surgical Center ⁴ | Hartford | 0 | 1,800 | 0.0 |
| John J. Borkowski, MD (Becoming Rocky Hill) ⁴ | Middletown | 0 | 26 | 0.0 |
| Laser and Vision Surgery Center ¹ | Manchester | 0 | 1,966 | 0.0 |
| Litchfield Hills Surgery Center | Torrington | 0 | 1,364 | 0.0 |
| Middlesex Center for Advanced Orthopedic Surgery | Middletown | 1 | 3,746 | 26.7 |
| Middlesex Endoscopy Center | Middletown | 0 | 6,869 | 0.0 |
| Naugatuck Valley Endoscopy Center (Now Waterbury Surgery Center) | Waterbury | 1 | 6,208 | 16.1 |
| NEMG Gastroenterology | Trumbull | 0 | 5,827 | 0.0 |
| New England Fertility Institute (CLOSED) ³ | Stamford | 0 | 250 | 0.0 |
| New Vision Cataract Center | Norwalk | 0 | 2,446 | 0.0 |
| North Haven Surgery/Pain Medicine Center | North Haven | 0 | 3,668 | 0.0 |
| Norwalk Surgery Center | Norwalk | 0 | 3,345 | 0.0 |
| Orthopaedic & Neurosurgery Center of Greenwich (Stamford ASC) | Greenwich | 0 | 3,908 | 0.0 |
| Orthopedic Associates Surgery Center | Rocky Hill | 1 | 7,001 | 14.3 |
| Plastic Surgery of Southern Connecticut | Westport | 0 | 14 | 0.0 |
| Reproductive Medicine Associates of Connecticut | Norwalk | 0 | 1,213 | 0.0 |
| River Valley Ambul Surg/Connecticut Surgical Arts | Norwich | 0 | 3,038 | 0.0 |
| Saint Francis GI Endoscopy | Windsor | 0 | 6,151 | 0.0 |
| Shoreline Colonoscopy Suites | Old Saybrook | 0 | 475 | 0.0 |
| Shoreline Surgery Center (Now Shoreline Endoscopy) | Guilford | 0 | 6,472 | 0.0 |
| Southington Surgery Center | Southington | 0 | 4,520 | 0.0 |
| Split Rock Surgical Associates ⁴ | Wilton | 0 | 152 | 0.0 |
| SSC II (CLOSED) ⁴ | Guilford | 0 | 3,032 | 0.0 |
| Speciality Surgery Center ⁴ | Stamford | 0 | 1,392 | 0.0 |
| Surgery Center of Fairfield County | Bridgeport | 0 | 4,336 | 0.0 |
| Surgical Center of CT-CT Hand ⁴ | Bridgeport | 0 | 3,090 | 0.0 |
| Waterbury Outpatient Surgical Center | Waterbury | 0 | 2,067 | 0.0 |
| Western CT Ortho Surgical Center ⁴ | Danbury | 0 | 3,233 | 0.0 |
| Wilton Surgery Center | Wilton | 0 | 6,657 | 0.0 |
| Yale University Health Services ASC | New Haven | 0 | 1,241 | 0.0 |
| All Facilities | | 4 | | |

¹ 2016 patient visits data. ² 2015 patient visits data. ³ 2014 patient visits data. ⁴ 2017 patients visit data.

