North West Adelaide Health Study

BACKGROUND

The North West (NW) Adelaide Health Study is a collaboration between the North Western Adelaide Health Service (The Queen Elizabeth Hospital and Lyell McEwin Health Service campuses), the South Australian Department of Health, The University of Adelaide, and the University of South Australia.

This study has been designed to segment a large representative population sample according to stage of disease in order to identify each segment’s characteristics and determine how they change over time. This segmentation will allow interventions to be targeted at those who will benefit most in terms of better health outcomes and most efficient use of resources. The better those with specific health problems, diseases, or risk factors are described, the more precisely they can be targeted for policies and interventions that are based on a range of appropriate evidence-based characteristics. The chronic disease continuum (Figure 1) is used to segment the population according to their biomedical stage of disease. Conceptualisation of a continuum asserts that people with chronic conditions are not a homogenous group. Each segment has specific needs that will change as they progress along the continuum. It also asserts that, for greatest impact of interventions, the population should be targeted according to the stage of development along the continuum.

The NW Adelaide Heath Study addresses two of the six conditions identified as National Health Priority Areas, namely asthma and diabetes, because of the significant burden that they place on the community in terms of health, social, economic and quality of life costs. It also investigates chronic obstructive pulmonary disease (COPD), which includes bronchitis and emphysema, as this adds to the burden of respiratory disease and many risk factors associated with asthma are common to COPD. The risk factors analysed in relation to diabetes, asthma and COPD are also relevant to cardiovascular disease, which is also recognised as a health priority area.

Both the National Asthma Strategy and the National Diabetes Strategy have identified the need for further high quality research to increase capacity for disease prevention, delay, early detection and care of those people with established chronic disease. The goals of these strategies, and also the Strategic Plan for Diabetes in South Australia, include preventing or delaying the progression of asthma and diabetes, improving quality of life and reducing hospitalisation and complications, reducing the social and economic impact of these chronic conditions on the community, and optimising their management. The NW Adelaide Health Study is designed to fill the gap in quality population data to inform evidence-based approaches to policy and interventions by providing information on how to target groups of people with chronic disease and associated risk factors.

Figure 1: Continuum for CLD and diabetes

<table>
<thead>
<tr>
<th>Stage</th>
<th>Not at risk</th>
<th>At risk</th>
<th>Previously undiagnosed</th>
<th>Previously diagnosed without comorbidity/hospitalisation/ complications</th>
<th>Previously diagnosed with comorbidity/hospitalisation/ complications</th>
<th>Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk factors for progression along continuum</td>
<td>Family history</td>
<td>Diabetes Specific: Obesity, Physical inactivity, Previous gestational diabetes, Pre-diabetic state / IFG, Impaired glucose tolerance</td>
<td>CLD Specific: Smoking, Atopy, Socioeconomic status, Environmental exposures, Atopic illnesses - hayfever/eczema</td>
<td>Smoking, Obesity, Non-adherence to medications</td>
<td>Diabetes Specific: HbA1c (&gt;7%), BP (&gt;140/90), Cholesterol (&gt;5.5), Physical inactivity</td>
<td>CLD Specific: Severe infection (respiratory), Adverse environment, Socioeconomic status</td>
</tr>
</tbody>
</table>

PREVENTION DELAY / EARLY DETECTION PREVENTION / DELAY / EARLY DETECTION / CARE
OBJECTIVES

The overall aims of the NW Adelaide Heath Study are to:

- Assess the measured clinical prevalence of priority health problems: diabetes and chronic lung diseases, and the clinical prevalence of the key risk factors for these diseases and their demographic distributions.
- Segment each of the diseases to investigate the specific health issues and needs of different sub-groups so that more effective policy can be developed and more precise targeting of these diseases can occur.
- Describe the costs of these disease segments to the individual and the health system through linkage with HIC data.
- Following segmentation of the diseases, qualitatively assess the differential understanding, management and contextual difficulties associated with positive and negative health outcomes.
- Track the cohort over time to identify the incidence of new cases of disease and the rate at which complications develop.

SURVEY DESIGN

CATI Recruitment

Sample

All households in the North Western area of Adelaide with a telephone connected and the telephone number listed in the Electronic White Pages (EWP) were eligible for selection in the NW Adelaide Heath Study. The sample was stratified into the two health regions: Western Adelaide and Northern Adelaide.

Within each household, the person who had their birthday last, and was 18 years or older, were selected for interview and were invited to attend the clinic. People who were mentally disabled or had dementia were excluded from the sample and replaced by another person in the household.

Introductory letter

A letter introducing the study and an information brochure were sent to the household of each selected telephone number.

Questions

Issues covered in the recruitment questionnaire included various health conditions, mental health, smoking status, reason for not wanting to participate in the study, and demographics.

Pilot

The questionnaire and study was pilot tested in December 1999 (n=100). The original questionnaire was amended on the basis of the information obtained.

Data collection

Recruitment was undertaken from February 2001 to November 2001. A CATI (Computer Assisted Telephone Interviewing) system, using QPL (Questionnaire Programming Language), was used to conduct the interviews. Telephone calls were made by professional interviewers on all days of the week at various times of the day and evening. The interviews were conducted in English.

Response rates

The overall response rate was 68.4%. Initially a sample of 6200 was drawn. Sample loss of 1194 occurred due to non-connected numbers, non-residential numbers, and fax/modem connections. In all, 2523 people participated in the study.

Weighting

The data were weighted by region, age groups, sex and probability of selection in the household to the Australian Bureau of Statistics's 1999 Estimated Residential Population.

Clinic appointments

Information folder

When the respondent agreed to participate in the study, an information folder was sent out to the person. The folder included a letter clarifying the date of the appointment, self-completed questionnaire, information sheet, and a map of the clinic.

Information collected at the clinic / clinic procedures

Respondents were given the option of attending a clinic at either The Queen Elizabeth Hospital or the Lyell McEwin Hospital. Most clinic appointments were in the mornings although some afternoon times were available. Up to one hour was set aside for each person attending the clinic.

On the initial contact, respondents were told to fast 8 hours before the clinic appointment. The clinic tests conducted were:

- Blood pressure measurement
- Height and weight measurement
- Waist and hip measurement
- Blood test (fasting plasma glucose, lipids, HbA1c)
- Allergy skin test
- Spirometry breathing test

REPORTING

Analyses and results of the NW Adelaide Heath Study, including prevalence of diagnosed and undiagnosed chronic conditions, prevalence of risk factors, and implications for policy and future research, will be presented in reports. See below for further information.

INFORMATION

For further information about the results from the study please visit the web site at: http://www.dh.sa.gov.au/pehs/cpse/sercis-publications.html or contact Anne Taylor on 08 8226 6323 or email anne.taylor@health.sa.gov.au