Australian Bureau of Statistics

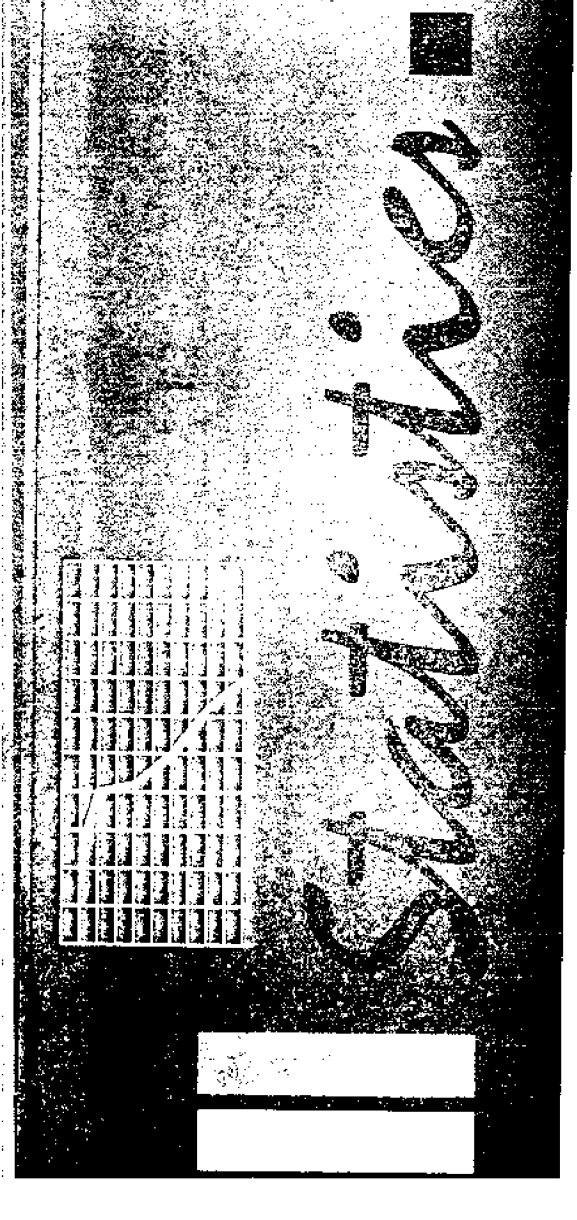
1995

EMBARGO: 11:30 AM (CANBERRA TIME) THURS 19 DEC 1996

National Health Survey

Users' Guide

Australia



NATIONAL HEALTH SURVEY USERS' GUIDE, AUSTRALIA 1995

W. McLennan
Australian Statistician

AUSTRALIAN BUREAU OF STATISTICS

CATALOGUE NO. 4363.0

© Commonwealth Of Australia 1996

Produced by the Australian Government Publishing Service

CONTENTS

		Page
Preface		v
List of acronyms and abbreviations		vi
Introduction		1
Survey design and operation		4
Survey content and methods		22
Health status		25
Health-related actions		36
Health risk factors		58
Population characteristics		85
Interpretation of results		100
Data output and dissemination		107
Other health and related ABS publications		112
APPENDIXES		
	A Classification of medical conditions	117
	B 1995 NHS classification of medications	132
	C Classification of country of birth	137
	D Classification of language other than English spoken at home	138
	E Classification of others consulted	139
	F Estimation formula	140
	G Classification of types of alcoholic drinks	142
	H Standard errors	143
	I SF-36 scoring and imputation	149

INQUIRIES

- *for further information about this survey,* contact Brian Richings on Canberra (06) 252 5786.
- *for information about other ABS statistics and services*, please refer to the back of this publication.

PREFACE

This publication contains details about the 1995 National Health Survey (NHS). It includes information about survey objectives, the development process, content of the survey and the concepts, methods and procedures used in the collection of data and derivation of estimates. Also included is information about the products and services available from the 1995 NHS and other ABS health-related surveys. In addition, classifications and other relevant material are provided as Appendixes.

The purpose of the Users' Guide is to provide information about the survey which will assist users of the data in better understanding the nature of the survey, its potential and its shortcomings in meeting their data needs. Supplementary information about the survey is contained in the 1995 NHS Data Reference Package, which includes a set of questionnaires and a list of output data items.

W. McLennan
Australian Statistician

Australian Bureau of Statistics
December 1996

LIST OF ACRONYMS AND ABBREVIATIONS

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
ASCO	Australian Standard Classification of Occupations
ASGC	Australian Standard Georgraphical Classification
ATC	Anatomical Therapeutic Chemical
CD	Collector's District
DVA	Department of Veterans Affairs
GHWB	General Health and Well-Being
HRT	Hormone Replacement Therapy
ICD	International Classification of Diseases
ICD 9	International Classification of Diseases
IUD	Intrauterine Device
LGA	Local Government Area
n.a.	Not available
NATSIS	National Aboriginal and Torres Strait Islander Survey
n.e.c.	Not elsewhere classified
NH&MRC	National Health and Medical Research Council
NHS	National Health Survey
NNS	National Nutrition Survey
n.o.s.	Not otherwise specified
OHP	Other health professionals
OMR	Optical Mark Reader
SEIFA	Socioeconomic Indexes for Areas
SF-36	Medical Outcomes Study Short Form 36 health status questionnaire
SLA	Statistical Local Area
WHO	World Health Organisation

INTRODUCTION

OVERVIEW OF THE SURVEY

The National Health Survey was conducted by the Australian Bureau of Statistics (ABS) during the 12 month period January 1995 to January 1996. It is the second in a series of regular five-yearly population surveys designed to obtain national benchmark information on a range of health-related issues and to enable the monitoring of trends in health over time. Surveys in this series comprise a core data set which will be repeated in successive surveys in order to maintain direct comparability between the surveys, and a supplementary data set which can be varied from survey to survey to address key health issues of the day.

The 1995 NHS aimed to collect information about the health status of Australians, their use of health services and facilities and health-related aspects of their lifestyle. The first survey in this series was the 1989–90 NHS. Surveys conducted by the ABS in 1977–78 and 1983, while not part of the NHS series, also collected information similar to that obtained in the 1995 NHS. In addition, a range of other ABS surveys on health and related issues have been conducted at the national level and for individual States and Territories. Information about previous ABS surveys of health and related issues is contained in the section Other Health and Related ABS Publications, page 112.

After sample loss, about 23,800 households, representing about 1 in 310 of the non-institutionalised population throughout Australia were selected in the 1995 NHS. The sample design ensured that within each State or Territory each person had a known, and in the main, an equal chance of selection. In Victoria, South Australia, the Australian Capital Territory and the Northern Territory, the sample was increased (see Survey Design and Operation). Trained ABS interviewers personally interviewed each member of the selected households aged 18 years or more, and with the consent of parents or guardians, children aged 15–17 years. Parents or guardians were asked to answer questions in respect of their younger children. Although the survey was conducted over a 12 month period selected households were interviewed only once in that period. Medical records were not required and no tests were given.

Information sought at the interview included details of recent and long-term medical conditions experienced by respondents, actions people had taken in response to those conditions (e.g. consulted a doctor, took medication) or for other reasons (e.g. preventive health) and aspects of their lifestyle which may affect their health such as smoking, alcohol consumption and exercise. In addition to the interview questionnaire, approximately half of the adult respondents were invited to complete an additional questionnaire, the Medical Outcomes Study Short Form 36 health status questionnaire (known as the SF-36) designed to indicate overall health and well-being, and around half of adult female respondents were invited to complete a small additional questionnaire relating to specific aspects of women's health. The survey design enables information for all topics to be analysed in relation to other topics, and in relation to a range of demographic and socioeconomic characteristics.

Of those respondents to the NHS, a little under 40% (21,200 persons) were also selected to take part in a National Nutrition Survey (NNS). This survey, which was primarily funded by Commonwealth, State and Territory authorities, collected information about the nutritional patterns of Australians. Interviews for this survey were conducted in the respondent's home by trained nutritionists. Respondents were asked questions about the types and quantities of foods eaten as well as having certain measurements (height, weight, hip circumference) taken. Those

aged over 16 years also had their blood pressure taken. One or more members of those households, selected at random was/were invited to participate. For more information refer to the Users' Guide on the NNS.

Expansion factors were applied to the data obtained from respondents of the NHS to obtain estimates for the total population within the scope of the survey.

The survey was conducted under the authority of the *Census and Statistics Act 1905*. The ABS sought the willing cooperation of households in the survey. The confidentiality of all information provided by respondents was guaranteed. Under its legislation the ABS cannot release identifiable information about households or individuals.

BACKGROUND TO THE SURVEY

Development of the 1995 NHS began in 1993. The ABS initially approached a wide range of organisations in the health field to inform them about the NHS, and to invite them to give their views and provide details of their data requirements and priorities for the 1995 survey. Submissions were received from over 80 organisations, and expressions of interest were received from other organisations and individuals. Officers of the ABS met with user groups in all States to discuss and clarify their data requirements. A survey advisory committee was established to assist the ABS in the ongoing consultation process and to advise on data requirements.

The committee comprised 17 members representing Commonwealth and State health authorities, research centres, professional and community health organisations and the ABS. The committee met on seven occasions from June 1993 to December 1995. Reports on all stages of the development and testing process were prepared for committee consideration, and distributed to other interested organisations and individuals on request. Experts outside the committee were consulted on specific issues as required e.g. diabetes.

A major aspect of the committee's role was determining priorities. The range of topics and the range of items within topics requested in submissions and through discussions with users for inclusion in the survey far outstripped the capacity of the survey. All topics identified through this consultation process were assessed, and relative priorities were established with the assistance of the advisory committee. Criteria applied in this process included:

- prevalence of the characteristic throughout the community;
- public importance of the topic as a health concern (e.g. relevance to national health goals and targets);
- methodological issues;
- respondent participation e.g. privacy, sensitivity, respondent load;
- need for comparability with previous collections;
- existence of other data sources;
- required frequency of collection; and
- relationships to other topics in the survey.

Topics ultimately selected for inclusion in the survey were those identified as being of highest priority and which could be appropriately addressed in an ABS household survey of this type.

In order to accommodate as many of the high priority topics as possible, while ensuring the survey remained within acceptable time and cost parameters, it was decided to split the sample such that some sections of the survey were administered to half the sample only (see Sample Design and Selection, page 6).

Survey questionnaires and associated procedures, classifications, etc. were tested to ensure the survey instruments were effectively and accurately addressing the issues intended, and to investigate respondent reaction to the survey. Major tests were conducted in Brisbane in October 1993, November 1993 and January 1994, and in Melbourne in August 1994. In addition some small-scale testing (skirmishes) of specific topics was undertaken in other States.

Throughout the lead up to the survey the ABS consulted with agencies representing health, privacy, political and general community interests, as a means of keeping the community informed of survey plans. All aspects of the survey's implementation were designed to conform to Information Privacy Principles set out in the *Privacy Act 1988*.

SURVEY DESIGN AND OPERATION

	Page
Scope and coverage	5
Scope of the survey	5
Coverage rules	5
Sample design and selection	6
Sample design	6
Sample selection	7
Sampling of Indigenous persons	8
Sub-sampling	9
Data collection	9
Interviews	9
Interviewers	11
Questionnaires	11
Measures to maximise response	13
Response rates	14
Data processing	16
Office procedures	16
Country of birth coding	16
Coding of language spoken at home	16
Coding of occupation	16
Optical Mark Reading	16
Clerical processing	17
Coding of medical conditions/other reasons for action	17
Coding of type of medication	17
Coding of alcohol consumption	18
Coding of others consulted	18
Data entry	18
Edit checks	18
Family relationship coding	19
Computer processing	19
Creation of hierarchical file	20
Estimation procedures	20
Benchmarks	20
Weights	20

SCOPE AND COVERAGE

Scope of the survey

The survey covered urban and rural areas across all States and Territories of Australia, and included residents of both private and certain non-private dwellings. A private dwelling was defined as a house, flat, home unit, caravan, garage, tent and any other structure being used as a private place of residence at the time of the survey. Non-private dwellings included hotels and motels, hostels, boarding houses and caravan parks. It should be noted that hospitals, nursing and convalescent homes were excluded from the scope and/or coverage of the survey, as were prisons, reformatories and single quarters of military establishments. All households within sampled private dwellings were included in the survey along with a random sample of individuals residing in non-private dwellings. Generally speaking, a household comprised a group of persons living together in a dwelling who considered themselves to be separate from other people in the dwelling and who made regular provision to take meals together.