| Appendix H. | | | | | |
|--|-------------|--------------|--------------|---------------------------|--------------|
| Primary Payer (%) of Inpatient Hospital Bills | | | | | |
| Acute Care Hospitals. Connecticut, CY 2018. | | | | | |
| | | | | | |
| Hospital | Self Pay | Medicare | Medicaid | Blue Cross and Commercial | Other |
| William W. Backus Hospital | 1.3 | 47.8 | 22.1 | 13.9 | 15.0 |
| Bridgeport Hospital | 3.3 | 41.7 | 29.9 | 18.9 | 6.2 |
| Bristol Hospital | 1.6 | 48.3 | 25.3 | 17.1 | 7.7 |
| Connecticut Children's Medical Center | 0.6 | 0.4 | 53.6 | 27.4 | 18.0 |
| Danbury and New Milford Hospitals | 1.6 | 49.3 | 17.2 | 17.9 | 14.1 |
| Day Kimball Healthcare | 1.2 | 48.5 | 24.8 | 17.1 | 8.4 |
| John Dempsey Hospital | 0.6 | 43.1 | 25.8 | 6.9 | 23.6 |
| Greenwich Hospital | 5.4 | 34.1 | 4.3 | 41.2 | 15.0 |
| Griffin Hospital | 0.8 | 48.8 | 22.2 | 13.7 | 14.4 |
| Hartford Hospital | 1.3 | 43.4 | 23.0 | 14.2 | 18.2 |
| Charlotte Hungerford Hospital | 1.1 | 55.5 | 22.9 | 10.7 | 9.8 |
| Hospital of Central Connecticut | 1.2 | 44.3 | 27.5 | 11.5 | 15.5 |
| Johnson Memorial Hospital | 1.4 | 44.4 | 28.4 | 4.3 | 21.5 |
| Lawrence and Memorial Hospital | 3.1 | 46.2 | 21.7 | 20.6 | 8.4 |
| Manchester Memorial Hospital | 1.5 | 38.8 | 25.2 | 14.1 | 20.5 |
| Middlesex Hospital | 1.2 | 41.1 | 16.6 | 17.9 | 23.2 |
| Milford Hospital | 1.3 | 66.3 | 8.5 | 11.0 | 12.9 |
| MidState Medical Center | 0.9 | 49.6 | 20.9 | 12.6 | 16.0 |
| Norwalk Hospital | 2.5 | 47.5 | 19.4 | 13.2 | 17.4 |
| Rockville General Hospital | 0.8 | 60.6 | 18.1 | 9.8 | 10.7 |
| Saint Francis Hospital | 1.6 | 46.2 | 23.8 | 4.4 | 24.1 |
| Saint Mary's Hospital | 2.0 | 49.2 | 28.2 | 4.5 | 16.2 |
| Saint Vincent's Medical Center | 3.6 | 44.2 | 25.2 | 13.0 | 14.0 |
| Sharon Hospital | 0.0 | 57.5 | 10.1 | 10.4 | 22.0 |
| Stamford Hospital | 1.0 | 36.8 | 25.1 | 18.1 | 19.0 |
| Waterbury Hospital | 1.4 | 45.0 | 32.2 | 11.4 | 10.0 |
| Windham Community Memorial Hospital | 1.0 | 61.7 | 18.5 | 8.9 | 9.9 |
| Yale-New Haven Hospital | 2.9 | 37.9 | 24.9 | 24.3 | 10.1 |
| Total | 2.0% | 42.9% | 23.7% | 16.5% | 14.9% |

Data Source: DPH Environmental & Occupational Health Assessment Section.

| Appendix H (continued). | | | | | |
|---|----------|----------|----------|----------------|-------|
| Primary Payer (%) of Bills, | | | | | |
| Hospices, Chronic Disease Hospitals, and Hospitals for Mentally Ill Persons. | | | | | |
| Connecticut, 2018. | | | | | |
| | | | | Blue Cross | |
| Facility | Self Pay | Medicare | Medicaid | and Commercial | Other |
| The Connecticut Hospice | | 87.3 | 4.4 | 8.3 | |
| Gaylord Hospital | | 48.7 | 10.4 | 37.1 | 3.8 |
| The Hospital for Special Care | 0.2 | 10.7 | 80.6 | 8.5 | |
| Masonicare Health Center, Chronic Disease Hospital | 0.1 | 32.1 | | 67.8 | |
| Mount Sinai Rehabilitation Hospital | 0.1 | 60.7 | 17.2 | 11.5 | 10.5 |
| Levitow Veterans Health Center | | | 78.0 | | 22.0 |
| Hebrew Home and Hospital | | 77.3 | 5.7 | 17.0 | |
| Natchaug Hospital | | 17.0 | 29.0 | 29.0 | 25.0 |
| Silver Hill Hospital | 3.2 | 15.7 | | 81.1 | |
| Masonicare Behavioral Health | | 67.9 | | 32.1 | |

**Appendix H (continued). Case Mix or Primary Payer (%) of Bills
Ambulatory Surgical Centers, Pain Medicine Centers, Fertility Centers,
and Outpatient Childbirth Centers, Connecticut, 2018.**

