**Understanding Staff-to-Patient Ratios**

Authors: Jacqueline Singer, Theresa Negrello, Adam Rondeau, Anyk Glussich, Christine Boyes

---

### What

CIHI is investigating the development of a staff-to-patient ratio that will provide a nationally comparable, systematic method of measuring the number of patients cared for per staff member.

These ratios can be used to:
- Better understand staffing levels between different areas of a hospital (e.g., between the intensive care and long-term care units);
- Compare resource utilization at the facility, regional, provincial or national levels;
- Direct resources where they can be most efficiently used to facilitate improvements in patient care; and
- Examine the relationship between staffing and safety, quality of care, value for money and the health of the workforce.

When considered alongside quality indicators, such as Potentially Inappropriate Use of Antipsychotics in Long-Term Care or Obstetric Trauma (With Instrument), staff-to-patient ratios can help identify promising clinical and work environment practices to optimize the delivery of health care, as well as patient, organizational and systemic outcomes.

---

### Why

- Data on hours worked by staff and on patient stays is routinely collected and used to manage the day-to-day operations of a facility.
- Internationally, staff-to-patient ratios are a well-established indicator and are often mandated by legislation.
- In countries where minimum staff-to-patient ratios have been mandated, such as in Japan and Australia, better care and improved patient outcomes have been demonstrated.
- Although staff-to-patient ratios have been recommended in parts of Canada, a comparable indicator for public reporting is currently not available.
- CIHI is looking to fill this knowledge gap.

### How

Inpatient days, resident days and staff-worked hours collected by CIHI’s CMDB can be used to calculate the ratio by nursing unit in reporting hospitals and residential care facilities.

---

### Data

Figure 1 shows that in Canada, the nursing unit with the highest staff-to-patient ratio is intensive care and the unit with the lowest ratio is long-term care. This is expected based on the different care needs of the patients in these units.

#### Figure 1  Average number of patients per staff member by nursing unit

A nurse-to-patient ratio for registered nurses and licensed practical nurses can be calculated. Data can also be used to calculate staff-mix proportions of registered nurses, licensed practical nurses and other health care staff within a nursing unit (see Figure 2).

#### Figure 2  Average proportion of staff mix by nursing unit

---

### What’s next

- This indicator would be the first of its kind — a source of comparative information on a pan-Canadian scale, opening the door to better understanding the relationship between staffing levels and clinical outcomes.
- CIHI will consult an expert advisory group to discuss results and explore future opportunities.
- Preliminary results will be shared as part of the consultation process.

---

### Our vision


### Our mandate

To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.

### Our values

Respect, Integrity, Collaboration, Excellence, Innovation

---

**About**

Established in 1994, the Canadian Institute for Health Information (CIHI) was created to support the production of comparable, pan-Canadian information. The Canadian MIS Database (CMDB) is the national data source for financial and statistical information about the day-to-day operations of health service organizations and health regions. The data is submitted to CIHI according to the MIS Standards.

The data collected provides comparable information across the country that can be used to support health system decision-making.

**www.cihi.ca**

**fsi@cihi.ca**