The following persons living in Australia, but not usually considered part of the Australian resident population, were excluded from the scope of the survey:

- diplomatic personnel of overseas governments and non-Australian members of their households;
- non-Australian service personnel stationed in Australia and their dependents; and
- overseas visitors whose usual place of residence is outside Australia.

Non-Australians (other than those above) working in Australia, or in Australia as students or settlers, and their dependents, were included in the survey scope.

Coverage rules

Coverage rules were designed to ensure that, as far as possible, persons remaining within the scope of the survey (after the above exclusions were applied) had only one chance of being interviewed.

Usual residents of selected private dwellings were included in the survey if they were staying at, or had stayed at, the selected dwelling for any part of the month of interview or any part of the previous month. Usual residents who were absent from the dwelling for the entire two month period were excluded on coverage grounds.

Visitors to selected private dwellings who did not usually live in a private dwelling were included in the survey. Visitors who usually lived in a private dwelling were included in the survey only if they had not been at their own usual dwelling for any part of the previous month and would not be at their own usual dwelling for any part of the month of interview.

Persons in non-private dwellings in the scope of the survey were included if they usually lived in a non-private dwelling or if they usually lived in a private dwelling but would not be at their own usual dwelling for any part of the month of interview and they had not been at their own usual dwelling for any part of the previous month.

SAMPLE DESIGN AND SELECTION

Sample design

Decisions on the appropriate sample size, distribution and method of selection rested on consideration of the aims of the survey, the topics it contained, the level of disaggregation and accuracy at which the survey estimates were required, and the costs and operational constraints of conducting the survey.

For the 1995 NHS, a base sample size approximating one-third of 1% of the population was initially chosen. This equates to approximately 16,400 private dwellings and non-private dwelling units distributed across all States and Territories after eliminating demolished and vacant dwellings or dwellings otherwise out of scope. This sample size is considered sufficient to provide:

- detailed information for each State, Territory and Australia;
- relatively detailed data for capital city/rest of State areas within each State;
- broad level estimates for regions within the more populous States; and
- estimates for those characteristics which are relatively common and sub-populations which are relatively large and spread fairly evenly geographically.

The sample size also provides for an acceptable level of accuracy and reliability after allowing for households or persons who do not respond to the survey (e.g. refusals, non-contacts, or inability to respond through illness or due to language difficulties).

To meet requirements for enhanced reliability of regional estimates, and the level of disaggregation of data which could be provided at the regional level, the base sample was increased in Victoria, South Australia, the Northern Territory and the Australian Capital Territory. In Victoria the base sample was doubled in Melbourne and increased by 50% in the remainder of the State, while in South Australia the sample was doubled throughout the State. The sample in the Northern Territory was increased six-fold in Darwin and Alice Springs, and was increased by around 75% in the Australian Capital Territory. All costs associated with the collection and input processing of data for the additional sample were met by, or on behalf of, the requesting agencies i.e. in Victoria by the Department of Health and Community Services and the Victoria Health Promotion Foundation, in South Australia by the South Australian Health Commission, by Territory Health Services in the Northern Territory and by the Department of Health and Community Care in the Australian Capital Territory.

To enhance the reliability of data for the Indigenous population and facilitate direct comparisons with the health characteristics of non-Indigenous Australians, an additional sample of around 1,000 Indigenous respondents, was obtained for the survey bringing the total sample of Indigenous persons responding to the survey to approximately 2,000. This sample is considered sufficient to provide reliable national estimates for the Indigenous population, relating to the more common health characteristics. Details of the sample of Indigenous persons are provided in the next section (Sample Selection).

The costs associated with the additional Indigenous sample were met by funds provided by a consortium of Commonwealth agencies, comprising the (then) Department of Community Services and Health, the Australian Institute of Health and Welfare (AIHW) and the Aboriginal and Torres Strait Islander Commission, and by health authorities in all States.

Details of the final sample selected for the 1995 NHS are set out below:

State/Territory	Private and special dwelling units	Sampling fraction Metropolitan	Ex-metropolitan
NSW	4 476	1/500	1/550
Vic.	7 061	1/240	1/320
Qld	3 697	1/390	1/390
SA	4 871	1/140	1/140
WA	2 805	1/290	1/290
Tas.	1 589	1/150	1/150
NT	1 981	1/30	1/150
ACT	2 156	1/90	n.a.
Aust.	**28 636**	**1/240**	**1/290**

Sample selection

The 1995 NHS was conducted on a multi-stage area sample of private dwellings (houses, flats, etc.) and a list sample of non-private dwellings (hotels, motels, etc.).

The area-based selection of the private dwelling sample ensured that all segments of the population were represented in the sample. Each State and Territory was divided into a number of areas or 'strata', each consisting of a Local Government Area (LGA) or group of LGAs (two LGAs per strata on average) determined to be relatively homogeneous in respect of the socioeconomic characteristics of the households within the stratum. Each stratum in turn contained a number of Census Collector's Districts (CDs) determined for the 1991 Population Census. Each CD contained approximately 250 dwellings. The sample was selected to ensure that each dwelling within the same stratum had the same probability of selection.

In capital cities and other major urban or high population density areas the sample was selected in three stages:

- a sample of CDs was selected from each stratum with probability proportional to the number of dwellings in each CD;
- each selected CD was divided into groups of dwellings or blocks of similar size, and one block was selected from each CD, with probability proportional to the number of dwellings in the block; and
- within each selected block a list of all private dwellings was prepared and a systematic random sample of dwellings was selected. Dwellings selected were not contiguous, with 6–9 dwellings between each one selected.

In strata with low population density each stratum was initially divided into units, usually corresponding to towns or LGAs or combinations of both, and one or two units were selected from each stratum with probability of selection proportional to the number of dwellings in each unit. Within selected units, the sample of dwellings was arrived at in the same manner as outlined for high population density areas. The effect of this approach is that sample was not necessarily selected from each LGA, rather those selected represented neighbouring LGAs of similar geographical characteristics.

The sample of non-private dwellings was selected separately from the sample of private dwellings to ensure they were adequately represented in the sample. The non-private dwelling strata were formed by combining private dwelling strata to a level corresponding to Statistical Subdivisions, Divisions or combinations of these. The sample of non-private dwellings was then selected in two stages:

- a sample of non-private dwellings was selected from each stratum with probability proportional to the average occupancy of the non-private dwelling; and
- a list of units (rooms, beds, etc.) was prepared for each selected non-private dwelling and a systematic random sample of units was selected.

For the sample as a whole, all persons within selected dwellings/units were included in the survey, subject to scope and coverage provisions. The selection methods described above ensured a known and equal chance of selection for each person within each State and, an equal chance of selection within each State (except in Victoria where a proportionately higher sample of dwellings in the metropolitan area of Melbourne was drawn, in the Northern Territory where a higher sample was drawn in Darwin and Alice Springs, and the Australian Capital Territory).

To take account of possible seasonal effects, the sample was allocated equally to each quarter of the 12 month collection period. CDs were randomly allocated in such a way as to ensure an acceptable compromise between an even spread of sample throughout the year and adequate workloads for interviewers. However, no workloads were allocated during the three weeks commencing 18 December 1995.

Sampling of Indigenous persons

As noted previously, the main sample of Indigenous persons was supplemented in order to improve the reliability of national estimates and enable comparisons to be made of the health characteristics of the Indigenous and non-Indigenous populations. The supplementary sample of Indigenous people was selected through a two-stage process whereby CDs were selected, then in scope dwellings within those selected CDs were identified. All people identified within those dwellings as Aboriginal and/or Torres Strait Islander were enumerated (subject to standard scope and coverage rules).

For the supplementary sample, CDs were stratified according to the size of the Indigenous population identified at the 1991 Census of Population and Housing; small and large (less than or more than 400). CDs were selected within each stratum to provide a good regional allocation of the total sample, while providing some balance in interviewer workloads across States and with a view to minimising data collection costs. CDs which had been included in the 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS) were excluded from selection through considerations for respondent load, as were CDs included in the main NHS sample. The number of CDs included in each stratum, which was calculated assuming a 20% non-response rate, was 23 from small and 19 from large. In considering these numbers, the contribution to the total sample of Indigenous people from the main sample needs to be borne in mind.

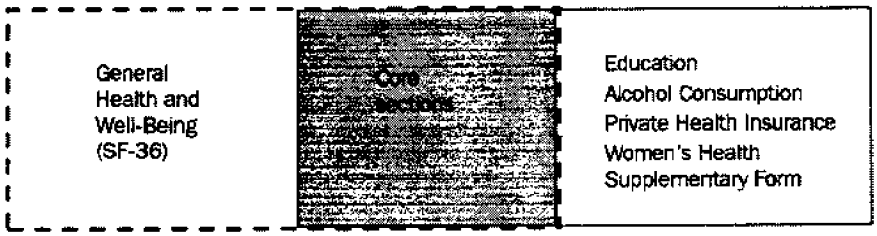
The identification in selected CDs of households containing Indigenous people was undertaken by interviewers. In CDs from large strata (as defined above) every second dwelling was approached; in CDs in small

strata all dwellings were approached. In both cases, all Indigenous people identified (in on scope and coverage) were enumerated, to a maximum of 50 in each selected CD.

Records for Indigenous respondents in the main sample contribute to general population estimates from the survey. These records, together with records for Indigenous repondents to the supplementary sample also contribute to separate estimates for the Indigenous population available from the survey.

Sub-sampling

As noted previously, in order to maximise the capacity of the survey within acceptable interview time and cost limits, some sections of the survey were administered to half the sample only, while core sections were administered for all respondents (as appropriate to their age), as illustrated below:



Sub-sample selections were made on a block basis, and were undertaken prior to initial interviewer contact with households, to ensure the selection process was unbiased.

Arrangements for sub-sampling within the additional sample of Indigenous people differed from those outlined above. In recognition of concerns expressed by the Aboriginal and Torres Strait Islander Commission about the appropriateness of the General Health and Well-Being (GHWB) and women's health supplementary questionnaires, these instruments were not administered to Indigenous respondents in the supplementary sample. All respondents in this sample received the core sections of the survey together with sections covering education, alcohol consumption and health insurance.

DATA COLLECTION

Information was obtained in the 1995 NHS by trained ABS interviewers, in the main through personal interviews with each adult member of selected households in scope and coverage of the survey. Those respondents selected for the NNS were contacted again later and interviewed by a trained nutritionist. Aspects of data collection are discussed below under the headings: interviews, interviewers and questionnaires.

Interviews

Except for households included in the supplementary sample of Indigenous people which were approached directly by interviewers, selected households were initially approached by mail informing them of their selection in the survey and advising them that an interviewer would call to arrange a suitable time to conduct the survey interview. A brochure, providing some background to the survey, information concerning the interview process and a guarantee of confidentiality was included with the initial approach letter. For a small number of households where the ABS did not have an adequate postal address, this was not possible.

At the initial visit by the interviewer, a household form was completed from information provided by a responsible adult member of the household. This form sought details of the number and basic demographic characteristics of the persons in the household and established those persons in scope and coverage of the survey.

If the household was part of the half sample selected to answer the GHWB form, all members aged 18 years or older were asked to complete an SF-36 (see General Health and Well-Being, page 33 and SF-36 Scoring and Imputation, Appendix I, page 149), prior to commencing the main interview. This methodology was adopted so that the respondent's answers to the SF-36 would not be influenced by any illness-related questions in the main questionnaire. These questionnaires were filled out by the respondent; an interviewer only assisted if there was a language or literacy problem. SF-36 forms were available in 12 languages other than English (i.e. Argentinean-Spanish, Spain-Spanish, France-French, Canada-French, Danish, German, Italian, Japanese, Dutch, Flemish, Norwegian and Swedish). These were the only non-English language versions of the form which had been authorised at the time of the survey. Cases where the form was interviewer administered were flagged, enabling their separate identification for analyses.

A personal interview was conducted where possible with each adult member of selected households. Children aged 15–17 years were interviewed with their consent and the knowledge and permission of a parent or responsible adult. If permission was not received to allow the child to be interviewed personally a parent or responsible adult was interviewed on their behalf. Children aged 0–14 years were not interviewed; a parent, guardian or close relative was asked to answer on their behalf.