| Facility | Case Mix | Self Pay | Medicare | Medicaid | Blue Cross and Commercial | Other |
|--|--|----------|----------|----------|------------------------------|--------|
| Connecticut Childbirth & Women's Center | | 4.4% | | 18.7% | 76.9% | |
| Aesthetic Surg Center ¹ | | 60.0% | | | 40.0% | |
| Bloomfield Ambulatory Surgery Center ⁴ | | <1% | 50.0% | 2.0% | 46.0% | <1% |
| Center for Advanced Reproductive Services | | 20.0% | | | 75.0% | 5.0% |
| Central Connecticut Endoscopy Center | | 0.1% | 33.6% | 6.3% | 59.8% | 0.1% |
| Coastal Digestive Care Center | | | 19.0% | 11.0% | 67.0% | 3.0% |
| Connecticut Eye Surgery Center South ⁴ | | <1% | 46.0% | 3.0% | 25.0% | 25.0% |
| Connecticut Fertility (CLOSED) ² | | 70.0% | | | 30.0% | |
| Connecticut Foot Surgery Center ¹ | | 2.0% | 25.0% | 3.0% | 70.0% | |
| Conn GI Endoscopy | | 1.0% | 16.4% | 4.0% | 78.8% | |
| Conn Orthopaedic | | 0.5% | 25% | 0.5 | 55% | 19% |
| Conn Surgery | | 0.1% | 15.7% | 3.0% | 69.8% | 11.1% |
| Constitution Eye Surgery Center, East | | 0.1% | 19.0% | 4.0% | 75.8% | 0.8% |
| CVW Body Design (Leif O. Nordberg, MD) ⁴ | | 27.0% | 12.0% | 15.0% | 46.0% | |
| Danbury Surgical Center | GI-39%, Ophth-37.3%, Ortho-19.6%, Pain-2%, Plastics 1.1%, ENT 1% | | | | | |
| Diagnostic Endoscopy | | 0.1% | 21% | | 79% | |
| Digestive Dis Endosc | | 1.0% | 35.0% | 15.0% | 40.0% | 9.0% |
| Eastern Ct Endoscopy | | 0.1% | 20.4% | 15.7% | 40.2% | 54.6% |
| Endoscopy Center of Ct | | 0.1% | 34.0% | 5.0% | 60.0% | |
| Endoscopy Center of Fairfield, The | | 0.2% | 18.0% | | 72.0% | 9.0% |
| Endoscopy, Northwest | | 0.4% | 23.0% | 9.6% | 66.0% | |
| Evergreen Endoscopy Center ⁴ | | 0.0% | 20.5% | 12.4% | 63.5% | 3.6% |
| Eye Surgery Center | 100% Ophthalmology | | | | | |
| Fairfield Surgery | 100% Ortho | | | | | |
| Gary J. Price, MD, Center for Aesthetic Surgery | | 100.0% | | | | |
| Glastonbury Endoscopy | | 0.5% | 12.0% | 4.0% | 83.0% | 0.5% |
| Glastonbury Surgery | | 0.2% | 25.7% | 5.7% | 68.3% | |
| Guilford Surgery Center | | 3.0% | 18.0% | 2.0% | 74.0% | 5.0% |
| Hartford Surgical Center ⁴ | | <1% | 22.0% | 11.7% | 66.1% | |
| John J. Borkowski, MD (Becoming Rocky Hill) ⁴ | | 100.0% | | | | |
| Laser and Vision Surg ¹ | | 1.0% | 58.0% | 4.0% | 29.0% | 8.0% |
| Litchfield Hills Surgery Center | | 0.1% | 22.4% | 1.0% | 59.3% | 17.0% |
| Middlesex Endoscopy | | 0.1% | 23.3% | 7.9% | 67.8% | 0.8% |
| Middlesex Orthopedic | | | 13.8% | 3.0% | 52.9% | 30.3% |
| Naugatuck Endoscopy | | 0.1% | 21.0% | 21.0% | 25.0% | 42.0% |
| NEMG Gastroenterology | | <1% | 31.0% | 4.0% | 25.0% | 40.0% |
| New England Fertility Institute (CLOSED) ³ | | 80.0% | | | 20.0% | |
| New Vision Cataract Center | | 21.0% | 49.0% | 5.0% | 25.0% | |
| North Haven Surgery | | 0.1% | 22.5% | 22.2% | 51.0% | 3.8% |
| Norwalk Surgery | | 0.6% | 30.6% | 4.6% | 53.2% | 11.0% |
| Orthopaedic Neurosurg (Stamford ASC) ⁴ | | <1% | 31.5% | | 67.0% | 1.0% |
| Orthopedic Associates | | 0.1% | 19.8% | 3.0% | 63.9% | 13.4% |
| Plastic Surgery of Southern Connecticut | 100% plastic surgery | | | | | |
| Reproductive Medicine | | 25.0% | | | 75.0% | |
| River Valley Ambul Surg/Connecticut Surgical Arts | | 1.0% | 16.0% | 8.0% | 71.0% | 2.0% |
| St Francis GI Endosc | | 0.1% | 14.8% | 2.2% | 82.8% | |
| Shoreline Colonoscopy Suites | | | 18.0% | 2.0% | 80.0% | |
| Southington Surgery | | 0.2% | 30.2% | 3.1% | 55.3% | 11.1% |
| Shoreline Surgery Center (Now Shoreline Endoscopy) | | | 32.9% | 2.2% | 64.8% | 0.1% |
| Split Rock Surgical Associates ⁴ | | 100.0% | | | | |
| SSC II (CLOSED) ⁴ | | 16.2% | 22.9% | 2.4% | 53.9% | 4.6% |
| Speciality Surgery Center ⁴ | | <1% | 11.0% | 1.0% | 88.0% | <1% |
| Surg Center Fairfield | | 3.0% | 31.0% | 4.0% | 57.0% | 5.0% |
| Surgical Center of CT-CT Hand ⁴ | | 5.0% | 23.0% | 10.0% | 55.0% | 7.0% |
| Waterbury Outpatient | | 8.5% | 61.5% | 13.7% | 15.8% | 0.4% |
| Western CT Ortho Surgical Center ⁴ | | <1% | 24.0% | <1% | 68.0% | 7.0% |
| Wilton Surgery | | 0.5% | 45.8% | 6.7% | 45.5% | 1.4% |
| Yale Health Services | | | | | | 100.0% |

¹ 2016 data. ² 2015 data. ³ 2014 data. ⁴ 2017 data.

