

Data Impact Challenge Answer Submission Template

- For what portion of adults were screening blood tests conducted in any given year? ([Relates to CWC Family Medicine recommendation #5](#))
- **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:**
Outpatient data only
- **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 2011 to Dec 31 2011

Please provide a brief summary of the analysis methodology:

The LIS was queried for outpatient test results for the following screening tests: Fasting Glucose (screen for type II diabetes), lipid panel (screen for dyslipidemia), PSA (screen for prostate cancer), Fecal Occult Blood (screen for colon cancer). HBA1C was not considered as a screening test as the Canadian Guidelines in 2011 did not recommend HBA1C as a screening test for type II diabetes. FOB was used instead of FIT testing as FIT testing was not available in Calgary in 2011. 2011 was chosen as the data time frame so we could calculate the total eligible number of patients in Calgary that could have been tested from the 2011 Canada Census. For this reason we included only patients residing in the City of Calgary and only adults (age 18 or above). Our previous work has demonstrated that of patients presenting to our labs in Calgary with Alberta Health Care numbers, 99% resided in the City of Calgary. Therefore we used the presence of an Alberta Health Care card as a proxy measure of residing in the City of Calgary. This works because patients residing in other cities and even smaller towns surrounding

Calgary have their test results archived in different laboratory information systems. We then calculated screening rates for different age groups as follows:

Rate = (number of different individuals tested per age group/total eligible population in that age group)

Describing the Findings

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

Numerator = number of unique patients with a given test recorded in our LIS in the year 2011. If a patient had more than one of a given test performed, that patient was only counted once. Because Calgary Laboratory Services performs all of the laboratory testing for the city of Calgary, this represents the entire screening effort for all individuals in the city.

Denominator: number of patients in a given age group (males only included for PSA), from the 2011 Canada Census.

- 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 the population tested in a 12 month period for 4 common laboratory screening tests is given in the following table. Reference is not made to age-specific guidelines as these may vary by jurisdiction. Instead the data is broken in age-specific rates that may be directly compared against different guidelines by the reader.

Glucose Fasting

Age Group	Total eligible population	Number of people tested	Percentage of population tested
18-30	198,100	26,392	13.3%
30-40	177,005	47,814	27.0%
40-50	171,350	73,780	43.1%
50-75	261,885	165,796	63.3%
>=75	49,455	28,648	57.9%
Total Adults 18 and above	857,795	342,430	39.9%

Lipid panel

Age Group	Total eligible population	Number of people tested	Percentage of population tested
18-30	198,100	28,314	14.3%
30-40	177,005	50,780	28.7%
40-50	171,350	79,840	46.6%
50-75	261,885	179,879	68.7%
>=75	49,455	30,375	61.4%
Total Adults 18 and above	857,795	369,188	43.0%

PSA (Male Only)

Age Group	Total eligible population	Number of people tested	Percentage of population tested
18-30	99,570	194	0.2%
30-40	88,565	1,866	2.1%
40-50	86,515	18,883	21.8%
50-75	130,155	69,684	53.5%
>=75	20,050	10,067	50.2%
Total Adults 18 and above	424,855	100,694	23.7%

Fecal occult blood

Age Group	Total eligible population	Number of people tested	Percentage of population tested
18-30	198,100	634	0.3%
30-40	177,005	1,488	0.8%
40-50	171,350	6,151	3.6%
50-75	261,885	51,511	19.7%
>=75	49,455	7,023	14.2%

Total Adults 18 and above	857,795	66,807	7.8%
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