In some instances adult respondents were unable to answer for themselves because of old age, illness, intellectual disability or difficulty with the English language. In these cases, a person responsible for them was interviewed on their behalf, provided the interviewer was assured that this was acceptable to the subject person. Where there were language difficulties other persons in the household may have interpreted if this was suggested by the respondent. If not, arrangements were made for the interview to be conducted either by an ABS interviewer fluent in the respondent's own language or with an ABS interpreter.

In order to obtain a personal interview with appropriate respondents, interviewers made appointments to call-back as necessary to the household. In some cases appointments for call-backs were made by telephone; however, all interviews were conducted face to face. Interviews may have been conducted in private or in the presence of other household members according to the wishes of the respondent.

At the completion of the interview, female respondents aged 18 years and over and who were not included in the sample selected for GHWB form, were invited to complete an additional questionnaire relating to women's health issues. Participating women completed the questionnaire themselves and returned the form to the interviewer in a sealed envelope provided. To assist in overcoming language difficulties, this questionnaire was made available in Arabic, Chinese, Croatian, German, Greek, Italian, Polish, Serbian, Spanish, Turkish and Vietnamese as well as English.

In total, conduct of the survey averaged approximately 69 minutes per household, which included completion of the household form, all

personal (and/or proxy) interviews and completion of the SF-36 or women's health supplementary questionnaire.

In cases where a respondent initially refused to participate in the survey a follow-up letter was sent and a second visit was made to the respondent, usually by an office supervisor, to explain the aims and importance of the survey and to answer any particular concerns the respondent may have had. No further contact was made with the respondent if they refused at the second approach to participate. Persons missed from the survey through non-contact or refusal were not replaced in the sample.

Interviewers

Interviewers for the 1995 NHS were primarily recruited from a pool of trained interviewers with previous experience on ABS household surveys. Those selected to work on this survey underwent further classroom and field training and were required to satisfactorily complete home study exercises. All phases of the training emphasised understanding of the survey concepts, definitions and procedures in order to ensure that a standard approach was employed by all interviewers concerned.

Each interviewer was supervised in the field in the early stages of the survey and again later in the year to ensure consistent standards of interviewing procedures were maintained. In addition, regular communication between field staff and survey managers was maintained throughout the survey via database systems set up for the survey.

Interviewers were allocated a number of dwellings (a workload) at which to conduct interviews. The size of the workload was dependent upon the geographical area and whether or not the interviewer was required to live away from home to collect the data. Interviewers living close to their workload area in urban areas usually had larger workloads. Overall, workloads averaged 25–30 dwellings, to be enumerated over a two-week period.

Questionnaires

Four questionnaires were developed for and used in the 1995 NHS, as outlined below.

Household Form — this form was used for the private dwelling sample to collect basic demographic data (e.g. sex, age, birthplace, Indigenous status) and details of the relationship between individuals in each household. This information was obtained from any responsible adult within the household. The form was also used to apply scope and coverage rules (see Scope and Coverage, page 5) and for recording the details of calls by the interviewer to the household and the subsequent response status of the household in the survey (e.g. fully responding, refusal, vacant dwelling, etc.).

A similar form (the special dwellings form) was used for the non-private dwellings in sample and the extra Indigenous sample (the Supplementary Indigenous Sample Form) in the same way as the household form.

Personal Interview Questionnaire — a single questionnaire was used to collect information from individuals about health-related actions they had taken, recent and long-term illness conditions experienced, selected lifestyle behaviours, etc. Like the previous NHS, there was no separate children's questionnaire nor was a separate questionnaire used for different selected sample populations; respondents were sequenced around those sections of the questionnaire inappropriate to their age group or sections not relevant to their sample group.

This questionnaire was designed to be administered using standard ABS procedures for conducting population interview surveys, having regard to the particular aims of the survey and of the individual topics within it, and to the methodological issues associated with those topics. Other factors considered in designing the questionnaire included the length of individual questions, the use of easily understood words and concepts, the number of subjects and overall length of the questionnaire, sensitivity of topics, etc. Where appropriate, excerpts from previous ABS surveys on the topics covered were adopted. The questionnaire was fully field tested to ensure:

- it was adequately addressing the data requirements from the survey i.e. it obtained the data required in the most effective and efficient way;
- there was minimum respondent concern about the sensitivity or privacy aspects of the information sought, effective respondent/interviewer interaction, acceptable levels of respondent load, etc; and
- the operational aspects of the survey were satisfactory e.g. arrangement of topics, sequencing of questions, adequacy and relevance of coding frames, etc.

The questionnaire employed a number of different approaches to recording information at the interview:

- questions to which responses were classified by interviewers to one or more of a set of predetermined response categories. This approach was used for recording answers to the more straightforward questions, where logically a limited range of responses was expected or where the focus of interest was on a particular type or group of response (which were listed in the questionnaire, with the remainder being grouped together under 'other');
- questions to which responses were recorded by interviewers as reported, for subsequent classification and coding by office staff during processing. This style of question was used for the potentially more complex topics such as type of illness condition, type of medication used, type and quantity of alcohol consumed, etc;
- questions asked in the form of a running prompt i.e. predetermined response categories were read out to the respondent one at a time until the respondent indicated agreement to one or more of the categories (as appropriate to the topic) or until all the predetermined categories were exhausted; and
- questions asked in association with prompt cards. Printed lists of possible answers to the question were handed to the respondent who was asked to select the most relevant responses. By listing a set of possible responses (either in the form of a prompt card or a running prompt question) the prompt served to clarify the question or to present various alternatives, to refresh the respondent's memory and at the same time assist the respondent to select an appropriate response.

To ensure consistency of approach, interviewers were instructed to ask the interview questions as written in the questionnaire. In certain areas of

the questionnaire however, interviewers were asked to use indirect and neutral prompts, at their discretion, where the response given was for example, inappropriate to the question asked or lacked sufficient detail necessary for classification and coding. This occurred particularly in relation to type of illness, where interviewers were asked to prompt for a condition if a treatment or symptom was initially reported.

General Health and Well-Being Form (SF-36) — this form was given to adults (aged 18 years and over) in selected households for self-completion prior to administration of the main questionnaire. Instructions to respondents on how to complete the form were contained on the form itself, a brief demonstration on how to correctly fill out the Optical Mark Reader (OMR) readable boxes was also given.

Women's Health Supplementary Form — this form was provided at the completion of their interview to female respondents aged 18 years and over who were not selected in the General Health and Well-Being sample. It contained thirty questions relating to specific women's health issues and was completed by the respondent in writing and returned to the interviewer in a sealed envelope. This approach was adopted in recognition of the potential sensitivity of the topics covered. Instructions to respondents on how to complete the form were contained on the form itself, a brief demonstration on how to correctly fill out the OMR readable boxes was also given. In general, this form was to be completed without interviewer intervention, but interviewers may have assisted respondents if queried regarding the applicability of specific questions to themselves, etc.

All questionnaires and related prompt cards are available in the NHS: Data Reference Package which can be obtained from any office of the ABS at a cost of $20.00.

MEASURES TO MAXIMISE RESPONSE

Response to a survey can be considered in two parts:

- obtaining contact with or information from selected respondents; and
- ensuring that the information obtained is as accurate and relevant to survey objectives as possible.

This section deals with the first of these shown above. Measures taken to ensure accuracy and relevance of the data (e.g. survey procedures, questionnaire design, interviewers, etc.) have previously been outlined in this chapter.

In any sample survey responses should ideally be obtained from all selected units; in practice however there will always be some non-response, when people refuse to cooperate, cannot be contacted or are contacted but cannot be interviewed. It is important that response be maximised in order to reduce sampling variability and avoid biases. Sampling variability is increased when the sample size decreases and biases can arise if the people who fail to respond to the survey have different characteristics from those who did respond.

The ABS sought the willing cooperation of selected households. Measures taken to encourage respondent cooperation and maximise response included:

- advice to selected households, initially by letter, explaining that their dwelling had been selected for the survey, the purposes of the

survey, its official nature and the confidentiality of the information collected. The letters gave advance notice that an ABS interviewer would call, and provided an ABS contact number for more information if required. An information brochure, specially designed for selected households was provided with the initial approach letter. This procedure could not be followed for a small number of households where the ABS did not have an adequate postal address, and was not adopted for households included in the supplementary sample of Indigenous people (see Sampling of Indigenous Persons, page 8);

- stressing the importance of participation in the survey by selected households. Each selected dwelling (and its residents) represented a number of others in that local area in that State and in Australia. Each household selected, represented a number of others like them in size, composition, location, occupation, lifestyle and health. The cooperation of those selected was important to ensure all households/persons were properly represented in the survey and so properly reflected in survey results;

- stressing the importance of the survey to the planning and provision of health services and facilities to meet Australia's health needs; and

- stressing the confidentiality of all information collected. The confidentiality of data is guaranteed by the *Census and Statistics Act 1905*; under provisions of this Act the ABS is prevented from releasing any identifiable information about individuals or households to any person, organisation or government authority.

Through call-backs and follow-up at selected dwellings, every effort was made to contact the occupants of each selected dwelling and to conduct the survey in those dwellings. Interviewers made at least three call-backs in rural areas and at least five in urban areas before a dwelling was classified as a 'non-contact'. Call-backs occurred at different times during the day to increase the chance of contact. Once contacts had been made at a dwelling the interviewer completed all necessary questionnaires. If any persons who were to be included in the survey were absent from the dwelling when the interviewer called, arrangements were made to return and interview them. Interviewers made return visits as necessary in order to complete questionnaires for all persons within the scope and coverage of the survey. In some cases, individual members of a household were not subsequently available for interview, and these were classified as individual non-contacts.

Respondents who refused to participate were usually followed-up later by letter and a subsequent visit by an office supervisor. Completed questionnaires were obtained where possible.

RESPONSE RATES

In total, 28,636 private and special dwelling households were selected in the sample for the 1995 NHS, excluding households selected in the additional sample of Indigenous persons. This reduced to an active sample of 23,817 households after sample loss in the field stage. As shown in the following table, 21,787 of these were fully or partly responding, giving a total unweighted response rate for households of 91.5%.

RESPONSE

	Private dwelling household	Special dwelling units	Total			
			Metropolitan	Ex-metropolitan	Total	
	no.	no.	no.	no.	no.	%
Active sample	23 313	504	16 396	7 421	23 817	100.0
Response						
Fully refusal	737	9	523	223	746	3.1
Fully non-contact	738	120	563	295	858	3.6
Fully non-response for other reasons	420	6	322	104	426	1.8
Fully or partly responding	21 418	369	14 988	6 799	21 787	91.5

From the fully or partly responding households, there were 57,633 persons in scope/coverage of the survey. Fully completed main questionnaires were obtained from 97% of these persons.

For initial output of survey results, some 2356 further records were deleted during processing because they did not form part of complete households. The number of respondent records on the data file from the survey are shown below.

NUMBER OF RECORDS

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
8 268	13 964	6 671	8 906	5 203	2 658	3 457	4 624	53 751

At the time of writing, the possiblity of re-instating some records from incomplete households was under investigation.

Records for Indigenous persons from complete households enumerated in the main sample are included in the record counts above. The following table shows the total numbers of Indigenous person records from the main sample, and the supplementary sample. Subject to a review of the quality of the data recorded for Indigenous respondents some of these records may be deemed not useable for standard output purposes.

NUMBER OF INDIGENOUS PERSONS RECORDS

	From main sample	From supplementary sample	Total
NSW	101	192	293
Vic.	34	2	36
Qld	150	316	466
SA	126	51	177
WA	151	234	385
Tas.	76	84	160
NT	372	227	599
ACT	48	4	52
Aust.	1058	1110	2168

DATA PROCESSING

A combination of clerical and computer-based systems was used to process data obtained in the survey. These are outlined below.

Office procedures

Clerical edits were initially applied by interviewers to ensure the completeness and consistency of the questionnaires before being returned to the ABS. Errors or omissions identified were not usually referred back to the respondent; rather, the interviewer made note of any such problems and provided additional comment about individual questionnaires as appropriate when returning the questionnaires to an ABS office for processing.

All questionnaires were again checked on receipt in the ABS office to ensure interviewer workloads were fully accounted for and that all questionnaires and other documents for each household and respondent were completed, (for issues not easily resolved, flags were set within the file at the data input stage for resolution by subject matter coding staff). The coding of country of birth, language spoken at home and occupation also was undertaken at this stage. A brief outline of those coding procedures is given below.