Appendix I: Comments Submitted by Facilities

In accordance with legislation, facilities that are required to report adverse events to DPH may submit comments to the department for inclusion in the annual report to the legislature. Submitting comments is optional, not required. DPH encourages comments describing how a facility used data to measure or track adverse events or quality of care and measurably improve care or decrease adverse events.

Presented below is information submitted by those facilities providing comments:

Hospital for Special Care
Day Kimball Hospital
Middlesex Hospital
Stamford Hospital
Western Connecticut Health Network
Saint Mary's Hospital
Saint Francis Hospital and Medical Center

Hospital for Special Care

None of the events reported resulted in permanent patient harm or patient death. Hospital for Special Care serves patients with the most medically complex diagnoses, providing care for extended periods (months or years), during which the patient experiences no adverse events. Our care is patient-centered, balancing quality of life with unique needs of the long-term care population. We review every safety event to prevent or reduce reoccurrence.

Day Kimball Hospital

Day Kimball Hospital is committed to patient safety and employs a multitude of processes to prevent adverse events. We are transparent in addressing events when they do occur. We take every event seriously and work to identify practices, processes and protocols necessary to prevent similar issues in the future. Most importantly, we work diligently to provide the highest level of patient safety possible.

- Our quality department proactively educates our staff on patient safety topics, consistently reviews processes and policies, and institutes case reviews as needed.
- Day Kimball Hospital immediately addresses each adverse event, conducts root cause analysis and provide feedback to staff.
- Day Kimball Hospital conducts thorough review of Sentinel Event Alert from The Joint Commission in order to identify additional strategies and other opportunities for quality improvement initiatives for injuries that seem to be trending across the country.
- Day Kimball Hospital is certified as a Hip and Knee Joint Replacement Program by The Joint Commission.
- Day Kimball Hospital is certified as a Primary Stroke Center by the Joint Commission.
- We implemented an electronic safety event reporting system effective January 1, 2019.

- We have committed to working with the Studer Group to improve the patient experience.
- We have trained 92% of our employees in High Reliability as of December 31, 2018.

Day Kimball Hospital continues to be proactive in integrating best practices learned through our own experiences and comprehensive analyses as well as through collaboration with Connecticut Hospital Association (CHA).

Some initiatives Day Kimball Hospital is actively working on in collaboration with CHA include but not limited to:

- 1) High Reliability Training
- 2) Workplace Violence
- 3) Workplace Safety
- 4) Standardize Emergency Codes
- 5) Committee on Patient Safety
- 6) Committee on Patient Care Quality

We have committed to serve as a champion and trainer for Connecticut’s “Safety Starts with Me”. The safety of patients and employees has always been a priority. The Safety Starts with Me initiative is about sharpening our focus to create a culture of safety – adopting and ingraining shared values and beliefs about how we act and interact – so that we can make our organization an even safer place with fewer human errors and fewer events of harm. We currently have 30 employees certified as instructors for High Reliability. We are having monthly classes to capture new hires and existing employees who have not yet attended. We take very seriously the trust our community places in us, and commit to continuously improving patient-centered quality and safety.

Middlesex Hospital

The employees, physicians, and leaders of Middlesex Hospital are dedicated to providing the safest, highest - quality care and the best possible experience to the community we serve. It is our mission and the reason we exist as a health care system.

There is no issue more important to us than the safety of our patients, visitors and staff. The science behind the concept of High Reliability is proven to decrease human and systems errors, and eliminate preventable harm. To that end, Middlesex made the decision to become one of the first in a group of Connecticut Hospitals to collaborate through the Connecticut Hospital Association to learn and implement the tools and techniques of High Reliability. Our work began in 2013 with the training of 100% of our employees and medical staff who, once trained, began to implement the mandatory use of a standardized set of tools in their daily work, patient care, and communication with each other. This was the beginning of a transformational change which is now constant and widely accepted as the way we do business: all of us, every day, in every situation, and with every patient. In this transformation to zero harm we have decreased the number of serious safety events by over 85% in 6 years.

One specific example of the work we have done to improve outcomes is related to a complication which can follow surgery, known as deep vein thrombosis (DVT), in which a clot can form in a vein and then move to the lungs. Through the use of practice guidelines and systematic process improvement of things such as preventive medications, early ambulation, and use of mechanical devices, we have observed a significant reduction in our rate of DVT, particularly in people having total joint replacements.

