

Technical Guide: Volume & Mortality Data

The data used for these reports are extracts from administrative databases storing hospital inpatient discharge data primarily used for billing purposes. These records consist of patient demographics, diagnoses, and procedures, and additional medical information. Administrative data provide a convenient, inexpensive, rich source of data that can provide valuable information. However, it is important to note that there are limitations associated with administrative data, including coding differences among hospitals, ambiguity about when a condition occurs, and limitations to coding methodologies.

Indicator Definitions

Inpatient Quality Indicators are run on a calendar year of inpatient discharge data. Indicators include **volume** and **mortality**.

Volume indicators are measured as counts of admissions for any given procedure. There is evidence that a higher volume of these procedures is associated with lower mortality. Research literature suggests threshold volumes that may be associated with better outcomes. Threshold volumes are procedure specific. The lowest volume suggested in the literature (Threshold 1) and the highest volume suggested in the literature (Threshold 2) are provided for each procedure. For more information on thresholds and the supporting literature, visit [Thresholds for Volume Indicators](#) from AHRQ's *IQI SPSS Software Documentation*, Version 2.1, Revision 4 (December 22, 2004).

Mortality rates have several components.

Numerator - The number of people who underwent a procedure at a hospital and who died in the same hospital.

Denominator – The total number of patients admitted for a procedure (excludes hospital to hospital transfers).

The **observed mortality rate** is the numerator divided by the denominator; it excludes transfers.

Because many factors influence mortality such as patients' age, sex, and severity of condition (co-morbidities), a **risk-adjusted mortality rate** is also reported. Risk adjustment "levels the playing field" among hospitals by adjusting for differences in patients treated at each hospital. This rate is needed for making hospital-to-hospital comparisons.

For more on the risk adjustment method used here see the [Oregon Hospital Quality Indicator Project, 2004 Risk Adjustment Brief](#)

For more information on AHRQ Inpatient Quality Indicators, including the user guide, technical manual, and software documentation, visit www.qualityindicators.ahrq.gov/iqi_download.htm