Country of birth coding

The survey questionnaire listed the nine most frequently reported countries: interviewers were instructed to mark the appropriate box, or if the reported country was not among those nine to write in the name of the country for subsequent office coding.

Country of birth was classified according to the standard countries classification published by the International Organisation for Standardisation, then mapped to the units of the *Australian Standard Classification for Countries for Social Statistics* (1269.0.) A copy of the standard groupings of countries used for output is contained in Appendix C.

Coding of language spoken at home

The survey questionnaire listed six frequently reported languages other than English — Italian, Greek, Cantonese, Mandarin, German and Arabic. Interviewers were instructed to tick the appropriate box, or if the reported language was not among those six, to write in the name of the language for subsequent office coding. The classification used separately identified 48 languages. A copy of the language classification is provided in Appendix D.

Coding of occupation

In the 1995 NHS, occupation relates to the main job held by employed respondents at the time of their interview. Occupation was office coded, based on a description of the kind of work performed, as reported by respondents and recorded by interviewers. Occupation was coded to the four-digit (unit group) level of the *Australian Standard Classification of Occupations* (1222.0), current at the time of the survey.

Optical Mark Reading (OMR)

Data from the questionnaires was progressively entered onto a computer file via an OMR system. This system read in the data, created a computer record for each respondent, and incorporated an extensive range of computer edits to check that logical sequences had been followed in the questionnaires, that all necessary items were present and that relationships between items as originally recorded by the interviewer or respondent were valid. Errors encountered in this process were resolved at input stage, and amendments applied to the new file. All questionnaires were then returned to Canberra for further coding. Once correct (clean), the file was passed on for the second stage of input processing. This stage involved clerical coding/data entry of coded data for some fields, more detailed and complex editing of data, derivation of

output data items, and the inclusion of weights for the production of estimates. These activities are outlined below.

Clerical processing

All coding of specific health items was undertaken by coding staff specifically recruited for the survey. Unlike the previous NHS, all coding and related tasks were carried out in a centralised location, not in individual ABS State offices. Comprehensive coding instructions and indexes were developed. A training course was conducted for coders prior to the arrival of first questionnaires from the field. The work of individual coders was checked in the initial phases of the survey, and monitored throughout the coding period.

Clerical coding was undertaken on the following health items:

- medical conditions and other reasons for health-related action;
- type of medication;
- alcohol consumption; and
- others consulted (excludes consultations with a doctor, dentist, or other health professional as defined for the survey).

An outline of each of the clerical coding tasks undertaken is provided below.

Coding of medical conditions/other reasons for action

All reported recent and long-term medical conditions and other reasons for health-related actions were coded to a list of 132 selected conditions/reasons for action developed by the ABS. This classification was based on the Ninth Revision (1975) of the International Classification of Diseases (ICD9), but was modified to take account that information obtained is 'as reported' by respondents (see also page 51). Special codes were created for some non-illness reasons for action (e.g. check-up, preventive measure) and for some frequently reported conditions which could not be reliably coded to ICD categories because insufficient detail was provided (e.g. back problems, virus, infection).

A copy of the conditions classification and abbreviated coding instructions are contained in Appendix A.

Coding of type of medication

The questionnaire provided space to record up to 12 medications taken by a respondent in the reference period. For the first seven reported medications, further information was collected e.g. reasons for taking the medication, duration and regularity of use and whether the medication had been used on advice of a health practitioner.

Respondents may have reported medications by their brand or generic names, and some allowance was made in the coding process for the circumstances under which the information was reported (e.g. respondents not sure of the medication name, mispronounced medication name, interviewer misspelling of names, etc.).

A classification of generic type of medication based on the ***World Health Organisation's Anatomical Therapeutic Chemical (ATC) Classification*** (and associated coding indexes) was developed for use in this survey. Although based on the ATC, the classification developed covered selected types of medication only. Details of the classification used are provided in Appendix B. Brand name information is not available for output from this survey.

Coding of alcohol consumption

In the 1995 NHS, information about alcohol consumption was recorded for seven categories of alcoholic drink: extra/special light beer, low alcohol beer, full-strength beer, wine, spirits, fortified wine and other alcoholic beverages. Details of the quantity of each of these drinks consumed (up to) the last three occasions in the week prior to interview were recorded. Quantities were recorded in terms of standard measures where possible; otherwise a description of the quantity consumed was recorded by interviewers.

The coding of alcohol consumption involved a number of separate steps:

- checking the information recorded and reclassifying (where appropriate) consumption recorded in the 'other alcoholic beverages' category;
- converting reported measures to standard measures as required; and
- for each type of drink consumed for each of the three previous occasions, converting the quantities of drink consumed to the quantity of alcohol contained in those drinks.

Look-up tables, showing for beers, spirits, wines and fortified wines the quantities of alcohol contained in given numbers of standard containers/measures of various sizes, were provided to assist in the conversion process. Conversion factors were applied in cases not provided for in the look-up tables.

Coding of others consulted

Following questions on consultations with doctors, dentists and other health professionals (as defined for this survey), respondents were asked whether in the previous two weeks they had consulted anyone else for treatment, or for health information or advice, and who they had consulted. Interviewers recorded responses as reported. These responses were office coded to a 14 category classification, developed for this survey. The classification is primarily based on the type of practitioner/organisation/service contacted, rather than their location or who owns/employs/operates that organisation or service. Details of the classification used are provided in Appendix E.

Data entry

Following the clerical checks and coding outlined above, information was entered by coding staff on to the master data file. Only information from the main interview questionnaire was entered at this stage. Edit checks were applied to ensure that the data entry carried out was syntactically correct and that all fields requiring a code had one allocated.

Additional recoding was undertaken on a separate file containing information collected by the women's health supplementary form. This recoding was undertaken in an effort to place reported information into improved categories, allowing for comparison with previously collected data if applicable. Once complete these records were merged on to the master file. Records containing information collected by the SF-36 were also incorporated onto the master file at this time.

Edit checks

Further computer edits were applied to each record on the merged file. Checks were performed on listings of records to ensure that specific values lay within valid ranges and that relationships between items were within limits deemed acceptable for the purposes of this survey. The edits were also designed to detect errors which may have occurred (e.g. during data entry, clerical coding) and to identify cases which although not

necessarily errors, were sufficiently unusual or close to agreed limits as to warrant examination. Listings of all records involved were produced, which were then compared with the original questionnaires. Amendments were made to records on the master file as required. Further edits were applied on output generated in tabulated form. These edits were designed to check:

- that the levels and distributions of data were consistent with those which might be expected and with comparable data from previous ABS surveys and other sources where available;
- that the patterns of prevalence of types of illness, medications, alcohol use, etc. were similar between States or were consistent with expected variations; and
- that all unusual or illogical data combinations evident from the tabulations were either checked and verified against the original questionnaire or were amended as appropriate.

Data available from the survey are essentially 'as reported' by respondents. The processing procedures and edit checks outlined above were designed primarily to minimise errors occurring during processing. While in some cases it was possible to correct errors or inconsistencies in the data originally recorded, through reference to other data in the record, some apparent errors and inconsistencies could not be corrected in this way, and remain on the final data file.

Family relationship coding

All usual members of households in private dwellings were grouped into family units and classified according to their position within the family. Family coding was not undertaken for residents of non-private dwellings or visitors to private dwellings. The classification of families used in this survey is set out in Demographic and Socioeconomic Characteristics, page 86.

Computer processing

Factors or weights were inserted into each responding person's record to enable the data provided by these persons to be expanded to obtain estimates relating to the whole population within scope of the survey (see Estimations Procedures, page 20, for details on weighting).

Information from the questionnaires was stored on the computer output file in the form of data items. In some cases, items were formed directly from information recorded in individual survey questions, in others, data items have been derived from answers to several questions (e.g. the item 'body mass' is derived from reported height and weight). Some items have been derived from the reported information in conjunction with information obtained from other sources (e.g. in deriving the health risk, associated with the reported level of alcohol consumption as defined by National Health and Medical Research Council).

Computer records were then reformatted to improve the accessibility of data for statistical purposes. A feature of the record structure adopted is the use of matrices (or repeating groups) to store data items that have a similar nature. The use of matrices eliminates the need for repetitive listings of data items, significantly reduces the difficulties and costs of output table production and facilitates linkages between topics and items contained in the matrices. This matrix approach has been used to store data relating to health-related actions, recent illness, chronic conditions, selected medications and alcohol consumption.

Creation of hierarchical file

In addition to the persons file discussed above, a file was derived containing data for income units, families and households as well as for persons. Relationship details obtained at interview were used to group individuals into these units and to indicate their position within the unit (husband, wife, sole person, dependent child, etc.).

Having grouped individual person records into households, families and income units, various other data items were aggregated to produce data for these units (e.g. composition of unit, unit income, etc.). The same weights were allocated to all units and persons within each household.

At the completion of each stage of computer processing, frequency counts and tables containing cross-classifications of selected data items were produced and used to check the contents of the data file. Any errors detected in the data were subsequently corrected.

ESTIMATION PROCEDURES

Estimates from the survey are derived using a procedure which combines information collected in the course of the survey, (responses to the survey and non-responses), with independently available information concerning the underlying populations. As a result, survey estimates of population conform to the published population estimates at age-sex-area level (when averaged over the period of the survey); also survey estimates of households conform to benchmarks for households by household size (numbers of adults and numbers of children). The survey was conducted over a 12 month period and estimates were made to conform to the population distribution at each quarter of the year.

The estimation procedure developed for the 1995 survey goes a step further than in the previous NHS by using information on the patterns of response to counter known biases in target variables resulting from partial response. This information, in the form of models, was used to adjust data for differential response by class, and also to specify weighting classes for applying benchmarks. The method was adapted to the multiphase nature of the survey design, allowing a more efficient use of auxiliary information (reducing both bias and variance) than if a straight post-stratification method were used. Nevertheless benchmark conformity as before has been retained.

Benchmarks

Three sorts of benchmarks were used in the estimation procedure:

- quarterly population estimates of persons, adjusted to exclude persons living in institutions (prisons and health establishments), by age (5 year age groups for 0–85 and over years), sex and area (States and within State capital city/rest of State);
- half yearly (June and December) estimates of numbers of households (groups of persons living in the same address and sharing facilities) by structure (number of adults and numbers of children) and State; and
- other survey-based estimates which were used to correct for biases as indicated in the modelling for different likelihoods of response at different phases of the survey.

Weights

To obtain person-based estimates, expansion factors or 'weights' were inserted into responding person's records to enable the data provided by these persons to be expanded to provide estimates relating to the whole population within the scope of the survey.

In this survey more than one weight has been associated with each person record to accommodate the splitting of the GHWB sample fro0000 m the non-GHWB sample; estimates for variables in either of these samples are obtained using the corresponding weight; all other person estimates are derived using the principal or core schedule weight. The split schedule weights are derivatives of the core weights so the description below relates to either.

The core weights were built up from an initial weight which reflected the probability of selection of the particular household/dwelling unit—determined from the State or part of State in which it was located. This weight was adjusted for household level response and was calibrated to the household benchmarks. At a second phase, the weight was transferred to individuals, then adjusted for individual non-response (which individuals within responding household responded) and in turn calibrated to person benchmarks. Deriving the split sample weights required a third phase with adjustment for selection and response to respective samples, and re-calibration to population benchmarks (see Appendix F for a description of the estimation formula used).

When combining person records into income, family or household units an extra step was performed to integrate person weights with household and other non-person units. This results in a single weight for all units in a household, and estimates which conform to both person and household benchmarks. The process was repeated for the split sample weights.

SURVEY CONTENT AND METHODS

	Page
Introduction	23
Health status	23
Health-related actions	23
Health risk factors	23
Women's health supplementary items	24
Characteristics	24
Survey design	24

INTRODUCTION

The following sections describe in detail the topics included in the 1995 NHS. For each topic details are provided on the definitions, classifications and methodologies used in the collection and processing of the data. Some notes on the use and interpretation of the estimates are also provided.

For convenience, topics have been grouped in this chapter under five headings: health status, health-related actions, health risk factors, women's supplementary health items and demographic and socioeconomic characteristics. Topic descriptions are contained under the heading most appropriate to the majority of the information collected for that topic in the survey, although it is recognised that some topics could appropriately be listed under several headings (e.g. use of medications as a health-related action may pose a health risk under certain circumstances).