Our transformation to becoming harm-free is a long term and ongoing process. We continue to collaborate with other hospitals and organizations to learn and implement new ways of improving reliability, care, and outcomes. Again, it is our mission and, as such, will always be the top priority.

Finally, to anyone who has been affected by an adverse event while a patient at Middlesex Hospital, to their family members and loved ones, we sincerely apologize for any impact of such an event, and assure you that we strive to learn as much as we can from any event in order to do our best to prevent it from happening again.

Stamford Hospital

“Stamford Health is committed to patient safety and to providing the highest quality of patient care. We maintain a comprehensive pressure injury prevention program, which includes a specialized team of certified wound specialists, comprehensive nursing skin assessments, annual educational programs for clinical staff, and the deployment of specialized devices to enable pressure injury prevention. The hospital acquired pressure injuries presented in this report reflect a small subset of hospital acquired pressure injuries overall. To comprehensively evaluate overall hospital acquired pressure injury rates, we participate in the National Database of Nursing Quality Indicators (NDNQI). This database allows our hospital to benchmark quality outcomes against similar hospitals nationally. In 2018, 75% of Stamford Hospital patient care units performed better than national benchmarks for hospital acquired pressure injuries.

Stamford Health is committed to surgical safety and has a comprehensive surgical and perioperative safety program. The program includes dedicated policies, protocols, and checklists to promote safe surgical practice. The surgical team utilizes novel approaches such as team training and simulation modules to promote communication and safety in the operating room. The organization has added a number of new technologies to promote high quality care, such as radiofrequency wand, as an adjunct to its processes on surgical foreign body detection. The effectiveness of these efforts are monitored continuously through direct observation audits and quality measures. Stamford Health participates and benchmarks favorably in a number of national surgical databases focused on quality and safety, including databases of the American College of Surgeons National Surgical Quality Improvement Program, the Society of Thoracic Surgeons, and the National Perinatal Information Center, among others.”

Western Connecticut Health Network

Western Connecticut Health Network (WCHN) continues its commitment to improve the health of every person we serve through the efficient delivery of excellent, innovative and compassionate care. Our Network of Danbury/New Milford and Norwalk Hospitals strives to deliver the highest quality of care and with a focus on improvement, innovation and education. We approach our work with the highest standards of transparency, honesty and ethical behavior.

We remain engaged and committed to Connecticut Hospital Association's statewide high reliability collaborative to reduce preventable harm and hospital acquired conditions. As a result of this active engagement, WCHN is proud of continued reduction in preventable serious safety events and continues to actively review every occurrence for lessons learned to hardwire interventions to permanently reduce harm to zero.

Saint Mary's Hospital

Saint Mary's Hospital, a member of Trinity Health of New England, is committed to promoting patient safety and eliminating preventable patient harm. We continue to promote and strengthen our culture of safety ascribing to the High Reliability Organization principles. We embarked on this safety journey back in 2013 in collaboration with the Connecticut Hospital Association.

In the fall of 2018, Saint Mary's Hospital implemented Lean Daily Management Gemba rounding throughout the organization, which involves daily huddles with review of quality and operational metrics, by both leadership and staff, focusing on continuous improvement initiatives.

Current Patient Safety Initiatives include but no limited to:

- **Critical Value Reporting:** We have successfully revised and implemented a new Critical Value reporting policy with audited compliance.
- **Sponge ACCOUNTing System Training:** In an effort to prevent retained surgical items, Trinity Health provided "Sponge ACCOUNTing System" training, authored by Verna Gibbs, M.D. The sessions were held in March of 2019 for all ministries within Trinity Health of New England, which includes Saint Francis Hospital, Saint Mary's Hospital, Johnson Memorial Hospital, Mount Sinai Rehabilitation Hospital and Mercy Medical Center in Springfield. The training included members of the Operating Room, Labor & Delivery, Interventional Radiology and the Cardiac Cath Lab. The program has an expected go-live date of June 30, 2019.
- **Fall Prevention:** Nursing has implemented purposeful rounding in patient areas. Fall Debriefing huddles are conducted weekly with front line nursing staff involved in patient fall events to identify OFI's and shared learnings.
- **Adverse Event Shared Learning:** Safety Alert SBAR communication shared with staff at Safety Huddles following adverse and safety events.
- **Safety News Letter:** Disseminated to all colleagues monthly.

Patient safety continues to be a top priority for Saint Mary's Hospital.

