

Data Impact Challenge Answer Submission Template

Question 6: For one of the Choosing Wisely Canada recommendations referenced below, provide the specified baseline metric

Rationale: Choosing Wisely Canada is a campaign to help physicians and patients engage in conversations about unnecessary tests, treatments and procedures. Canadian national specialty societies participating in the campaign, representing a broad spectrum of physicians, were asked to develop lists of “Five Things Physicians and Patients Should Question.” These lists identify tests, treatments or procedures commonly used in each specialty, which are not supported by evidence, and/or could expose patients to unnecessary harm. A complete list of these recommendations is available here. Below is a list of the specific questions related to recommendations of interest for this challenge. Increasing understanding of the frequency with which care does or does not follow these recommendations could support targeted improvement and potentially could impact policy interventions.

Guiding Specifications:

For each of the questions below, provide the relevant numerator and denominator.

Sample: minimum of 10,000 records

Timeframe: analysis should include at least six months of data

Specific CWC question:

- - For what portion of adults is an annual physical exam conducted in any given year? (Relates to CWC Family Medicine recommendation #8)

Team and list of all team member names: (all team members have agreed to challenge rules through registration)

Team NLCHI (Newfoundland and Labrador Centre for Health Information): John Knight, PhD, (team lead), Kerry LeFresne, MPH, Catherine Wright, MPH, Stephanie Walsh, MSc, Josh Squires, BSc, Andrea Morrissey, MSc.

Describing the Data and Analysis

Data Custodian Organization(s) and data sources:

Data Custodian Organization:

Data analysis for the Data Impact Challenge is being conducted by The Newfoundland and Labrador Centre for Health Information (NLCHI), which is the comprehensive health information centre for the province of Newfoundland and Labrador, and serves as an information manager for several data bases held under the auspices of the Department of Health and Community Services (the Custodian), and authorized under the Province’s Personal Health Information Act. The Data Custodian of the main dataset used in this study, the Medical Care Plan (MCP) Fee-for-Service Physician Claims Database, is the Department of Health and Community Services (DHCS),

Government of Newfoundland and Labrador. Permission from the custodian to use MCP data for aggregate-level analysis has been granted through the existing Data Sharing Agreement between DHCS and NLCHI.

Data/Information Sources:

- *Statistics Canada Population Estimates:* Population Estimates are acquired by the Centre from Statistics Canada. Annual estimates are derived from the Census, birth and mortality data, and migration statistics. Data are available by community, sex and age.
- *Medical Care Plan (MCP):* The Newfoundland and Labrador MCP Fee-For-Service Physician Claims Database contains information related to services provided by fee-for-service physicians under the provincial Medical Care Plan (MCP) and is maintained by the Department of Health and Community Services. NLCHI uses the MCP Fee-For-Service Physician Claims Database for research and surveillance.
- *The Canadian Community Health Survey (CCHS):* The CCHS is conducted by Statistics Canada to provide cross-sectional estimates of health determinants, health status and health system utilization at a regional level. The data is used to support health system planning, management, evaluation and research.
- *Newfoundland and Labrador Medical Association (NLMA) Membership Statistics:* The Newfoundland and Labrador Medical Association (NLMA) is the voice of organized medicine in Newfoundland and Labrador, Canada. A division of the Canadian Medical Association (CMA), the NLMA is a non-profit professional organization funded primarily by its members.

List of Datasets Used (e.g., names of database and/or data origins):

The analysis was performed using physician billing data from the Newfoundland and Labrador MCP Physician Claims Database. Representativeness of the data was assessed using a combination of data from Statistics Canada's Population Estimates for Newfoundland and Labrador, the Canadian Community Health Survey, and the Newfoundland and Labrador Medical Association Membership Statistics.

Exclusions:

Patient visit records for adults aged 18 and older who had visited a general practitioner in 2013, as documented in the MCP Physician Claims Database, were included in the denominator for our analysis. Records that were missing identification numbers or age data were excluded.

The numerator used in the analysis comprised general assessments performed by a family physician/general practitioner in a clinician's office or in either a designated or non-designated long-term care facility; visits that occurred for hospital inpatients or in outpatient/emergency departments

were excluded given that general assessments in the latter two locations would be more likely to be relate to a specific diagnosis or complaint.

Nature and Size of Cohort (e.g. geographic area covered, number of patients included):

The study sample comprised all adults 18 years and older who had at least one billing for a general assessment by a family physician or general practitioner in the province of Newfoundland and Labrador in 2013, as documented in the MCP Physician Claims Database.