Topics covered in the 1995 NHS are listed below.

HEALTH STATUS

- recent illness/injury;
- long-term conditions;
- self assessed health status; and
- general health and well-being.

HEALTH-RELATED ACTIONS

- hospital admissions;
- visits to casualty/emergency;
- visits to outpatients;
- visits to day clinics;
- doctor consultations;
- dental consultations;
- consultations with other health professionals;
- use of vitamins/minerals;
- use of natural/herbal medications;
- use of other medications;
- days away from work or school; and
- other days of reduced activity.

HEALTH RISK FACTORS

- smoking;
- alcohol consumption;
- exercise;
- injury accidents;

- height/weight;
- sun protection; and
- breastfeeding.

WOMEN'S HEALTH SUPPLEMENTARY ITEMS

- breast and cervical cancer screening;
- hysterectomy;
- contraception;
- breastfeeding; and
- hormone replacement therapy.

CHARACTERISTICS

- demographics;
- education;
- employment;
- income;
- health insurance and health cards;
- housing;
- family/household/income unit; and
- geographical classifications.

SURVEY DESIGN

The survey design enables data for each topic to be cross-classified with other topics, so that it is possible, for example, to examine health status indicators in terms of health-related actions and risk factors. However, the survey only seeks to establish direct relationships in terms of cause and effect between recent illness/injury and health-related actions. Although results from the survey may in aggregate suggest linkages between particular risk factors and health status, these results of themselves should not be seen as proof of such linkages.

Where possible and as appropriate to the aims of the survey, the methodologies used are broadly comparable with those used in previous ABS health and related surveys, and in particular the 1989–90 NHS. Notes relating to the comparability between surveys of data for individual topics are contained in the topic descriptions provided.

HEALTH STATUS

	Page
Introduction	26
Recent illness	27
Long-term conditions	30
Self assessed health status	33
General health and well-being	33

INTRODUCTION

The World Health Organisation (WHO) defines health as 'a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity'. Generally however, the concept of health tends to be viewed in negative terms, since it is the notion of ill-health that normally commands attention through its influence on individuals and the community. This focus is reflected in the measures which traditionally have been used as indicators of health status such as death rates, cause of death and life expectancy. Statistics on morbidity (the prevalence of illness and injury) and its effects provide an alternative, although similarly negative view of a nation's health. Hospital morbidity statistics, derived from data collected on the usage of hospitals, are useful as proxy indicators of health status. However, although they provide a more immediate indicator of health status and of changes in status than mortality statistics, they suffer from deficiencies in coverage, particularly of less serious illnesses and of illness experienced by persons who do not have access to hospitals.

The development of community health surveys makes available more timely and comprehensive indicators of health status, and enables health as a positive state, not just as the absence of illness, to be addressed. These surveys enable a better coverage of the prevalence of illness through the community (including less serious illnesses), enable the collection of other information about individuals such as socioeconomic characteristics, health-related behaviours and attitudes which can be related to data on illness, and provide information about individuals who are not ill, which is necessary to establish a view of the population overall.

Large health surveys, such as the NHS, are able to provide data which are used to establish benchmarks for the population. Repeating these surveys at regular intervals enables the adjustment of these benchmarks, therefore providing users with reliable time series data on the health of the Australian population.

Health status indicators in the 1995 NHS

In seeking to describe the health status of the Australian population, the 1995 survey primarily focused on measures of ill-health, specifically:

- the number and types of medical conditions recently experienced; and
- the number and types of long-term medical conditions experienced.

In addition the survey collected information on self-assessed health status, and included the SF-36 which, using scores derived from questions, provides indicators for eight dimensions of health and well-being.

Information recorded about medical conditions

Information collected in the 1995 NHS establishes estimates of the prevalence of those medical conditions more commonly experienced in the community. This information is 'as reported' by respondents, which by its nature, involves a degree of subjectivity in the way conditions are identified and described. As a result, conditions reported may not reflect medical advice or opinion and may not necessarily accord with conditions which might be established by clinical means. Further information on the reliability of data obtained by this method is contained in Appendix A.

Information recorded at interview was office coded to a classification of conditions developed for the survey. This classification is based on the International Classification of Diseases (ICD9), but takes account of the nature of the conditions more commonly reported in such surveys, and the vagaries of the descriptions of conditions provided by respondents. Efforts were made to ensure that as precise and informative description of conditions as possible were recorded at the interview to enable accurate and consistent coding of conditions.

As far as was possible, conditions recorded and classified in the survey were those currently experienced by the respondents at the time of the interview, although not necessarily manifest in terms of current symptoms; for example, a person may suffer from asthma but experience infrequent attacks. For most cases, the condition reported by the respondent was the only information given, therefore the only information to classify and code from. However, in the case of injuries, additional information about most recent injury was collected which, in some cases, may have assisted coding staff in applying the correct code.

A summary of the condition classification and coding rules and procedures is contained in Appendix A. While the questionnaire design enabled numerous medical conditions to be recorded during interview, a maximum of 14 separately classified conditions (recent illness plus long-term conditions) was recorded on the computer data file. In those cases where a respondent reported more than14 conditions, some conditions were grouped for classification purposes with similar or related conditions. Less than 0.1 % of records were affected by this process.

RECENT ILLNESS

Definition

Medical conditions (illness, injury or disability) experienced in the two weeks prior to interview.

Data uses

Recent illness is a key indicator of the health status of the population, and a major factor in the usage of health services and facilities. Information about recent illness is an important input to the effective planning and provision of health services and programs for the prevention and treatment of illness. Information from the survey can assist in meeting these needs by:

- determining the prevalence of conditions in the community overall, and within particular demographic and socioeconomic groups;
- identifying changes in the prevalence and distribution of conditions, relative to data obtained in the 1989–90 NHS;
- describing the relationship between types of illness and usage of health services and other responses to illness, and how these vary between population groups; and
- indicating the relationship between illness and key health risk factors.

Methodology

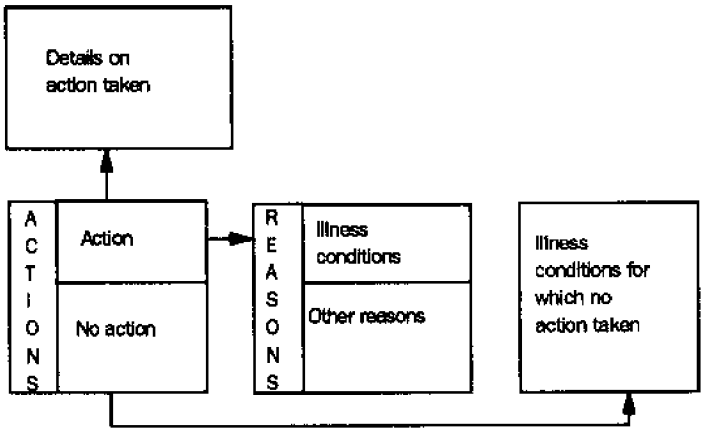
Data were collected using an 'actions'-based approach, similar to that used in the 1989–90 NHS. Under this approach, respondents were asked whether, during the two weeks prior to interview, they took certain actions in relation to their health. These actions included consultations with doctors and other health professionals, use of medications, days

away from work or school and hospital episodes terminating in that two week period. For each action reported, respondents were asked the medical condition(s) or other reason(s) for taking the action. Further questions were asked to identify conditions experienced in that two week period for which no action was taken.

This 'actions'-based approach to the identification of recent 'illness' was preferred to alternative methodologies for a number of reasons:

- it provides data comparable with that from the 1989–90 NHS and hence meets the need for time series information;
- it enables illness to be identified on a more objective and more clearly defined basis than, for example, direct questions on illness recently experienced;
- it assists in respondent recall. It is considered that respondents are more likely to recall an action they have taken than an illness (particularly a minor illness) experienced;
- it serves to provide better coverage of conditions such as dental and eye problems which are often not perceived as 'illness', but which are reported as reasons for taking an action; and
- it is an effective means of establishing the linkages between illness and actions, and particularly in cases where persons report one action for several reasons or several actions for a single reason.

The following diagram is a simplified representation of the approach adopted in the survey.



For each action, provision was made to record up to five medical conditions or other reasons for the action. If more than the number provided for were reported than those first mentioned by the respondent were recorded, as appropriate to the space provided in the questionnaire.

Population

Recent illness information was obtained for all persons in scope of the survey.

Data items

Items available include:

- whether experienced recent illness/injury;

- type(s) of illness/injury experienced;
- whether action(s) taken in the last two weeks in response to recent illness/injury; and
- type(s) of action taken

Interpretation

There are several points which should be borne in mind in interpreting recent illness data from this survey:

- as noted in Appendix A, the data are based on illness/injury as reported by respondents, and hence do not necessarily represent medically diagnosed conditions and are subject to the vagaries of respondent perceptions and terminology;
- it is probable that, in some cases, conditions which respondents were unwilling to talk about in an interview were not reported;
- as a result of these factors, the information on medical conditions available from the survey is not directly comparable with information available from other sources, such as hospital morbidity collections; and
- the 'actions' approach, while offering considerable advantages over alternative methodologies, may have led to some under-reporting of minor illness. The absence of a list of complaints or symptoms with which to prompt respondents may have caused respondents to report mainly those conditions which had a greater effect on them, rather than conditions which had little effect and for which no action was taken.

Comparability with 1989–90 NHS

The overall methodology used for identifying recent illness was similar to that used in the 1989–90 NHS. However, there were a number of changes made which may affect comparability between the surveys:

- in the 1995 survey, questions on actions taken from which recent illness was identified followed questions on long-term conditions. The reverse arrangement was used in the 1989–90 survey. The effect of the new arrangement may have been to increase the reporting of conditions as recent illness, particularly those conditions such as arthritis, diabetes, sight problems, deafness, etc. which were specifically addressed in the long-term conditions section of the questionnaire.
- a number of changes were made between the surveys in the classification of illness conditions. These included expansion of classification categories and some changes to coding rules. The expansion of classification categories may have had the effect of increasing the counts of recent illness — see Appendix A.
- there are a number of differences between surveys in the list of actions specifically covered in the questions. Included in the 1995 NHS were visits to day clinics as well as an expanded response frame of other health professionals (see section Health-Related Actions, page 36). These changes may have had the effect of slightly increasing both the number of respondents reporting recent illness and the number of illnesses reported, compared with the 1989–90 survey. However, the effects are expected to be small. For example, less than 1% of persons who reported a specific recent condition only as a reason for visiting a day clinic, and it cannot be assumed

these would not have been identified through other actions, particularly hospital admissions, in 1989–90.

LONG-TERM CONDITIONS

Definition

Medical conditions (illness, injury or disability) which have lasted at least six months, or which the respondent expects to last for six months or more, including:

- long-term conditions experienced from which only infrequent attacks may occur e.g. asthma;
- long-term conditions which may be under control, for example; through the continuing use of medication e.g. diabetes, epilepsy;
- conditions which, although present, may not be generally considered 'illness' because they are not necessarily debilitating e.g. reduced sight; and
- long-term or permanent impairments or disability.

Data uses

Like recent illness, long-term conditions is a key indicator of the health status of the population, and a major factor in the usage of health services and facilities, both directly and via associated impairments. The prevalence of long-term conditions increases with age. With the general aging of the Australian population together with the shift in health services away from institutional health care, the availability of population-based information on the types and prevalence of long-term conditions is vital to the effective planning and provision of appropriate services and programs. Data from the survey can assist in meeting these needs by:

- determining the prevalence of long-term conditions in the community overall, and in particular demographic and socioeconomic groups;
- identifying changes in the prevalence and distribution of these conditions relative to the levels recorded in the 1989–90 NHS;
- indicating the relationship between long-term illness and key health risk factors; and
- indicating those persons at greater potential risk of selected conditions by virtue of their current morbidity and/or lifestyle.

Methodology

Information about long-term conditions was obtained in the survey in several stages:

- in the first stage, respondents were asked a series of questions on specific conditions covering diabetes, arthritis/rheumatitis and sight problems;
- the second stage included the use of a prompt card listing 13 commonly occurring long-term conditions (identified in the previous NHS) and questions relating to long-term ear or hearing problems; and

- the third stage was adapted from the running prompt style of question used in the 1989–90 survey. Questions were asked about whether the respondents had any:
    - of the conditions listed on a prompt card (these included commonly occurring illness and disability conditions not asked about in the previous stages);
    - conditions that would recur from time to time;
    - conditions that the respondent may have adjusted to (e.g. arthritis, back problems); and
    - conditions under control because of continuing treatment or medication (e.g. needing glasses, high blood pressure).
- in addition, this section of the questionnaire obtained further information about symptoms of respiratory conditions and the need for help or supervision with tasks (associated with personal care, mobility or verbal communication) resulting from long-term conditions reported. This information is supplementary to the information on reported long-term conditions, and was not used in the identification or classification of those conditions.