Saint Francis Hospital and Medical Center

Saint Francis Hospital and Medical Center continues its unwavering commitment to patient safety. To further promote High Reliability Training, a collaboration was developed between Saint Francis Hospital & Medical Center, the Connecticut Hospital Association, and the Connecticut Surgical Quality Collaborative. During the last quarter of 2018, High Reliability Training in the Surgical and Perioperative Setting was offered to members of the Collaborative in a series of four interactive and comprehensive educational sessions. The sessions provided an opportunity to reinforce high reliability knowledge and to have participants actively engage in case studies, further knowledge development and critical thinking pertaining to everyday surgical and peri-operative work and the implications of high reliability efforts through the practice of the safety behaviors and deep dives to determine root cause. The sessions provided the application of high reliability principles for worker safety, demonstrated how the application of high reliability principles relate to patient and family engagement, while reviewing evidence-based practices to support the patients and families we serve. Communication tools were provided to promote understanding of instructions, procedures and conditions for patients and their families, while providing methods to improve patient and family health literacy, as well as the tools to decrease preventable harm in pre-op, operating and procedure rooms and in the Post-Anesthesia Care Unit.

After experiencing several Adverse Events with Retained Surgical Items, our Trinity Health system office provided Sponge ACCOUNTing System training, authored by Verna Gibbs, M.D. Training sessions were held during March of 2019 for all ministries within Trinity Health of New England, which includes Saint Francis Hospital, Saint Mary's Hospital, Johnson Memorial Hospital, Mount Sinai Rehabilitation Hospital and Mercy Medical Center in Springfield. The Sponge ACCOUNTing System training involved members of the Operating Room, Labor & Delivery, Interventional Radiology, the Cath Lab and the Electrophysiology Lab. The program has an expected go-live date of June 30, 2019.

In February of 2018, Saint Francis instituted a peer support program, entitled HOPE (Helping Our Peers Endure). This program provides support to all colleagues when involved in an unanticipated adverse event, a patient related event or a personal situation that causes emotional trauma. HOPE provides support and resources to assist in healing and resolution to all our colleagues. We currently have 54 multidisciplinary peer supporters in our program which is continuing to grow at Saint Francis Hospital and will be expanded to other facilities within Trinity Health of New England.

Appendix J: Selected Patient Safety Literature Summaries and Abstracts¹⁶

Blame: What does it look like? Duthie, Elizabeth A. *Nursing Management*: November 2018 - Volume 49, Issue 11, p 18–21. doi: 10.1097/01.NUMA.0000547256.76967.9e

Gilda reported that she was on the way to room 416 to give John Smith his antibiotic when Suzy in room 412 invited her to hear good news. Gilda entered room 412 with the antibiotic in hand. Suzy was happy to report that Adam's abscess was to be treated with antibiotics and he wouldn't need surgery. The word antibiotic must have come up at least five times during the discussion. As she was leaving room 412, Gilda looked down, saw the drug, and thought, "Oh no, I forgot to give him his antibiotic." She hung it not realizing she hadn't performed the identification checks. When she went to document the drug at the medication cart, she recognized that she gave the medication to the wrong patient. She immediately took the drug down before the medication had time to reach the patient's bloodstream.

Gilda didn't decide to omit checking the patient's ID bracelet. Instead, she decided to respond to Suzy's request to come into her husband's room. Once Gilda went into the room, typical cognitive errors occurred. She had a memory lapse, forgetting the medication was intended for another patient. Calling Adam by his name told her she knew the patient and fooled her brain into thinking she had performed the identification checks. The discussion about antibiotics sent a subliminal message that connected the drug in Gilda's hands to this patient. These cognitive human errors were outside of Gilda's control. The decision to enter the patient's room with a medication intended for another patient was within her control. Her failure to verify the patient's identity wasn't a decision to disregard the five rights of medication administration. Caroline's well-intentioned warning to follow the five rights was a futile solution that created fear, leaving Gilda with no strategies to prevent the error and no understanding of how it had happened, just anxiety that it might happen again.

Caroline didn't decide to blame Gilda. We can't change what we never intended to do. We can only change the decision that led up to that event. What was Caroline's decision? She decided to support Gilda and communicate high standards, which included following procedures. The problem is that Gilda never intended to break the rules. The lack of a support systems (active patient engagement, guidance about avoiding interruptions, barcode scanning of medications) ensured that Gilda fell prey to normal cognitive processes.

So, what does blame look like? In Caroline's hands, it was kind, nurturing, and well intentioned. It looked fair because no one was punished. It generated fear for Gilda, who was powerless to follow the advice. Blame disguised itself as supporting a just culture. Blame is sneaky. It has been known to masquerade as accountability when the underlying decision is ignored.

Listen to the stories to illuminate their decisions. Often, the involved clinicians don't understand the decision and will need guidance to understand why they did what they did.

Integrating systemic accident analysis into patient safety incident investigation practices. Canham A, Thomas Jun G, Waterson P, Khalid S. *Appl Ergon*. 2018 Oct;72:1-9. doi: 10.1016/j.apergo.2018.04.012. Epub 2018 Apr 30.

