The South Australian Monitoring and Surveillance System (SAMSS).

INTRODUCTION

The South Australian Monitoring and Surveillance System (SAMSS) is a systematic telephone survey system which commenced data collection in July 2002. The system is administered by the Population Research and Outcome Studies unit (PROS), South Australian Department of Health.

SAMSS is an epidemiological monitoring system which aims to detect, and facilitate understanding of, trends occurring in the prevalence of chronic diseases, risk factors for ill health, health protective behaviours, and, other determinants of health.

The monitoring and surveillance objectives of SAMSS are achieved via systematic collection, analysis and dissemination of high quality, valid, reliable, representative, timely and relevant population data on persons of all ages in the South Australian community.

The system has been designed to meet the highest standards of population surveillance methodology with rigorous adherence to formal statistical techniques.

COMPUTER-AIDED TELEPHONE INTERVIEWING (CATI) SYSTEM

SAMSS uses a Computer-Aided Telephone Interviewing (CATI) system. The CATI system utilises computers to assist interviewers and supervisors in performing the basic data-collection tasks.

A number of characteristics of the CATI system contribute to the quality of the SAMSS data.

Firstly, CATI systems undertake many routine administrative functions, such as scheduling and documenting times of call attempts, allowing the interviewer to focus on the interview itself.

Secondly, a combination of CATI features reduce data omissions that can occur as a result of interviewer question completion or question sequencing errors. The computer-aided questionnaire function displays the questions to be completed on the interviewer's computer screen one question at a time, and, the next question is not displayed until a valid response to the preceding question has been recorded. Additionally, CATI systems have the ability to conduct complicated questionnaire sequences based on previous question answers, a combination of answers or mathematical computations performed on answers. Thus, the burden on interviewers to follow varying question sequences dependent upon participants' responses is removed.

Data entry errors are minimised by incorporating consistency data checks into the CATI questionnaire programming. Using the computer to record questionnaire responses directly into a database at the time of interview reduces transcription error and permits prompt analysis and reporting of the results.

CATI handles many different types of questions, including single response, multiple response, numeric and open-ended questions. It also has the facility to randomly rotate categories that are read out to reduce bias where there is a concern that the order of the categories will influence the respondent's answer.

SAMPLING PROCEDURE

SAMSS collects data monthly to ensure that changes caused by seasonal events or intervention initiatives are captured.

Sample frame and sample size.

The sample frame consists of all South Australian households listed in the Electronic White Pages (EWP). Each month, 860 households are randomly selected for inclusion in the survey.

The response rate for SAMSS is high (70%) resulting in more than 6000 completed interviews per annum. This large sample ensures a high level of confidence that the results and trends noted from the SAMSS data are applicable to the South Australian population as a whole. One advantage of the continuous surveillance system is the statistical power obtained as the data-set increases in size over time, thus, facilitating analysis of indicators by geographical regions or socio-demographic variables, and, time series analysis.

Selection of individuals within households.

Within households, the person who was last to have a birthday is selected to participate in the survey. If the selected person is less than 16 years, a surrogate interview is conducted with the child's parent (or other appropriate adult). Selected persons are non-replaceable, hence, if the selected person is not available, interviews are not conducted with alternative household members. At least six call backs are made to each household before the selected individual is classified as a non-contact.
THE SAMSS QUESTIONNAIRE

Questions included in the SAMSS questionnaire are intended to provide appropriate data on key indicators for national and state priority health areas. A core set of questions is asked every month with additional questions asked in alternate months. SAMSS can also include exploratory questions or questions related to particular DH initiatives or strategies. Thus, SAMSS is a flexible system.

A SAMSS Advisory Committee, including relevant experts, is responsible for selection of key indicators and the development of SAMSS.

SAMSS Question Topic

Initially, the following topics are included in the SAMSS questionnaire:

- Demographics
- Health Conditions
  - Arthritis
  - Asthma
  - Chronic Obstructive Pulmonary Disease
  - Cardiovascular Disease
  - Diabetes
  - Injury
  - Depression / Mental Health
  - Osteoporosis
  - Disability
- Physiological Risk factors
  - Body Mass Index
  - Cholesterol
  - High Blood Pressure
- Behaviours
  - Alcohol Consumption
  - Breastfeeding
  - Child Development
  - Immunisation
  - Nutrition
  - Physical Activity
  - Smoking
  - Sun protection
- Health Service Utilisation
- Medication usage
- Social Capital
- Quality of Life
- Economic indicators
- Socio-demographics

INTERVIEW METHODOLOGY

Prior to telephone contact, a letter is sent to each selected household to inform occupants of the purpose of the SAMSS survey.

Telephone interview calls are made between 9am and 9pm seven days per week. On average, each interview takes less than twenty minutes to be completed.

QUALITY CONTROL

The data collection agency is a member of Interviewer Quality Control Australia (ICQA), a national quality assurance initiative of the Market Research Society of Australia. Accredited organisations must strictly adhere to rigorous quality assurance requirements and are subject to regular audit. Interviewers receive extensive training and ten percent of the completed surveys are randomly selected for validation. The validation process involves re-contacting survey respondents to ensure that they meet the selection criteria within that household, that they were interviewed, and, that their responses to selected questions agree with their original responses. Data entry is fully verified to ensure accuracy of data capture. Recorded data is edited for accuracy and consistency.

ANALYSIS AND REPORTS

Prior to analysis, SAMSS data is weighted by the probability of selection within a household, and, to the sex, age and geographical area profile of the South Australian population. The most recent Australian Bureau of Statistics Estimated Residential Population data are used for the weighting process.

Routine analysis of the SAMSS data occurs monthly. The main focus of the analysis is time trend analysis (prevalence or frequency of the variable by month and year). Additionally, cross-tabulations and significance tests of key indicators with other health or socio-demographic variables are performed.

Dissemination of the information collected by SAMSS will commence in 2003. The information will be available primarily as an electronic report on the DH website. Hard copies of reports will be made available for organisations who do not have access to email or the Internet.

INFORMATION

For further information please visit the Population Research and Outcome Studies web site at http://www.dh.sa.gov.au/pehs/pros.html or contact Eleonora Dal Grande on 08 8226 0789 or email eleonora.dalgrande@health.sa.gov.au