Population

Information was collected in respect of all persons in scope of the survey.

Data items

Data items collected include:

- whether experienced long-term medical condition;
- type(s) of long-term condition experienced; and
- additional items for:
    - sight problems;
    - diabetes/high sugar levels; and
    - respiratory symptoms.

Interpretation

Points to be borne in mind in interpreting data from the survey relating to long-term conditions:

- as noted previously, the data relate to conditions as reported by respondents and hence do not necessarily represent conditions as medically diagnosed, except in the case of those conditions to which respondents reported having been advised by a doctor or nurse e.g.(arthritis, diabetes). However, it is considered that the likelihood of respondent identification/description of conditions being based on medical diagnosis would in general be greater for long-term conditions than for conditions only recently experienced;
- while the three-stage methodology aimed at maximising the identification of long-term conditions, some under-reporting may have occurred, particularly in respect of those conditions which are controlled by treatment (such as epilepsy), recur infrequently or to which respondents have become accustomed and no longer consider an illness;

- although long-term/permanent disabilities were within the scope of long-term conditions, data from this survey should not be interpreted as indicating the disabled or handicapped population. In some cases long-term/permanent disabilities are evident from the classification category itself e.g. incomplete use of hands or fingers, blindness (complete or partial not corrected by glasses), while for others some degree of impairment/disability could be inferred from the nature of the condition e.g. arthritis, back problems. However, these data should at best be considered as proxy indicators of disability only, and are not directly comparable with data provided by the ABS Survey of Disabled and Aged Persons (1993); and

- similarly, limited inferences about impairment or disability can be drawn based on responses to the questions on need for help or supervision with selected tasks. The survey asked this question only of respondents in respect of long-term conditions they had previously reported, and therefore responses do not necessarily indicate overall impairment or disability.

Comparability with 1989–90 NHS

Data on long-term conditions from the 1995 NHS are broadly comparable with long-term condition data from the 1989–90 NHS. However, some caution should be used in making direct comparisons because:

- the methodologies used in the surveys, while similar, were not identical. The approach used in this survey of incorporating questions about specific conditions additional to the broader questions used in the 1989–90 survey may have had the effect of increasing the likelihood of those conditions being reported, and would have improved the definition and classification of those conditions when reported. The effect cannot be quantified from data in this survey. However, for conditions such as diabetes the level of reporting is less likely to be significantly effected because of the nature and severity of the conditions; for conditions such as less severe sight problems the effect of the changes to methodology are likely to be more significant;

- the classification of conditions has been slightly modified between surveys in that additional codes for some conditions have been added to the classification, e.g. osteoporosis. This may have had the effect of increasing the count of long-term conditions — see Appendix A.

- changes in community perceptions of illness and disability, together with changes in the identification and treatment (e.g. institutional versus community care) of conditions may have affected the degree to which certain conditions were identified in the survey; and

- the prevalence of most long-term illness increases with age. In drawing comparisons of prevalence between the surveys, account should be taken of the shift in the age profile of the population during the period between surveys.

SELF-ASSESSED HEALTH STATUS

Definition

Respondent's perception of their general health status.

Data uses

Self-assessed health status is considered a major factor in the usage of health services and other health-related actions, and a determinant of health-related lifestyle behaviours such as smoking, diet and exercise. As such, perceived health status complements measures of ill-health in the analysis of health-related actions and needs for health services, and is an important consideration in the development and targetting of preventive health programs.

Methodology

Respondents were asked directly how they rated their health in general (from excellent to poor). The question was asked before any other illness-related questions to avoid the possible influence of those questions on the respondent's perception of his/her health. The same question is part of the SF-36 questionnaire (see General Health and Well-being, page 33).

Population

Information was obtained for all persons aged 15 years and over in scope of the survey.

Data items

Self-assessed health rating (excellent, very good, good, fair, poor).

Interpretation

Points to be considered in interpreting this data item include:

- these data are of a subjective nature (i.e. in the context of health as well-being). Perceptions may be influenced by any number of factors, which may be unrelated to health or which may reflect momentary or short-term, rather than usual, feelings or circumstances. Responses may have been influenced by factors involved in the interview itself such as the presence of another family member; and
- testing of similar data from the previous NHS showed some correlation between self-assessed health status and health status as indicated by recent and/or long-term illness. However, self-assessed health status should not be used as an alternative to those more objective measures without analysis and confirmation of the correlations based on final survey estimates.

Comparability with 1989–90 NHS

The previous NHS collected a similar item on health status however, one additional option in the response frame was included in the 1995 survey. In the 1989–90 NHS the option of 'very good' was not used. As a result, data for categories common to both surveys are not directly comparable.

GENERAL HEALTH AND WELL-BEING

Definition

Indicators for eight dimensions of health derived from answers given to the component questions in the SF-36. The eight dimensions covered are physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional and mental health. From these, summary physical health and mental health indicators can also be derived. An indicator of health transition (self-assessed change in health compared to the year previous) is also produced.

Data uses

Data collected by the SF-36 are generally seen to have four major uses. The last two in the following list are of a clinical focus and are not relevant to the NHS:

- a means of monitoring the health of the general population;
- a method of estimating the burden of different conditions;
- as a tool to evaluate effects of treatments; and
- a tool for monitoring outcomes in clinical practice.

Collection of SF-36 data in the 1995 NHS represented the largest use of the instrument in a national survey in Australia undertaken to that time. Results from this survey establish population norms for Australia, for the population overall and for particular groups within it, which can be used as benchmarks for other studies conducted using the SF-36 instrument. Cross tabulation of the SF-36 results with other data collected by the NHS provides the opportunity to compare the relative burden of different conditions to the functioning and well-being of respondents. Although subjective in nature, data from the SF-36 are considered to complement the measures of ill-health collected by the survey.

Methodology

The authorised Australian version of the questionnaire was used with the permission of the Medical Outcomes Trust, Boston, Massachusetts. Respondents were asked to complete the SF-36 questionnaire prior to answering any questions from the main interview. This approach was adopted so that answers given would not be influenced by any illness questions in the main questionnaire. Generally, respondents were asked to fill the form out themselves, however if problems such as language were encountered, the questions were administered by the interviewer. All questionnaires administered by the interviewer (around 5% of those questionnaires completed) were flagged and are able to be separately identified in output for validation purposes.

Responses provided were used to derive scores for each of the health dimensions and other indicators as relevant. An outline of the scoring procedures is contained in Appendix I. For further information about the SF-36 (e.g. its background, construction, scaling, validity) see *SF-36 Health Survey: Manual and Interpretation Guide;* and *SF-36 Physical and Mental Summary Scales: A Users Manual* published by the Health Institute, New England Medical Centre, Boston, Massachusetts.

Population

Persons aged 18 years and over in dwellings selected as part of the SF-36 sub-sample were invited to complete the SF-36; this was approximately half of the adult respondents.

Data items

Data items include:

- dimension scores;
- physical and mental summary scores; and
- health transition indicator.

Interpretation

Points to be considered in interpreting these data include:

- although the SF-36 is now a well-established instrument, its properties are being increasingly researched and documented, with the result that points of interpretation are continuing to evolve. At

the time of preparing this publication, a study of the SF-36 data collected in the NHS had not been undertaken; a detailed report is proposed for release by the ABS late in 1997. In the interim, users of the SF-36 data from the NHS are advised to refer to the manuals published by the authors of the scale (noted above), and where possible to refer to recent literature about the scale, and findings of other studies which have used it. For information about those studies contact the Australian Health Outcomes Clearing House at the Australian Institute of Health and Welfare, Canberra; and

- data from the SF-36 differ from much of the other data collected in the NHS in that these data directly reflect perceptions rather than actions, events, circumstances, etc. A strength of the SF-36 instrument, particularly in the context of health as well-being, is its subjective nature; however, this may also be considered a limiting factor. Perceptions may be influenced by any number of factors, which may be unrelated to health, and which may reflect momentary or short-term rather than usual feelings or circumstances. In addition, responses may have been influenced by factors involved in the interview itself such as the presence of another family member. As a result some caution should be used in interpreting these data as necessarily indicative of general or usual perceptions.

Comparability with 1989–90 NHS

The SF-36 was not used in the 1989–90 NHS, and therefore directly comparable data are not available.

HEALTH-RELATED ACTIONS

	Page
Introduction	37
Hospital episodes	38
Visits to day clinics	41
Doctor consultations	42
Dental consultations	44
Consultations with other health professionals	46
Others (persons/organisations) consulted	48
Reduced activity	49
Use of medications	51
Use of vitamins, mineral supplements, herbal or natural medications	56

As noted previously, the 1995 NHS obtained information about selected types of health-related actions persons had taken in the reference period.

The range of health-related actions covered by the survey were:

- hospital episodes, including inpatient episodes, visits to casualty (emergency) and outpatient units;
- visits to day clinics;
- consultations with doctors;
- dental consultations;
- consultations with other health professionals;
- consultations with other persons/organisations;
- days away from work or school;
- other days of reduced activity; and
- use of medications, including vitamins and natural/herbal preparations.

For practical reasons (i.e. limited interview time and the difficulties in defining every possible type of action a person may have taken in relation to his/her health), the survey covered only the range of actions listed above. These actions reflect the main areas of interest and cover most of the actions a person could be expected to take in relation to health, and perhaps more particularly in relation to illness or injury experienced. However, when examining data collected in this survey, care should be taken not to interpret the data as a comprehensive collection of all actions taken or necessarily indicative of all consequences of illness/injury.

While illness/injury are the more common reasons for actions, persons may have taken action for other reasons such as tests, check-ups, etc. where no specific illness or injury was identified, or for reasons unrelated to the presence of illness/injury such as pregnancy supervision, immunisation, preventive health, etc.

In addition to the reasons for taking a health-related action, further information was obtained about some of the actions themselves e.g. number of times the action was taken, type of treatment received at a dental consultation, whether use of medication was advised by a doctor, number of days away from work or school, etc.

Actions data from the 1995 survey are broadly similar to those collected in 1989–90. Changes introduced for the 1995 survey were the inclusion of visits to day clinics and consultations with other persons/organisations, expansion of the list of other health professionals and explicit inclusion of natural and herbal preparations in medications data. Other changes included reduction in the level of information collected about hospital episodes and doctor consultations, and omission of bed days as a component of reduced activity due to illness/injury. These changes, and their implications for comparability between the surveys are discussed under the individual topic headings which follow.

Linkage between medical condition and action

Information on either medical condition or health-related actions is useful in its own right. However, the methodology used in this survey enables the direct linkage between actions taken and conditions experienced (and other factors leading to action) to be established. This provides for:

- a better understanding of the patterns of usage of health services;
- analysis of the relationships among and apparent choices made between differing types of actions; and
- an improved picture overall of the consequences of illness/injury for the individual, and indicators of the economic and social costs to the community.

The availability of socioeconomic and demographic information further enables these action levels, patterns and relationships to be determined and compared for particular groups within the community.

HOSPITAL EPISODES

Definition

This topic refers to the use of hospitals including:

- admissions to hospital as an inpatient (including same day patients); and
- use of casualty (emergency) and outpatient services at a hospital (but not including admission and excluding consultations at dental hospitals which are sometimes attached to a hospital as part of their outpatient clinic).

For the purposes of this survey, a hospital is defined as an institution which offers residential health care, other than a nursing or convalescent home.

In order to be counted as an inpatient episode, the stay in hospital must have commenced with formal admission and ended in formal discharge, with discharge taking place in the two weeks prior to interview.

Data uses

Traditionally, hospital inpatient data on the reasons for admission and length of stay has provided an indication of the number and types of serious health problems in the community. However, with reductions in the need for hospitalisation arising through improvements in medical treatment and the management of illness, the general shift from institutional to community care, and the changes in access to hospital services, hospital inpatient statistics have become less reliable indicators of health status.

However, hospitals remain a primary means for the delivery of acute health care, and a major focus of health resource usage and expenditure. Information about the level and nature of current demand for hospital services is required for use in the monitoring and administration of these services, and planning/provision of services to meet future needs.