There is growing awareness of the limitations of current practice regarding the investigation of patient safety incidents, including a reliance on Root Cause Analysis (RCA) and a lack of safety expertise. Human Factors and Ergonomics (HFE) can offer safety expertise and systemic approaches to incident analysis. However, HFE is underutilised in healthcare. This study aims to explore the integration of HFE systemic accident analysis into

¹⁶Selected by DPH. Many resources are featured on the AHRQ Patient Safety Network, <https://psnet.ahrq.gov>.

current practice. The study compares the processes and outputs of a current practice RCA-based incident analysis and a Systems Theoretic Accident Modelling and Processes (STAMP) analysis on the same medication error incident. The STAMP analysis was undertaken by two HFE researchers with the participation of twenty-one healthcare stakeholders. The STAMP-based approach guided healthcare stakeholders towards consideration of system design issues and remedial actions, going beyond the individual-based remedial actions proposed by the RCA. The study offers insights into how HFE can be integrated into current practice.

Success in Hospital-Acquired Pressure Ulcer Prevention: A Tale in Two Data Sets. Smith S, Snyder A, McMahon LF Jr, Petersen L, Meddings J. *Health Aff (Millwood)*. 2018 Nov;37(11):1787-1796. doi: 10.1377/hlthaff.2018.0712.

Chart-based surveillance reviews indicate that the incidence of hospital-acquired pressure ulcers (HAPUs) declined 23 percent during 2010-14, equating to an estimated savings of \$1 billion during that period. Yet it remains unclear whether the administrative data used to implement three Medicare value-based purchasing programs that target HAPUs indicate similar improvements, and how success varied by HAPU severity. These programs measure and penalize only for more severe ulcers (stage 3 or 4 or unstageable), which are much more costly than less severe cases (stage 1 or 2). We assessed HAPU incidence, severity, and trends using administrative data for 2009-14 from three states. The HAPU incidence we found was approximately one-twentieth of that found in chart-based surveillance review data. HAPU incidence in administrative data declined, but 96 percent of the change was due to a decline in the incidence of less severe HAPUs. Transitioning from administrative data to chart-based surveillance review to measure HAPUs (mirroring changes that have already been made in reporting hospital-acquired infections) and accounting for HAPU severity could improve the validity of HAPU measures for assessing the clinical and financial impact of value-based purchasing interventions.

Institute for Safe Medication Practices Canada. Five Questions to Ask About Your Medications When You See Your Doctor, Nurse, or Pharmacist (2018).

<http://www.patientsafetyinstitute.ca/en/toolsResources/5-Questions-to-Ask-about-your-Medications/Documents/Med%20Safety%20Checklist%20Poster.pdf>

1. Changes? Have any medications been added, stopped, or changed, and why?
2. Continue? What medications do I need to keep taking, and why?
3. Proper Use? How do I take my medications, and for how long?
4. Monitor? How will I know if my medication is working, and what side effects do I watch for?
5. Follow-Up? Do I need any tests and when do I book my next visit?

Infographics: HAC Rates.

https://www.ahrq.gov/sites/default/files/wysiwyg/data/infographics/hac_rates_2019.pdf

The Centers for Medicare and Medicaid Services financially penalizes hospitals with increased numbers of HACs through the Hospital-Acquired Condition Reduction Program. This policy of nonpayment has prompted hospitals to focus significant resources on preventing HACs. This AHRQ report found a reduction in HACs from 99 per 1000 acute care discharges to 86 per 1000 discharges between 2014 and 2017, representing a decrease in 910,000 HACs. Declines in hospital-acquired conditions between 2014 and 2017 were estimated to prevent 20,500 deaths and save 7.7 billion dollars. Changes included: adverse drug events (-28%), catheter-associated urinary tract infections (-5%), central-line associated bloodstream infections (-6%), *c. difficile*

infections (-37%), falls (-5%), obstetric adverse events (-5%), ventilator associated pneumonia (-13%), venous thromboembolisms (-17%). No change in surgical site infection rate. Increase in pressure ulcers (+6%).

Implementing Strategies to Identify and Mitigate Adverse Safety Events: A Case Study with Unplanned Extubations. Hatch LD, Rivard M, Bolton J, et al. *Jt Comm J Qual Patient Saf.* 2018 Dec 21. pii: S1553-7250(18)30378-7. doi: 10.1016/j.jcjq.2018.11.003. [Epub ahead of print].

In early June 2016, a cluster of unplanned extubations (UEs), including four events within one week, was observed. Two of three statistical process control (SPC) charts (u-chart, g-chart, and an exponentially weighted moving average [EWMA] chart) showed special cause variation, although at different time points. The EWMA chart alerted the team more than two weeks earlier than the u-chart. Within days of discovering the outbreak, the team identified that the hospital had replaced the tape used to secure endotracheal tubes with a nearly identical product. After multiple tape products were tested over the next month, the team selected one that returned the system to a state of stability. This highlights the importance of continuous monitoring using tools such as SPC charts that can alert teams to both improvement and worsening of processes.

