



Overview of the Canadian Health Examination Survey

Policy makers, provincial health departments, researchers and medical health professionals from many fields have expressed a need for a national, comprehensive source of accurate health measures to assist them in planning and designing care specific to the needs of all Canadians.

To address longstanding limitations within Canada's health surveillance system, Health Canada has supported Statistics Canada in obtaining funding for a "direct measures" health survey. This support was announced in the 2003 federal budget (4 years of funding, approximately \$20 million) as part of an extension of the Health Information Roadmap initiative. The CHMS will fill important data gaps and ameliorate limitations in existing health information.

The major objectives of CHMS are:

- To estimate the numbers of individuals in Canada with selected chronic diseases, major risk factors and protective characteristics, based on direct physical measures.
- To estimate the distributional patterns in the Canadian population of these selected diseases, risk factors and protective characteristics including the prevalence of co-morbidities, multiple risk/protective factors, their correlations and clustering.
- To the extent possible with available historical data, to monitor trends in the prevalence of selected diseases, risk factors and protective characteristics.
- To assess the validity of the self-reported prevalence of selected chronic diseases, major risk factors and protective characteristics, when compared to direct physical measures results.
- To ascertain relationships among disease risk factors, health protection practices, and health status based on direct measures.
- To provide a platform for possible add-on studies and related data collections, including linkages (subject to respondents' consent) to routinely collected health and health care records.
- To explore emerging public health issues and new measurement technologies.
- To provide the platform and infrastructure for possible ongoing periodic and regular monitoring of those aspects of Canadians' health requiring direct physical measures.
- To collect a nationally representative sample of genetic material with health status, disease, risk/protective factor, socio-economic status and other covariates for future genetic research – pending full assessments indicating that this is acceptable to Canadians and ethics review and has strong scientific rationale.

The Canadian Health Measures Survey will collect key health information on Canadians that cannot be captured, or may be inaccurately reported, through data gathered from self-report or health care records. This is why we will ask our participants to perform direct physical measurements such as blood pressure, height and weight, blood and urine sampling and physical fitness testing. Also, through questionnaires, we will gather information related to nutrition, smoking habits, alcohol use,

medical history, current health status, sexual behaviour, lifestyle, physical fitness, as well as demographic and socioeconomic variables.

Several consultations have occurred to determine a list of high priority variables to be measured in the CHMS and discussions will continue with various stakeholders to finalize the exact survey content.

The following are some of the measures that the CHMS is considering:

Physical measures

- *Anthropometry* (height, weight, waist circumference, skinfolds)
- *Cardiovascular Fitness* (blood pressure, modified Canadian Aerobic Fitness Test)
- *Musculoskeletal Fitness* (hand grip strength, push-ups, back health)
- *Physical activity* (accelerometry)

Blood measures to assess

- *Diabetes*
- *Cardiovascular Disease, including cholesterol level*
- *Nutritional Status (vitamin D, iron, calcium)*
- *Bone Health*
- *Environmental exposure to lead and mercury for example.*
- *Infectious Disease Markers such as West Nile virus, tetanus, hepatitis C, rubella, varicella, measles and polio*

Urine measures

- *Iodine*
- *Pesticides*
- *Herbicides*

Further Exploration

- *Spirometry*
- *Saliva sampling for stress*
- *Hearing tests*
- *Vision tests*
- *Oral health*

At this early stage of planning, it is estimated that the CHMS will collect measures from 5,000-10,000 people in a nationally representative sample covering all ages. Survey development and pilot testing is planned for 2003-2005, with the survey occurring in 2006 (over an extended data collection period – probably 12 months) and data dissemination planned for late 2007. Although funding for the CHMS is one time only, it is hoped that the survey will become an ongoing part of Canada's health information system.

Although the data collection logistics are still in development, collection will likely consist of a combination of personal household and individual interviews using computer-assisted interviewing software and a visit to a clinic (fixed clinics and/or mobile laboratories) for the physical examination.