

Chapter 1

Background and Methods

This Chapter provides the background of the Population Health Survey. The methods used, fieldwork involved, survey instruments used to collect data, quality control measures and the statistical analyses are also described.

1.1 Background

To reinforce the information base on population health and to enhance evidence-based decision making in local health policy, the Department of Health collaborated with the Department of Community Medicine of the University of Hong Kong (HKU) to carry out the Population Health Survey (PHS) in 2003/2004.

The aims of this survey are to strengthen the Government's information base to assess the health status of the population and to support effective, evidence-based decision-making in health policies, resource allocation, and the provision of health services and programmes.

The scope of the survey included the following:

- To measure the physical and mental/psychological health status of the population;
- To collect data related to the demographic, social and geographic variation in health;
- To collect data on the prevalence and/or incidence of important diseases and health conditions;
- To collect data on risk factors of important causes of mortality, morbidity and disability;
- To collect data on important health behaviours and practices of the population;
- To collect data on the use of health services;
- To provide important physical and/or biological measurements related to the health of the population.

1.2 Sample of Non-institutional Population of Hong Kong

The survey generally covered all land-based non-institutional population of Hong Kong, aged 15 and above and the sample was selected based on the frame of quarters maintained by the Census and Statistics Department (C&SD) from the Register of Quarter (RQ) in Hong Kong. For each sampled quarter, all households within the quarter and all persons aged 15 years and above (excluding foreign domestic helpers) within households were enumerated.

A total of 4 850 quarters were in the sample. Among the sample of 4 850 quarters, 4 179 quarters were valid and 671 quarters invalid. Among the 4 179 valid quarters, interview was successful in 3 009, refused in 836, and 334 were unable to be conducted. Among the 3 009 interviewed quarters, there were 3 035 households. The household response rate was 72%. There were in total 7 084 respondents to the survey.

1.3 Data Collection

Fieldwork and data collection for non-institutional population were carried out by HKU between September 2003 and May 2004. Persons aged 15 and above from all households in the sample were contacted for face-to-face interview. The interviews were conducted by well-trained interviewers using structured Chinese questionnaire, except that self-administered Chinese questionnaires were used on potential sensitive topics including satisfaction level of sexual life, suicidal behaviours, breast-feeding and drug use. Of note, the interviewers were on hand to assist the respondents in answering the self-administered questionnaire in case of illiteracy. Blood pressure, body weight, waist circumference and height of the respondents were measured by valid, reliable and calibrated instruments, namely OMRON automatic blood pressure monitor (Model T9P) with printer (Model HEM-PRTI-C1), TANITA precision bathroom scale (Model HA-521), 150cm tailoring ruler, and 3.5m foldable metallic measuring tape. Each interview for each subject lasted for 45-60 minutes.

To optimize the response rate, notification letters were sent to all sampled households at least one week preceding the survey. The objectives of the survey were clearly explained and assurance of data confidentiality was underscored in the letters. In addition, a hotline was set up to address enquiries about the survey from the households. For those persons who refused to respond, the fieldwork managers either undertook the cases, accompanied the interviewers, or assigned different interviewers. Each subject was contacted by the interviewers a maximum of 15 times during different time of the days and different days of the week. If this was still unsuccessful, the subject was recorded as a non-response.

1.4 Survey Instrument

Survey data were collected through the use of a structured questionnaire. The questions were formulated based on the review of both local and overseas questionnaires as indicated on the following dimensions:

1. Household and geographic data
 - Number of household members with gender and age
 - Type of dwelling, etc.

2. Socio-demographic characteristics
 - Gender, age, marital status, etc.
 - Socioeconomic status

3. Self-rated health
 - Self-rated physical and psychological health (using SF-12 summary scales)
 - Weight history (using the United States National Health and Nutrition Examination Survey (US NHANES) questionnaire)
 - Vision (using the Canada National Population Health Survey questionnaire)
 - Plans to take action to promote health (using the Healthy Living Baseline Survey questionnaire)

4. Physical health
 - Prevalence of acute conditions and chronic conditions
 - Prevalence of hypertension, high blood cholesterol and diabetes, and the related treatment (using the US NHANES questionnaire)
 - Disability
 - Weight, height and waist measurements

5. Health-related lifestyle practices
 - Tobacco use and readiness to quit smoking (using the Hong Kong Cardiovascular Risk Factors Prevalence Study questionnaire)
 - Alcohol consumption and drinking problems (using the Hong Kong Cardiovascular Risk Factors Prevalence Study questionnaire and the CAGE questionnaire)
 - Exercise and physical activity (using the International Physical Activity Questionnaire (IPAQ) and the Healthy Living Baseline Survey questionnaire)
 - Diet and nutrition (using a short food frequency questionnaire and the Canada National Population Health Survey questionnaire)
 - Breast feeding (using the US NHANES questionnaire)
 - Injuries (using the Canada National Population Health Survey questionnaire)
 - Drug use (using the Canada National Population Health Survey questionnaire)

6. Preventive practices
 - Physical check up
 - Sigmoidoscopy and colonoscopy examination
 - Stool occult blood test
 - Prostate-specific antigen test
 - Cervical cancer and breast cancer screening (using the Hong Kong Thematic Household Survey 2002 questionnaire)

7. Use of health service (using the Hong Kong Thematic Household Survey 2002 questionnaire)
 - Access to health care
 - Type of health services used with frequency
 - Usage of mental health care and alternative health care

8. Quality of life (using the World Health Organization Quality of Life Measure- BREF (WHOQOL-BREF [brief questionnaire]))
 - Physical health
 - Psychological health
 - Social relationships
 - Living environment

9. Psychosocial health
 - History of anxiety (using the State-Trait Anxiety Inventory (STAI) Scale)
 - History of depression (using the Center for Epidemiologic Studies Depression (CES-D) scale)
 - Social support (using the US NHANES questionnaire)
 - Suicidal ideation, attempt and behaviour (using Lewinsohn scale and Family Planning Association questionnaire)
 - Stress management (using the Healthy Living Follow-up Survey questionnaire)

To test the applicability of the questionnaires and the fieldwork procedures, a pilot survey covering 200-300 randomly selected Hong Kong Chinese aged 15 years and above was conducted in July 2003.

1.5 Quality Control Measures

Quality control measures were taken to ensure the credibility and reliability of the data. The measures encompassed the recruitment of experienced interviewers to conduct face-to-face household surveys, the provision of proper training to interviewers (included interview techniques, map reading, ethics, background and relevance of the survey), monitoring of the interviewing process by fieldwork managers, independent checking of the completed questionnaires (10% of the completed cases, selected on a random basis), editing and checking of the completeness and consistency of the data, and validation of the collected data.

1.6 Data Confidentiality

All survey data were kept strictly confidential, and the research team exercised due care in handling the records to avoid the possible loss and leakage of information. Individual data were not disclosed or identified in all outputs and only aggregate data were presented.

1.7 Statistical Analysis

The analyses reported here were based on 7 084 respondents to the PHS 2003/2004. This represented a population of 5.68 million. All analyses were examined on a study sample level, as well as on weighted whole population samples, using the stratum-specific weights, which were adjusted for the size of land-based non-institutional population (excluding foreign domestic helpers) by age and sex.

The representativeness of the study sample was demonstrated by benchmarking the sample characteristics with the local population data. Afterwards, descriptive statistics were used to describe health status and health-related issues. All analyses were conducted by using Statistical Package for Social Sciences (SPSS) version 11.0.