

Data Impact Challenge Answer Submission Template

What is the rate of repeated laboratory tests within a ninety (90) day period?

- **Team and list of all team member names:** Christopher Naugler, Maggie Guo

Describing the Data and Analysis

- **Data Custodian Organization(s) and data sources:**

Test-ordering data from the Calgary Laboratory Services Laboratory Information System

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

Millennium data

- **Exclusions:** none

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

Calgary and surrounding areas of south-central Alberta, population of approximately 1.4 million people

- **Data timeframe:** Jan 1 2014 to Dec 31 2014

Please provide a brief summary of the analysis methodology:

LIS was queried for all test results for the following 24 commonly ordered lab tests: Alk Phos, ALT, Chloride, Chol, CO2, Creatinine, Ferritin, GGT, Glucose Fasting, Glucose Random, HDL, Hemoglobin A1c, Hgb, Platelet count, Potassium, PSA, PTT, Sodium, Trig, TSH, Vitamin B12, Vitamin D 25 OH, WBC. The first time a given test was recorded was considered the index case. We then looked for repeat tests for the same patient occurring within 90 days. As our lab performs all testing for the city of Calgary these numbers will represent all repeat testing occurring within the city.

Describing the Findings

- **Numerator and Denominator (as specified in the question definition)**

Numerator is the number of times a given test was repeated in the 90 days following the reporting of the initial result.

Denominator is number of patients with at least one of the considered tests ordered in a 90 day period.

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

The percentage of any of 24 common lab tests repeated within 90 days in the city of Calgary was 41.33% (95% CI = 41.30% - 41.38%).