Overview of Canadian Health Measures Survey

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Statistics Canada

Statistics Canada • Statistique Canada
CANADIAN HEALTH MEASURES SURVEY (CHMS)

- National estimates
- Survey population aged 3 to 79
- Direct physical measurements completed in mobile clinic over 2-year collection period
- Cycle 4 currently in collection from January 2014 to December 2015
COLLECTION SITES: CYCLE 4

Terrace Kitimat
Edmonton
Thunder Bay
Kelowna
Regina
Kitchener-Waterloo
St Hyacinthe
Montreal
Hamilton
Toronto (2)
Laval
Fredericton
Shelburne
Brockville
Saguenay
The questionnaire content is to be used only in context with physical measures data and covers the following topics:

- Health status
- Nutrition and food
- Medication use
- Health behaviours
- Environmental factors
- Socio-economic information
CHMS
PHYSICAL MEASURES: CYCLES 1 & 2

- **Anthropometry**
  - Standing height, sitting height, weight
  - Waist and hip circumference

- **Cardiorespiratory fitness**
  - Resting blood pressure and heart rate
  - Spirometry
  - mCAFT

- **Musculoskeletal health**
  - Hand grip strength
  - Partial curl-up
  - Sit and reach

- **Physical activity**
  - Accelerometry

- **Indoor air sampler** (cycle 2 only)
PHYSICAL MEASURES: CYCLE 3 & 4

- **Anthropometry**
  - Standing height, sitting height, weight
  - Waist and hip circumference

- **Cardiorespiratory fitness**
  - Resting blood pressure and heart rate
  - Spirometry
  - Fractional exhaled nitric oxide (FENO)

- **Muscular strength**
  - Hand grip strength

- **Hearing assessment**
  - Otoscopy, tympanometry, DPOAE, audiometry

- **Skin pigmentation**

- **Physical activity**
  - Accelerometer

- **Indoor air sampler**

- **Tap water samples** (taken from some randomly selected households)
Blood
- **General**: Complete blood count (CBC), blood chemistry panel
- **Allergies**
- **Cardiovascular health**: C-reactive protein (high sensitivity), HDL, LDL, total cholesterol and triglycerides and fatty acids
- **Diabetes**: Fasting, non-fasting and random glucose, fasting insulin and HbA1c
- **Environmental exposure**: Metals (cadmium, lead and mercury (total and methyl)), acrylamide and volatile organic compounds (VOCs)
- **Infectious diseases**: Hepatitis B and C
- **Nutritional status**: Ferritin, red blood cell folate, vitamin B12, vitamin C and vitamin D
- **Reproductive hormones**
- **Thyroid status**

Urine
- **Environmental exposure**: Metals (arsenic (speciated), fluoride and inorganic mercury), benzene metabolites, bisphenol A, organophosphate insecticides, polyaromatic hydrocarbons (PAHs), parabens, tobacco and triclosan
- **Kidney function**: Creatinine and microalbumin
- **Nutritional status**: Iodine
### CHMS CYCLES 5 - 8

#### CORE CONTENT

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Physical measures</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Alcohol</td>
<td>• Fish &amp; Shellfish consumption</td>
<td>• Complete blood count</td>
</tr>
<tr>
<td>• Height and weight</td>
<td>• Medication Use</td>
<td>• Metals (lead, mercury, cadmium)</td>
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<tr>
<td>• Chronic Conditions</td>
<td>• Screening</td>
<td>• Apolipoprotein A1, B</td>
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<tr>
<td>• Medication Use</td>
<td>• Anthropometry</td>
<td>• Cholesterol</td>
</tr>
<tr>
<td>• General Health</td>
<td>• Blood Pressure / Heart Rate</td>
<td>• Glucose</td>
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<tr>
<td>• Nutrition</td>
<td>• Grip Strength</td>
<td>• HbA1C</td>
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<tr>
<td>• Physical Activity</td>
<td>• Accelerometry</td>
<td>• Insulin</td>
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<tr>
<td>• Sedentary Activities</td>
<td>• Specimen collection (blood, urine)</td>
<td>• C-reactive protein</td>
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<tr>
<td>• Pregnancy/Birth</td>
<td>• Biobank/DNA</td>
<td>• Creatinine</td>
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<tr>
<td>• Smoking</td>
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<td>• Chemistry panel</td>
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<tr>
<td>• Socio-demographics</td>
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### CHMS CYCLES 5 & 6
**THEME/BUY-IN CONTENT**