According to Statistics Canada estimates, in 2013, the population of adults 18 and older in Newfoundland and Labrador was approximately 433,498. Of these, 335,737 (77.4%) visited a general practitioner, as documented in the MCP Physician Claims Database.

A caveat to the percentage listed above is that, in NL, patients are free to visit both MCP-insured and salaried physicians. Thus, while a patient may have been captured in the MCP Physician Claims Database, it is possible they had other physician visits that are not reflected in this dataset. The NLMA reported that 56.3% of physicians were remunerated through fee-for-service claims in 2012 and 54.6% in 2013. Given that salaried physicians tend to work in rural, less populated areas, it is reasonable that approximately 55% of physicians would represent approximately 77% of all patients in the province of NL.

Data from the Canadian Community Health Survey were analyzed to assess the representativeness of the estimate. The CCHS reports that, in 2013, for individuals aged 12 years and older, 391,833 (88.0%) had a regular medical doctor, and 358,235 (80.8%) had contact with a medical doctor in the past 12 months. The 77% of adults aged 18 and older in Newfoundland and Labrador who are represented in the MCP Physician Claims Database for 2013 are therefore likely to be well representative of all adults who visited a general practitioner during that year.

Data timeframe:

January 1, 2012 to December 31, 2013

Please provide a brief summary of the analysis methodology:

The analysis was conducted using data from the MCP Physician Claims Database for 2012 and 2013 and comprised patient visit records for adults aged 18 and older who had visited a general practitioner. Records missing identification numbers or age data were excluded. Multiple visits by the same patient during the study time period were linked using unique de-identified patient numbers.

General physical exams were identified by fee codes ('112', '210', or '285') that correspond to "General Assessments," (i.e., a comprehensive physical exam), as determined through a consultation with the provincial MCP office. Only exams performed by a family physician or general practitioner (speciality code '001') in a clinician's office or in either a designated or non-designated long-term care facility were defined as general physical exams.

Data were analyzed for up to 50 individual visits per patient. A patient was defined as having received a general physical exam in 2013 if a General Assessment fee code was associated with one or more patient visits during the calendar year.

An annual physical exam was defined as a general physical exam administered to patients who had also received a general physical exam in the prior calendar year (i.e., a patient was determined to have received an annual physical exam in 2013 if he or she had also received a general physical exam in 2012).

Describing the Findings

Numerator and Denominator (as specified in the question definition)

In 2013, 335,737 unique patients aged 18 years and older who visited a general practitioner were identified in the Newfoundland and Labrador MCP Physician Claims Database. There were 9,157 adults aged 18 and over in the MCP Physician Claims Database with a General Assessment fee code associated with an office or long-term-facility patient visit. Thus, $9,157/335,737=2.7\%$ of adults were estimated to have received a general physical exam in 2013.

Of adult patients receiving a general physical in 2013, 1,083 had also received a general physical in 2012. Therefore, proportion of adults in Newfoundland and Labrador who receive annual physical exams is estimated to be $1083/335,737 = 0.3\%$.

Please also provide a brief summary of the findings including any key limitations or interpretation issues (may also include one figure/table)

An analysis of data from the MCP Physician Claims Database indicates that approximately 2.7% of adults aged 18 years and older in the province of Newfoundland and Labrador had at least one general physical exam in 2013, and further, that approximately 0.3% of adults received an annual physical exam, defined as a general physical exam administered to a patient who had also received a general physical in the prior calendar year.

There are two main limitations to this analysis. First, the MCP Physician Claims Database only captures patients who visit provincially insured physicians and does not capture patient visits to salaried or alternatively funded physicians. While it is unknown whether the proportion of adults who had a

physical health exam completed by a fee-for-service physician can be generalized to the entire population of NL, it is reasonable to assume that this data set represents approximately 77% of the NL adult population for 2013.

Another limitation is the fact that the fee code for General Assessment in the MCP Physicians Claims Database, used in our analysis to identify general physical exams, may not be representative of all general physicals administered to adults in NL. A general assessment can be claimed: 1) for initiation of oral contraceptive use; 2) admission to hospital; 3) as medically necessary due to an acute condition; or 4) for an annual or admission general assessment rendered to residents of designated long-term care facilities. General physicals performed on adults for other reasons may be underrepresented in the MCP Physicians Claims Database; thus, our analysis likely underestimates the proportion of adults receiving annual physical exams.

Despite these limitations, we believe that our methodology is sound and could readily be applied to other provincial physician claims databases. In particular, provinces with fewer restrictions on physician reimbursement for complete physical exams would benefit from replicating our analysis using physician claims databases, to determine the proportion of adults receiving annual physical exams.