Population Grouping Methodology

The Canadian Institute for Health Information (CIHI) has developed an innovative methodology — a population grouping methodology using Canadian data, designed specifically to meet the needs of Canada’s health care systems.

Overview of the methodology

The population grouping methodology builds clinical and demographic profiles for each person in a population, including health system non-users.

- **Clinical profile:** Summarizes health conditions identified from inpatient, day surgery, emergency department, continuing care and physician claims administrative data.

- **Demographic profile:** Comprises age, sex and geography information captured in the registered persons data. This data is maintained by the provinces/territories on all persons eligible to receive publicly funded health services.

These profiles determine each person’s expected health care needs. “Health care need” is measured using a set of indicators, such as the following:

- **Health profile group (HPG):** Synthesizes an individual’s clinical profile down to the most complex and clinically relevant health condition present.

- **Predicted health care costs:** Includes both current and expected future costs to the health system.

- **Predicted use of selected health system resources:** Includes number of primary care visits, number of emergency department visits and the probability of entering long-term care.

![Clinical classification and predictive indicators](image)
Software and data requirements

Clients who have access to the following data can apply the methodology using CIHI-developed software:

• Clinical data — person-level linkable diagnosis and functional status data over a consecutive 2-year period; from patient-level physician billings, the Discharge Abstract Database, the National Ambulatory Care Reporting System and the Continuing Care Reporting System
• Demographic data — person-level linkable; from the registered persons data, which contains all individuals eligible for health care (i.e., have a valid health card number)

Software inputs and outputs

Data for a defined population is prepared by the ministry/health region

Clinical data
- Hospital
- Long-term care
- Physician billing

Demographic data
- Date of Birth
- Sex
- Postal Code

Population grouping software (provided by CIHI) is run on the data to apply the methodology

- Software is run on the input data
- Data linked by health care number

Software produces person-level clinical profiles and resource indicators

57-year-old male
- Hypertension
- Diabetes
- Depression
- HPG = Diabetes

Results can be aggregated to a population level to support decision-making

Relevance for health care in Canada

CIHI’s population grouping methodology will
• Enable health system planners and policy-makers to receive real-time evidence to support decision-making;
• Help CIHI and its clients monitor population health and diseases;
• Predict health care utilization patterns and explain variations in health care resource use;
• Provide a foundation for funding models; and
• Facilitate standardization of populations for interjurisdictional analysis.

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