

Understanding the Data Used to Calculate Hospital Harm

The Hospital Harm measure developed by the Canadian Institute for Health Information (CIHI) provides a high-level view of patient safety and the occurrence of harm in Canadian hospitals.

How can the Hospital Harm measure be used?

- To understand occurrence of harm within acute inpatient care at a pan-Canadian level
- As a tool to monitor and identify potential opportunities to improve patient safety within **individual** hospitals

How can't the Hospital Harm measure be used?

At this time, Hospital Harm cannot be used to **compare** quality of care and safety across hospitals, for 2 main reasons:

- **The results are not risk-adjusted.** Hospitals serve different patient populations, and it is important to take this into account when comparing health system performance. Given the wide range of harmful events captured by this measure, it is very difficult to develop a risk-adjustment methodology to account for these differences.
- **Hospitals vary in their ability to capture harmful events.** Differences in processes, documentation and resources across hospitals may result in differences in their ability to capture harmful events in the data. This could result in hospitals with better processes and documentation appearing to have higher rates of harm.

What data is used to calculate Hospital Harm?

The Hospital Harm measure is calculated using data from the Discharge Abstract Database (DAD), which contains data on all admissions to acute care hospitals in Canada (outside of Quebec). Hospitals extract information from their hospital medical records, according to CIHI's standards.

The database captures the diagnoses — as documented by physicians — that were treated, that affected how long patients stayed in hospital or that required the use of hospital resources. Other clinical information (such as interventions), demographic information about patients, and administrative data about hospital stays is also captured.

As DAD data is used extensively at all levels of Canada's health systems, hospitals and CIHI have comprehensive data quality processes in place to ensure the completeness and accuracy of the data. Further information can be found on [CIHI's website](#).

What do I need to know about the data?

The data captured in the DAD impacts which occurrences of harm are included in the Hospital Harm measure. For example, the following would not be captured:

- Harm that occurred outside acute inpatient care (e.g., in the emergency department);
- Harm that was discovered only on a subsequent visit;
- “Near misses,” where an error occurred and was caught before it caused harm;
- Cases where there was not clear documentation that the diagnosis occurred after the admission to the hospital (rather than before), that it affected the patient’s treatment or that it prolonged the patient’s length of stay or resource use; or
- Cases where the harmful event or condition was documented solely by nurses or captured through other hospital systems and processes (such as infection control) rather than by physicians. Based on feedback from hospitals, this occurs more often within some clinical groups such as **Pressure Ulcer** and **Infections Due to *Clostridium difficile*, MRSA and VRE.**ⁱ

It is also important to remember that all occurrences of harm are counted equally in the Hospital Harm measure, as severity cannot be determined in the data used to capture harm. In reality, not all harmful events have the same level of severity.

Additional information

CIHI regularly conducts reabstraction studies to assess the quality of the DAD data. The most recent study ([Data Quality Study of the 2015–2016 Discharge Abstract Database: A Focus on Hospital Harm](#)) focused on some of the clinical groups captured in the Hospital Harm measure and found that harm captured in the DAD for these groups was generally confirmed in patient charts.

More information about the Hospital Harm measure and the data behind it can be found in the report [Measuring Patient Harm in Canadian Hospitals](#).

Details on the most recent methodology used to calculate Hospital Harm can be found in CIHI’s [Indicator Library](#).

i. MRSA: Methicillin-resistant *Staphylococcus aureus*;
VRE: Vancomycin-resistant enterococci.



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