HEALTH PROMOTION AND DISEASE PREVENTION **A Handbook for Teachers, Researchers, Health Professionals and Decision Makers**	
Title	**National Health Survey- Precondition for a Preventive and Health Promotion Intervention: Methodology and Implementation of 2003 Croatian Adult Health Survey**
Module: 1.9.3	**ECTS: 0,5**
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Key words	National health survey, methodology of adult health survey, strategy for health systems reforms,,Croatia
Learning objectives	After completing this module students and public health professionals should : • improve knowledge and tools in methodology and implementation of National Adult Health Survey; • have an awareness of the importance of National Health Survey as a precondition for a preventive and health promotion intervention; • have an understanding of research in health policy development.

Abstract	The paper describes the experiences of Croatian Adult Health Survey (CAHS) conducted in 2003 and targeted adult population (persons aged 18 years orolder) who are living in private dwellings in Croatia. Survey covered approximately 98% of the Croatian population aged 18 or older. CAHS included topics around the health status, determinants of health (smoking, physical activity, nutrition, alcohol use) and use of health care services by Croatians. Three levels of objectives are presented. The first level objectives were to provide timely, reliable, cross-sectional estimates in order to support the work around developing a public health information system and enhancing the national efforts in health promotion. The second level specific goals included gathering data for six major regions of Croatia and creating a survey instrument that could be used as a benchmark for future studies. The third level components were oriented toward development of public policy - to provide data for analytical studies, data on the economic, social, demographic, occupational and environmental correlates of health for understanding of the relationship between health status and health care utilization. Methodology and implementation of 2003 Croatian Adult Health Survey (stratification, sample and household sampling strategy, data collection and response rate as well as data processing, weighting and estimation are described in details. In conclusion, National Health Survey is a precondition for a preventive and health promotion intervention. Using the data from National Health Survey, health care professionals and policy makers are able to produce in-depth analysis supporting development of national health strategy and to improve the health of population.
Teaching methods	Short introductory lecture. Readings. Intensive small group discussion: Comparation between Croatian experiences and regional settings
Specific recommendations for teachers	If possible, use similar national examples (Case study), if any. Discuss similarities and differences.
Assessment of Students	Structured essay: Preconditions for preventive and health promotion intervention in (own) country)

NATIONAL HEALTH SURVEY- PRECONDITION FOR PREVENTIVE AND HEALTH PROMOTION INTERVENTION: Methodology and implementation of 2003 Croatian Adult Health Survey

Aleksandar Dzakula

Introduction

As part of an overall strategy for health system reforms in Croatia, Croatian Adult Health Survey (CAHS) was conducted in 2003. This survey included topics around the health status, determinants of health (smoking, physical activity, nutrition, alcohol use) and use of health care services by Croatians.

Specific target for this survey was the prevention of cardiovascular disease in Croatia. The survey questionnaire was designed through consultation with experts from the fields of epidemiology and public health, drawing on known survey instruments.

Under the management of the Canadian Society of International Health, medical doctors from the Andrija Stampar School of Public Health in Zagreb lead the Croatian Survey Project Team. Statistics Canada advised the Team on data quality and survey design. Survey collection took place during the summer of 2003, and results were officially released in December of 2003.

Background

Cardiovascular diseases are a leading cause of death in Croatia, in the year 2002 caused 52,8% deaths in Croatia. Between ten leading causes of death in Croatia five are from cardiovascular group, with ischeamic heart disease and cerebrovascular insult as leading.

Despite that, exact data on the spread of the most important risk factors, such as hypertension, smoking, obesity, insufficient physical activity are not available.

Also, Croatia has not any National Register on any leading cardiovscular disease. Further, there have not been any systematic, periodic (e.g. 3-5years) and standardized (allowing for international comparisons) studies of risk factors in a representative sample of the population which would allow for the monitoring of trends over time.

The mortality due to cardiovascular and cerebrovascular diseases in certain populations can be significantly reduced by acquiring a healthier way of life (non-smoking, proper diet and regular physical exercise, control and treating of hyperlipidemia, hypertension, diabetes etc.) and specific medical programs.

For any of preventive or health promotion program specific data are necesary.

Objectives

The *first level* objectives of the 2003 Croatian Adult Health Survey (CAHS) were to provide timely, reliable, cross-sectional estimates in order to support the work around:

- developing a public health information system;
- enhancing the national efforts in health promotion with emphasis on cardiovascular disease prevention;
- cardiovascular disease risk reduction, clinical prevention, and emergency care and
- promoting healthier lifestyles among the general population with emphasis on smoking prevention and cessation.

The *second level* specific goals of the survey included:

- gathering data for six major regions of Croatia and
- creating a survey instrument that could be used as a benchmark for future studies.