Nebraska Coalition for Patient Safety. 2018 Annual Report. (Patient Safety Organization). https://www.nepatientsafety.org/sites/default/files/patient_safety_reports/NCPS%20Annual%20Report%20-%202018.pdf

Uses NCC MERP index of error severity. Top four events: medication error, fall, delayed response, retained foreign object. Patient Safety Alerts on newborn falls, suicide.

A Quality Improvement Initiative to Reduce Safety Events Among Adolescents Hospitalized After a Suicide Attempt. Noelck M, Velazquez-Campbell M, Austin JP. *Hosp Pediatr.* 2019 May;9(5):365-372. doi: 10.1542/hpeds.2018-0218. Epub 2019 Apr 5.

Self-harm among adolescents is a common problem, resulting in large numbers of patients admitted for medical stabilization after a suicide attempt. Because of limited mental health resources, these high-risk patients remain in inpatient settings once medically stabilized until psychiatric placement can be arranged. During this time, patients are at risk for safety events, including self-harm and elopement.

There were 224 patients included in our study: 53 pre-implementation and 171 post-implementation. Use of the Pediatric Behavioral Health Safety Protocol increased to 91.8% after implementation. The rate of significant safety events per 100 patient days decreased from an average of 2.7 events per 100 patient days in the pre-implementation period to 0.17 events per 100 patient days in the post-implementation period.

Gaps in Ambulatory Patient Safety for Immunosuppressive Specialty Medications. Patterson S, Schmajuk G, Evans M, Aggarwal I, Izadi Z, Gianfrancesco M, Yazdany J. *Jt Comm J Qual Patient Saf.* 2019 May;45(5):348-357. doi: 10.1016/j.jcjq.2018.12.003.

New specialty drugs such as biologics are now available in record numbers, presenting increased safety risks for people with immune-mediated diseases. We examined performance on key patient safety measures, such as

screening for latent tuberculosis (LTBI), hepatitis B virus (HBV), and hepatitis C virus (HCV), for new users of a broad group of specialty medications.

Among 2027 patients, the most common drugs prescribed were adalimumab (32%), etanercept (24%), infliximab (19%), and ustekinumab (9%). Overall, 62% of patients were screened for LTBI, 42% for HBV, and 33% for HCV. Only 26% of patients were screened appropriately for all three infections. Screening patterns differed significantly according to treating specialty.

Professional Society Leadership in Health Care Quality: The Society of Thoracic Surgeons Experience.
Shahian DM. *Jt Comm J Qual Patient Saf.* 2019 Jul;45(7):466-479. doi: 10.1016/j.jcjq.2019.04.005. Epub 2019 Jun 8.

In 1989 the Society of Thoracic Surgeons (STS) initiated the STS National Database, which subsequently became the cornerstone of a multifaceted STS quality program.

The STS quality program is overseen by the STS Council on Quality, Research, and Patient Safety, which has four components. The Workforce on Research Development, in collaboration with the STS Research Center, coordinates clinical research based on the STS National Database, all of which is focused on improving clinical outcomes. The Workforce on Evidence Based Surgery develops clinical practice guidelines and expert consensus documents to foster the use of best practices. The Workforce on Patient Safety disseminates high-reliability practices from within and outside health care to improve the safety of cardiothoracic surgical care. The Workforce on National Databases consists of four subspecialty registries (adult cardiac, congenital cardiac, general thoracic, mechanical circulatory support [Intermacs and Pedimacs]) and multiple functionally oriented task forces (Quality Measurement, Quality Initiatives, Public Reporting, Informatics, Patient-Reported Outcomes, and Aortic Surgery).

Between 1998 and 2016, the rates of coronary artery bypass grafting surgery adverse outcomes decreased substantially, including operative mortality (-31.3%), renal failure (-56.3%), stroke (-43.5%), reoperation (-65.7%), and sternal infection (-50.0%). Comparable increases in process measure compliance included internal mammary artery use (32%), preoperative beta-blocker use (83.1%), discharge antiplatelet drugs (22.9%), discharge antilipid drugs (78.6%), and discharge beta-blockers (54.1%).

The STS quality program has achieved remarkable, continuing improvements in patient safety and quality over several decades. The components of this program can be replicated by other health care professional societies to advance quality and safety for their patient populations.

Medication Histories in Critically Ill Patients Completed by Pharmacy Personnel.
Kram BL, Trammel MA, Kram SJ, et al. *Ann Pharmacother.* 2019 Jun;53(6):596-602. doi: 10.1177/1060028018825483. Epub 2019 Jan 17.

A pharmacy personnel-based medication history program in the ICU is feasible and assists in the discovery of medication discrepancies with the potential for patient harm.