Data from this survey can supplement data available from administrative sources by:

- enabling analysis of the patterns of usage across different population groups within the community; and

- enabling analysis of the patterns of usage of casualty/outpatient/day clinic services relative to other health -related actions people take in response to illness or injury.

Methodology

In this survey information about hospital episodes and other use of hospital services was obtained separately, as outlined below:

- use of outpatients clinics — respondents were asked whether they had visited an outpatients unit in relation to their own health in the last two weeks before interview, the number of times attended, the reason(s) for the most recent visit and whether that visit was in relation to either a previous or expected hospital admission;
- use of casualty/emergency services — respondents were then asked whether they had visited a casualty or emergency service at a hospital about their own health in the two weeks before interview, the number of visits in that period and the reason(s) for the most recent visit; and
- inpatient episodes — as the final stage, respondents were asked whether they had spent any (other) time as a patient in hospital in the two weeks prior to interview, and the number of times. Further details were obtained about the respondent's most recent inpatient episode in last two weeks, including length of stay, and reason(s) for hospitalisation.

Provision was made in the questionnaire for up to five medical conditions or other reasons to be recorded for the most recent visit to episodes in hospital.

Population

Information was collected in respect of all persons in scope of the survey.

Data items

In respect of the last two weeks prior to interview:

- whether attended outpatients clinic at hospital;
- number of times attended outpatients clinic;
- whether most recent visit to outpatients related to:
  - a previous hospital admission;
  - an expected hospital admission; or
  - neither;
- medical condition(s) or other reason(s) for most recent visit;
- whether visited casualty/emergency;
- number of times visited casualty/emergency;
- medical condition(s) or other reason(s) for most recent visit;
- whether an admitted patient in hospital (excluding outpatients and emergency);
- whether day patient only;
- length of stay in hospital; and

- medical condition(s) or other reason(s) for most recent admission.

Interpretation

Points to be borne in mind when interpreting data from the survey relating to hospital usage include:

- the survey obtained details of the medical conditions or other reasons for the most recent inpatient episode in hospital. No details of the procedures, treatment, etc. received in hospital were recorded. For example, a patient who underwent surgery for a medical condition has been classified to the medical condition involved;

- statistics on hospital usage provided by this survey are not directly comparable with hospital morbidity statistics produced from other sources, due to differences in coverage, definitions and procedures used in their collection;

- some respondents interviewed for the survey and included in survey results, were part of the 'hospital at home' program at the time of enumeration. These respondent's would technically be considered an inpatient of a hospital at the time of the survey and therefore conceptually were outside the scope of the survey. However, the number of these cases identified in the survey was very small, and therefore is expected to have minimal effect on results; and

- restriction of hospital admissions data to a two-week reference period was adopted as an efficiency measure in the survey. However, as hospital admissions occur relatively infrequently for most people, use of the two-week reference period has reduced the number of hospital admissions identified in the survey and may have led to some increased bias in the types of episodes reported (e.g. increased focus on shorter episodes). These factors may limit the use of the data for some purposes.

Comparability with 1989–90 NHS

Data relating to hospital episodes collected by the 1995 NHS differ in a number of ways from data obtained in the 1989–90 survey, and therefore comparison between surveys should be made with caution:

- the 1989–90 survey collected inpatient information based on a 12 month reference period i.e. whether the respondent had any inpatient episodes in the last 12 months, if so, the number of episodes and the number of nights in hospital, the type of hospital (public or private) and the reason(s) were recorded for the most recent episode in that period. In contrast, the 1995 survey recorded information only about inpatient episodes terminating in the two weeks prior to interview;

- if the respondent had been discharged from their last hospital episode in the two weeks prior to interview, the episode was considered as a health-related action and contributed to recent illness data in both surveys. In the 1989–90 survey, the number of nights spent in hospital in that two weeks was also recorded, which contributed towards the calculation of days of reduced activity; see section Reduced Activity, page 49. This was not the case in the 1995 survey, where only the total number of nights spent in hospital for the whole episode was recorded;

- visits to day clinics (at a hospital) any time during the past 12 months were recorded as hospital episodes in the 1989–90 survey,

whereas they were specifically excluded from hospital data in the 1995 survey. Details on visits to day clinics were collected separately as a health-related action that had occurred in the two weeks prior to the survey. The effect of treating visits to day clinics as a separate action may contribute to a slight increase in estimates for recent illness and number of actions taken in the last two weeks; and

- allowing for the points noted above, data provided by the 1995 NHS are considered broadly comparable to the 1989–90 NHS, if only those episodes that have ended in discharge in the last two weeks are used and some adjustment is made for the different treatment of day clinics.

VISITS TO DAY CLINICS

Definition

This topic refers to visits to day clinics (as identified by respondents) for minor surgery or diagnostic tests excluding X-rays.

Data uses

The use of day clinics, either as part of a hospital or as a separate facility are becoming increasingly more common. Data collected in the survey will assist in ascertaining the level of use of these facilities by the population and help to establish the reasons why they are used.

Methodology

Respondents were asked whether in the last two weeks they had visited a day clinic for minor surgery or diagnostic tests (other than an X-ray). If they answered yes they were then asked about the number of times they had been to a day clinic and the reason(s) for the most recent visit. No distinction was made as to whether the day clinic was part of or separate to a hospital facility.

Population

Data on visits to day clinics were collected for all respondents.

Data items

Data collected on this topic include:

- whether had visited a day clinic;
- number of times visited a day clinic; and
- medical condition(s) or other reason(s) for most recent visit to a day clinic.

Interpretation

Points to be borne in mind in interpreting data from the survey relating to visits to day clinics include:

- the wording of the questions, and their sequencing after questions about visits to emergency or outpatients units at hospitals were designed to ensure that as far as possible, respondents did not report use of hospital services (outpatient clinics in particular) as visits to day clinics or vice versa. However, some crossover in reporting between hospital and day clinics may have occurred, particularly for cases where day clinics are located on hospital premises;
- for cases where a respondent reported a visit to a day clinic for a test for a medical condition, the reason for that visit was only assigned the relevant code for that condition if that condition was considered to be diagnosed or confirmed. If the condition was not considered confirmed or diagnosed, the appropriate code for the test was applied;

- as with data collected for hospital episodes, no information was collected as to the type of procedure (test or surgical) provided to the respondent at the time of consultation; and

- statistics on the use of day clinics provided by this survey are not directly comparable with statistics available from other sources, due to differences in coverage, definition and procedures used in their collection, and to possible reporting errors as noted above.

Comparability with 1989–90 NHS

Data for this topic were not previously collected separately by the NHS, however as mentioned in the previous section, some information relating to visits to day clinics may have been collected as part of the hospital episodes component of the previous NHS.

DOCTOR CONSULTATIONS

Definition

This topic refers to any occasion in the two weeks prior to interview on which a respondent discussed his/her own health with, or received treatment from, a doctor. Included are consultations by telephone or having someone else consult a doctor on behalf of the respondent (such as a relative or friend, or doctor's nurse or receptionist), but excludes consultations at hospitals (e.g. casualty or as part of a hospital inpatient episode) and day clinics.

As defined for this survey, 'doctor' includes general practitioners and specialists such as surgeons, pathologists, gynaecologists, radiologists, psychiatrists, etc.

This item includes all consultations with a doctor in the reference period, regardless of the type of treatment/service provided. For example, a consultation with a doctor at which acupuncture or physiotherapy was performed has, where identified, been included in this item.

Data uses

As described by the 1989–90 NHS, doctor consultations are second only to the use of medications as the most common health-related action that people take. Doctor consultations often constitute the primary contact between the community and professional health services, and play a key role in initiating other actions taken in response to illness such as use of prescribed medications, hospitalisations or referrals to other practitioners.

To assist in the development and assessment of appropriate policies and programs, information is required on the level of doctor consultations, both overall and in relation to other actions taken as an alternative to, or consequence of, doctor consultations. Information from the 1995 NHS can assist in meeting these needs by:

- describing the levels of doctor consultations relative to other actions taken;

- identifying the medical conditions and other reasons for consultations, including preventive health measures, counselling or advice;

- describing the patterns of doctor consultations for particular groups in the community, enabling some assessment of apparent preferences in, and/or barriers to, access to health services;

- indicating the relationship between doctor consultations and lifestyle factors influencing health, such as smoking and exercise; and

- indicating changes in the levels, nature and patterns of doctor consultations relative to similar information obtained in the 1989–90 NHS.

Methodology

Respondents were asked whether during the two weeks prior to interview they had consulted a general practitioner or specialist about their health (other than as a hospital inpatient or at hospital casualty or outpatients or a day clinic), the number of times consulted in that period, and the reason(s) for the most recent consultation in that two week period. The period since last consultation was obtained for persons who did not consult a doctor in that two week period.

Provision was made in the questionnaire to record up to five medical conditions and/or other reasons for the most recent consultation.

Population

Information was collected in respect of all persons in scope of the survey.

Data items

Items collected about consultations with doctors include:

- whether consulted a doctor (general practitioner or specialist) in the two weeks prior to interview;
- number of consultations (with general practitioner or specialist) in that period;
- period since last consultation (if not in previous two weeks); and
- in respect of the most recent consultation medical condition(s) or other reason(s) for consultation.

Interpretation

When interpreting data from the survey relating to doctor consultations the following should be borne in mind:

- consultations information is essentially 'as reported' by respondents. In some cases respondents may have reported consultations with health practitioners other than doctors because they consider them to be doctors. Conversely, some consultations reported as being with other health professionals should have been reported in this item where the practitioner consulted was a qualified medical practitioner (regardless of the type of treatment/service provided at the consultation). The questionnaire was designed such that most of these cases would be identified through subsequent questions, and information amended as required. However, some cases of misreporting may remain in final survey output;
- in cases where both a general practitioner and a specialist had been consulted in the previous two weeks, no distinction between the type of doctor consulted at the most recent visit is available; and
- In 1995, the ABS conducted a survey of private medical practitioners, whose main activity was the provision of medical services to patients. Results were published in *Private Medical Practitioners, Australia, 1994–95* (8689.0). A comparison of the total number of consultations reported by medical practitioners in that survey, with consultations reported by respondents in the NHS indicates that the NHS figure is around 8% below that from the Private Medical Practitioners Survey. Due to scope and coverage differences between these collections, a direct correlation could

not be expected. However, this comparision suggests that the level of under-reporting in doctor consultations data from the NHS could be at least 10%, taking account of the differences between the collections.

Comparability with 1989–90 NHS

The methodology adopted for recording information about doctor consultations is similar to that used in the 1989–90 NHS, and therefore data are broadly comparable. However, the previous survey obtained information about the location of most recent consultation, whether any referrals to another health professional were made and the types of treatments received or arranged for at that consultation; these items were not collected in the 1995 survey.

Although data are broadly comparable between surveys (for items common to both) the methodology used differs, with the result that data on type of doctor (general practitioner or specialist) are not directly comparable. The 1995 survey identified separately whether a general practitioner or specialist was consulted during the two weeks previous, but reasons(s) for the most recent consultation were not specifically attributed to either general practictioner or specialist. The 1989–90 survey attributed the most recent consultation to a general practitioner or specialist, but did not otherwise identify whether a general practitioner or specialist had been consulted in that two week period. This change does not affect the comparability of aggregate data on 'doctor' consultations, nor does it affect comparability of reason(s) for consultation data at that aggregate level.

DENTAL CONSULTATIONS

Definition

Dental consultations refer to any occasion in the two weeks prior to interview on which a respondent consulted a dentist or other dental professional (e.g. orthodontist, dental nurse, dental technician) about their teeth, dentures or gums. Consultations at dental hospitals are included. Persons who consulted a doctor about a dental problem are included under the item Doctor Consultations, page 42.

Data uses

Dental health is an important factor in determining overall health status, not only in terms of the illness effects of dental problems such as pain and infection, but also in terms of health as positive well-being through factors such as appearance and self-esteem. Information is required to assess the effects of programs aimed at reducing the prevalence of dental caries and other dental conditions, and to monitor the levels and patterns of use of dental services.

The prevalence of dental caries cannot be reliably determined through a population survey such as the NHS without physical examination, which was outside the scope of the 1995 survey. However, data from this survey:

- describe the levels of usage of dental services overall, and for particular population groups enabling the targetting of services and programs to those at risk;
- provide an indication of the patterns of usage of dental services through information recorded about the treatment/service provided at the most recent consultation; and
- identify changes in the current usage of services and dental health status as compared with results of previous surveys.