The *third level* components of the survey were oriented toward development of public policy - to provide data:

- for analytical studies that will assist in understanding the determinants of health;
- data on the economic, social, demographic, occupational and environmental correlates of health for understanding of the relationship between health status and health care utilization.

Content

The main priority for the survey was to examine health status, risk factors and health care utilization with a focus on cardiovascular disease.

A Steering Committee with representatives from the Croatian Ministry of Health, the Public Health Institute and the Andrija Stampar School of Public Health defined the content.

The survey and questionarxy were based on existing studies such as the CINDI, Short Form 36 (SF-36) and World Health Organization. (Table 1).

Table 1. Content modules: Questionarie Description

Categories	
Household:	size, income, rooms, etc.
Socio-economic:	characteristics, age, gender, marital status,education, occupation
Physical measurements:	blood pressure, pulse, height and weight
SF-36:	general health, activity, limitations, mental and physical problems
Health care services:	access, use, visits to doctors, specialists, dentists, etc.; difficulties in accessing services; healthinsurance, etc..
Chronic conditions:	asthma, cancer, back pain, rheumatic arthritis, etc.
Medication	
Preventative examinations	
Smoking:	daily smoking, attempts to stop, exposure to secondhand smoke
Eating habits:	breakfast, fat and caffeine intake, salt, fruit / vegetable consumption
Alcohol consumption	
Physical activity:	time spent for work andleisure

Target population

The 2003 CAHS targeted adult population (persons aged 18 years orolder) who are living in private dwellings in Croatia. Survey covered approximately 98% of the Croatian population aged 18 or older. Persons living in non-conventional dwellings, clientele of institutions, full-time members of the Croatia Armed Forces and residents of certain remote regions are excluded from this survey.

Definition of regions

The 2003 CAHS used the official definition of the five sub-national regions as proposed by the Central Bureau of Statistics; those five regions are groupings of counties. In order to ensure sufficient sample for the City of Zagreb, this important city has been removed from the Central region and a sixth region has been considered for the 2003 CAHS.

Stratification, sample and household sampling strategy

To meet the survey objectives of providing reliable estimates the six main regions have been further stratified based on city type (town/municipality) or districts for the City of Zagreb. Overall for the 2003 CAHS the country was stratified into 20 design strata. Calculating all criteria and taking into account anticipated non-response a sample of 11,250 units was required.

Through the cooperation of the Croatia Central Bureau of Statistics, the 2003 CAHS sample of dwellings was selected from the 2001 Census of Households under a multistage stratified cluster design. At the final stage 11 250 dwellings were selected. The households living in the selected dwellings formed the sample of households.

Sampling of interviewees

One person aged 18 or over per household was randomly selected using a simple random sampling approach. /Interviewers (nurses) were instructed to list the first and last names of everybody aged 18 or over living in the household.Using a vector of random numbers and based on the number of eligible persons, one individual was selected at random to participate in the survey.

Data collection and response

Data collection took place between April and June 2003 by 238 trained public health nurses from the County Institutes of Public Health as interviewers. Nurses conducted interview by formatted paper questionnaire and collected anthropometric measures such as height, weight, pulse and blood pressure at the end of the interview for all respondents.

Household addresses for every selected household under the jurisdiction of each interviewer were provided. Interviewers were instructed to first collect an inventory of the household members aged 18 years or older, and then according to a vector table found on each sample selection control sheet, randomly select the survey respondent. The interviewers had an introductory letter signed by the Minister of Health that legitimized them as interviewer, explained the importance of the survey and provided examples of how the data would be used.

After removing the out-of-scope units, a total sample of 10,766 households were selected to participate in the 2003 CAHS. Out of these selected households a response was obtained for 9,070 individuals which results in an overall response rate of 84.3%.

Data processing, weighting and estimation

Data capture was performed by two office staff members who captured the completed questionnaires. The quality of the data capture process was monitored through systematic quality control procedures where a random sample of 10% of the questionnaires were recaptured and reconciled.

Questionnaire design with pre-determined response categories facilitated captureand as well minimized error. Predefined response categories made it impossible for interviewers to enter out-ofrange values.

Each survey respondent was assigned a survey weight to represent his or her contribution to the total population. Taking into account the sample design, estimates are produced from the survey data by using estimation techniques from survey sampling theory.

Conclusion

The development, design and implementation of the National Health Survey requires the participation of several organizations. CAHS 2003 was led by the Canadian Society of International Health, the Croatian Ministry of Health, the Croatian Central Bureau of Statistics, the Andrija Stampar School of Public Health, the National Institute of Public Health and Statistics Canada. Experience showed that joined forces and shared expertise are necesary for successfully accomplishing a high quality population health survey.

Using the data from National Health Survey health care professionals and policy makers across will be able to produce in-depth analysis in support of the development of a national promotion strategy to improve the health of population. Furthermore obtained data will be useful for regional and periodical comparsions which are necesary for longterm plans and strategic decisions.

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