

PSI # 4: Death Rate Among Surgical Inpatients with Serious Treatable Complications

NQF#: 0351

Developer: Agency for Healthcare Research and Quality (AHRQ)

Data Source: CMS; MHCC

Description: This measure is used to assess the number of deaths per 1,000 patients having developed specified complications of care during hospitalization.

Rationale: Widespread consensus exists that health care organizations can reduce patient injuries by improving the environment for safety from implementing technical changes, such as electronic medical record systems, to improving staff awareness of patient safety risks. Clinical process interventions also have strong evidence for reducing the risk of adverse events related to a patient's exposure to hospital care. Patient Safety Indicators (PSIs), which are based on computerized hospital discharge abstracts from the AHRQ's Healthcare Cost and Utilization Project (HCUP), can be used to better prioritize and evaluate local and national initiatives. Analyses of these and similar inexpensive, readily available administrative data sets may provide a screen for potential medical errors and a method for monitoring trends over time. The death among surgical inpatients with serious treatable complications indicator is intended to identify patients who die following the development of a complication. The underlying assumption is that good hospitals identify these complications quickly and treat them aggressively.

Evidence for Rationale:

- AHRQ quality indicators. Guide to patient safety indicators [version 3.1]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ);2007 mar 12. 76 p. (AHRQ Pub; no.03-R203).
- Kohn LT, Corrigan JM, Donaldson MS, editor(s). To err is human: building a safer health system. Washington (DC): National Academy Press; 2000.

Numerator: All discharges with a disposition of "deceased" among cases meeting the inclusion and exclusion rules for the Denominator.

Denominator: All surgical discharges, age 18 through 89 years or MDC 14 (pregnancy, childbirth, and puerperium) defined by specific DRGs or MS-DRGs and an ICD-9-CM code for an operating room procedure, principal procedure within 2 days of admission OR admission type of elective (ATYPE=3); and meet the inclusion and exclusion criteria for STRATUM_DVT (deep vein thrombosis or pulmonary embolism), STRATUM_PNEUMONIA (pneumonia), STRATUM_SEPSIS (sepsis), STRATUM_SHOCK (shock or cardiac arrest), or STRATUM_GI_HEM (gastrointestinal hemorrhage or acute ulcer). Excluded cases: transferred to an acute care facility; missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), or principal diagnosis (DX1=missing)

Impact:

- Patient/societal consequences of poor quality

Evidence of High Impact:

- Measures of Patient Safety Based on Hospital Administrative Data—The Patient Safety Indicators, August 2002.

Opportunity:

- Opportunity for improvement exists, based on the coefficient of variation for the measure.

Evidence:

- Expert opinion, systematic synthesis of research

Citations for Evidence:

- Needleman J, Buerhau PI, Mattke S, Stewart M, Zelevinsky K. Nurse Staffing and Patient Outcomes in Hospitals. Boston MA: Health Resources and Services Administration; 2001 Feb 28. Report No:230-99-0021.
- Silber J, Rosenbaum P, Ross R. Comparing the contributions of groups of predictors: Which outcomes vary with hospital rather than patient characteristics? J Am Stat Assoc 1995;90:7-18.
- Silber JH, Rosenbaum PR, Williams SV, Ross RN, Schwartz JS. The relationship between choice of outcome measure and hospital rank in general surgical procedures: Implications for quality assessment. Int J Qual Health Care 1997;9(3):193-200.
- Silber JH, Williams SV, Krakauer H, Schwartz JS. Hospital and patient characteristics associated with death after surgery. A study of adverse occurrence and failure to rescue. Med Care 1992;30(7):615-29.