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Physical measures</th>
<th>Laboratory</th>
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</thead>
<tbody>
<tr>
<td>Sleep Apnea</td>
<td>Sit &amp; Reach</td>
<td>Parathyroid hormone</td>
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<tr>
<td>Illicit Drug Use</td>
<td>mCAFT</td>
<td>Vitamin D</td>
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<tr>
<td>Mental Health</td>
<td>Jumping mechanography</td>
<td>Bone health</td>
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<tr>
<td>Health Utilities Index</td>
<td>pQCT</td>
<td>Thyroid status</td>
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<tr>
<td>Sexual Behaviour</td>
<td>Neck Circumference</td>
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<tr>
<td>Time Spent Outdoors</td>
<td>Vision</td>
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<tr>
<td>Neighbourhood Environment</td>
<td>Specimen collection:</td>
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<tr>
<td></td>
<td>Blood</td>
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<tr>
<td></td>
<td>Urine*</td>
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</tr>
<tr>
<td></td>
<td>Hair</td>
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<tr>
<td></td>
<td>Saliva</td>
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## CHMS CYCLES 7 & 8
### THEME/BUY-IN CONTENT

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<thead>
<tr>
<th>Questionnaire</th>
<th>Physical measures</th>
<th>Laboratory</th>
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<tbody>
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<td>Illicit Drug Use</td>
<td><strong>Bone Health (DEXA)</strong></td>
<td>Vitamin C</td>
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<td>Sleep</td>
<td>• Spirometry</td>
<td>Vitamin D</td>
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<tr>
<td>Family Medical History</td>
<td>• Skin Pigmentation and Sun Exposure</td>
<td>Hepatitis B and C</td>
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<td>Strengths &amp; Difficulties</td>
<td>• *Oral Health</td>
<td>Chlamydia trachomatis</td>
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<td>Hepatitis</td>
<td>• Tap Water collection</td>
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<td>Oral Health</td>
<td>• Indoor air</td>
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<tr>
<td>Sexual Behaviour</td>
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</tbody>
</table>

* Oral health will be partial buy-in (cycle 7 only)
CHMS BIOBANK

- Blood and urine samples from consenting respondents are stored for future studies.
- DNA samples from consenting respondents 14 3 years and older are stored for future studies.
- Call for proposals twice each year (spring and fall)

http://www.statcan.gc.ca-eng/survey/household/5071g
CHMS

CONTEXTUAL DATA

- We are currently exploring the possibility of disseminating “geospatial” data for the CHMS:
  - Walkability index (Walkscore ©)
  - Greenspace index (Normalized difference vegetation index, NDVI)
  - Air Quality Health Index
  - Exposure to air pollutants
    - Proximity to highway (vehicle emissions)
STATISTICS CANADA
RESEARCH DATA CENTRES (RDCs)

• Access route for most researchers
• Allows microdata access in universities across Canada, under research agreement, in a secure setting
• Similar files at Health Canada & PHAC

http://www.statcan.gc.ca/rdc-cdr
ADDITIONAL INFORMATION

For more information on health surveys:

- toll-free number: 1-888-253-1087
- e-mail: infostats@statcan.gc.ca

CHMS:
- Web site: www.statcan.gc.ca/chms

- Look for us on Twitter and Facebook!
THANK YOU!

QUESTIONS?