Methodology

Respondents were asked whether during the two weeks prior to interview they had consulted a dentist or anyone about their teeth, dentures or gums, the number of times in that period and the treatment/service provided at the most recent consultation. Persons who did not consult in that period were asked the time since their last consultation.

Population

Information relating to dental consultations was collected for in-scope persons aged two years or more.

Data items

Items on this topic include:

- whether dental consultation in two weeks prior to interview;
- number of consultations in that period;
- type of treatment/service received at most recent consultation (tooth extraction, X-ray, clean/ polish, fluoride treatment/coating, filling, dentures prepared/fitted, dentures maintenance/repair, braces/bands maintenance or fitting, check-up, other, no treatment); and
- period since last consultation if not in previous two weeks.

Interpretation

The following points should be borne in mind in interpreting dental consultations data provided by this survey:

- unlike other health-related actions covered in this survey, reason(s) for consultation (medical condition or other reason) was not asked of respondents. Instead, reason was allocated according to the treatment/service provided at the consultation. Each person was allocated only one reason for dental consultation, either 'dental problems' or 'dental check-up';
- the category 'dental problems' was allocated where any of the following treatments/services were received: teeth extraction, dental filling, dentures fitted or repaired, or braces fitting or maintenance. The category 'dental check-up' was allocated where X-ray, teeth polished/cleaned, fluoride treatment/coating, check-up, or other treatments/services were provided. Where a consultation involved treatments/services from both groups the consultation has been counted against 'dental problems'. Persons reporting dental consultations for 'dental problems' are included in counts of persons experiencing recent illness/injury derived from this survey; and
- for reasons of consistency with other actions data obtained in the survey, a two-week reference period was used for dental consultations. However, it is recognised that general dental consultations occur less frequently than consultations with other health professionals. As a result, the data from this survey may not be as accurate a measure of the usage of dental services (particularly in applications such as deriving annual aggregates of service usage) as for other types of health service covered in the survey.

Comparability with 1989–90 NHS

Data provided by this survey about dental consultations are comparable with those provided by the 1989–90 survey for items common to both surveys. Items relating to dentures and false teeth covered in the 1989–90 survey were not collected in 1995.

CONSULTATIONS WITH OTHER HEALTH PROFESSIONALS (OHPS)

Definition

This topic refers to occasions on which respondents consulted one or more of the following health professionals:

- acupuncturist;
- audiologist/audiometrist;
- chiropractor;
- chemist;
- chiropodist/podiatrist;
- dietician/nutritionist;
- herbalist;
- hypnotherapist;
- naturopath;
- nurse;
- optician/optometrist;
- osteopath;
- occupational therapist;
- physiotherapist/hydrotherapist;
- psychologist;
- social worker/welfare officer; and
- speech therapist/pathologist.

This item refers to consultations at which some discussion and/or treatment of a health-related matter or medical condition took place, or was arranged. Excluded are occasions on which respondents may have visited the professional only to obtain medical supplies, aids, etc. For example, consulting a chemist about a medication would be included, while visiting a chemist simply to fill a prescription would not; consulting an optometrist about a sight problem would be included but going to an optometrist to have a pair of glasses made to prescription would not.

Consultations were recorded against the type of OHP involved, not the type of treatment provided at a particular consultation. For example, if a chiropractor performed physiotherapy, the consultation was recorded under chiropractor. If a practitioner was considered to fit more than one of the types listed above, they have been recorded against that type appearing first in the list.

Data uses

Health professionals other than doctors and dentists play an important role in the delivery of health services, both in conjunction with services provided by doctors, hospitals, etc. (e.g. physiotherapy following surgery) and increasingly as an alternative to those 'mainstream' services.

The extent of usage of these services as alternatives to 'mainstream' services has been identified as a particular area of user interest as:

- indicators of possible barriers to access to 'mainstream' services and/or levels of satisfaction with those services;
- indicators of community attitudes to alternative health care; and
- pointers to the appropriate level of recognition of these services by health policy makers and administrators.

Data from this survey describe the levels and patterns of usage of these services for particular types of medical conditions (or other reasons) and for particular population groups. The survey data also indicate the patterns of usage relative to other health-related actions and enable changes over time in those levels and patterns to be identified and described.

Methodology

Using a prompt card, respondents were asked whether they had consulted any of the listed OHPs in the two weeks prior to interview. If so, the respondent was asked to identify which types of OHP had been consulted. For up to two OHPs (the two most recently visited), respondents were asked about;

- the type of OHP consulted;
- the number of times in the last two weeks had they consulted with that particular OHP; and
- the medical condition(s) or other reason(s) for visiting that OHP.

Population

Information was recorded for all persons in scope of the survey.

Data items

Items available on this topic include:

- whether consulted OHP in two weeks prior to interview; and
- types of OHP consulted in the last two weeks.

For the two types of OHP most recently consulted:

- number of consultations in that two weeks; and
- medical condition(s)/other reason(s) for the most recent consultation in that two weeks.

Interpretation

Points to be borne in mind in interpreting data on OHP consultations from this survey include:

- the data relate to those types of OHP specified in the survey and hence should not, in aggregate, be interpreted as relating to all health professionals other than doctors and dentists;
- while it was recognised that all respondents may not understand the functions of all the OHPs listed, it was considered that in most cases they could identify the type of OHP they had consulted. Interviewers were provided with a list defining the main activities of each of the OHPs covered to assist respondents if queried;
- despite the point above, some misreporting of type of OHP may have occurred. For example, in cases where the distinction

between types of OHP was unclear in the respondent's mind and/or the professional practised more than one form of treatment (e.g. chiropractor/osteopath, naturopath/herbalist); and

- conceptually consultations were only to be recorded where some treatment and/or discussion of a health-related matter took place. However, it is recognised that this distinction may be difficult to make in some cases and interpretation may differ between respondents. In particular, the likelihood of reported consultations with chemists and opticians/optometrists being outside the defined scope of the survey should be considered.

Comparability with 1989–90 NHS

Data for this topic are broadly comparable between the 1989–90 and 1995 surveys, for those items common to both. Information collected in 1989–90 regarding consultations with selected types of OHPs within the last 12 months are not available from the 1995 NHS.

One difference between the surveys lies with the number of types of OHPs consultations allowed for; the1989–90 NHS recorded data for up to three, 1995 recorded information for up to two. Of those persons who reported consulting OHPs in the last two weeks in the 1989–90 NHS, only 1% reported visiting three or more types of OHP. This may slightly effect results regarding visits with OHPs and recent illness data derived from OHP consultations.

Four additional types of OHP were identified in the 1995 survey: audiologist, hypnotherapist, occupational therapist and speech therapist/pathologist. The inclusion of these categories was expected to increase total OHP consultations reported relative to 1989–90 results, but should not effect results for other types of OHP. Data to enable the effect of these new categories on OHP aggregates to be quantified were not available at the time of writing.

OTHERS (PERSONS/ ORGANISATIONS) CONSULTED

Definition

This topic refers to any occasion(s) where the respondent may have consulted any other person or organisation not previously covered in the survey, in relation to their own health, within the last two weeks prior to the interview.

Data uses

The number and types of services offered by 'non-mainstream' health care providers (e.g. non-specialist, community services etc.) and others, to the community are increasing. Data from the survey go part-way to establishing the levels and focus of contacts with these services for health information, advice or treatment, both overall, and relative to other service use, and among particular population groups.

Methodology

Respondents were asked whether in the two weeks prior to interview, they had sought advice, information or treatment from anyone else not previously asked about in the questionnaire. If they answered yes, they were then asked to identify the other persons or organisations they had talked to. Space was provided for up to three responses.

Population

All respondents in scope of the survey.

Data items

Items collected on this topic include:

- whether consulted anyone for health information, advice or treatment; and
- who else consulted.

Interpretation

Points to consider when interpreting data on this topic include:

- by its very nature, this topic is a 'catch-all' covering individuals and organisations, formal and informal arrangements, health professionals and non-health practitioners, and so on. The classification used to code responses from this section was developed by the ABS based on responses obtained during survey testing. The classification (see Appendix E) was primarily based on the types of practitioner, organisation or service contacted rather than their location or who owns, employs or operates that organisation or service, and included informal contacts such as friends and family. The classification may therefore be of limited use for some applications;
- it is likely that respondent's interpretation of this item differed, and that this will be reflected in the responses given. For example, this topic followed a series of questions on contacts with professional health services (e.g. hospitals, doctors, OHPs) and some respondents may have interpreted this topic as relating only to other contacts with health professionals or health organisations. Interviewers could only correct this interpretation if queried. As a result, the data collected may undercount contacts, particularly informal contacts, or contacts with non-health professionals or agencies (such as contacts with family or friends);
- respondents were not asked about the condition(s) or other reason(s) for the consultations, and therefore no assumptions should be made about why the contact took place. Unlike other actions covered in the survey, this topic does not contribute to the identification of recent illness; and
- as a result of the factors noted above, data for this topic should be used as broad indicators of the levels and types of other contacts for health information, advice or treatment, not as measures of those contacts.

Comparability with 1989–90 NHS

Information on this topic was not collected in the previous NHS, and therefore no comparisons can be made between surveys in relation to this topic.

REDUCED ACTIVITY

Definition

This topic refers to days during the two weeks prior to interview on which a person cut-down on his/her usual activities for all or most of the day due to an illness/injury which they experienced.

Included are:

- days away from work or school i.e. normal work or school days (other than days in hospital) on which the respondent did not attend for all or most of the day. School days include days away from college, university, etc.; and

- other days of reduced activity i.e. days (other than days away from work or school) on which the respondent cut-down on his/her usual activities.

This item refers only to cases where activity has been reduced because of illness/injury to the respondent. For example where a parent has taken time away from work to care for a sick child, the parent has not been counted in this item; the child will be counted to the appropriate category e.g. days away from school.

Data uses

While indicators of the usage of health services such as hospitalisation, consultations with health professionals, etc. provide valuable insight into the consequences of illness/injury, they are not necessarily representative of all the social and economic consequences of illness/injury to the community and in the workplace.

It is recognised that the information on reduced activity obtained in the NHS goes only part way to addressing these issues. However, this information does enable:

- some assessment to be made of the impact of illness/injury on the individual's social participation and lifestyle in terms of reducing usual activities and, indicators of consequential effects on other family members, etc.;
- an assessment to be made of the severity of illness/injury reported through the number of days away from work/school;
- some insight into the effects of illness/injury in the workplace in terms of days lost from work enabling estimations of the economic costs involved;
- an assessment of the extent of reduced activity in relation to other health-related actions; and
- broader assessment to be made of the consequences of illness/injury for particular groups in the community.

Methodology

As appropriate to the age, educational and employment circumstances previously recorded at the interview, respondents were asked whether in the last two weeks they had stayed away from work or school and/or on any other days cut-down on their usual activities because of illness/injury. The number of days away and the illness/injury involved were recorded for each of these actions as appropriate. Provision was made to record up to five medical conditions or other reason(s) for each of the days away/other days cut-down categories.

Information on conditions/reasons and number of days involved relates to the total two week reference period. For example, if a respondent stayed away from work for one day due to a stomach upset, and a further two days later in the reference period due to a cold, the days away counted would be three and both medical conditions would be recorded. This approach differs conceptually from that adopted for other actions covered in the survey for which details are recorded for the most recent occasion only.

Population

Information was recorded as follows:

- days away from work — persons aged 15 years or more who reported working in a job, business or farm at the time of their interview;
- days away from school — persons aged 4–14 years, and persons aged 15 years or more who reported they were attending school or studying at a technical college, college of advanced education, university or other educational institution (other than those undertaking study by correspondence); and
- other days of reduced activity — persons two years of age or more.

Data items

In relation to the previous two weeks:

- whether day(s) away from work;
- whether day(s) away from school or other educational institution;
- whether other days of reduced activity;
- number of days for the work/school categories above; and
- medical condition(s) or other reason(s) for each of the categories above.

Interpretation

Points to be borne in mind in interpreting data for this item include:

- the information is 'as reported' by respondents. Perceptions of concepts such as 'cut-down on usual activities' may differ between respondents and hence influence the consistency of the data recorded; and
- estimates of persons identified in this survey as experiencing reduced activity are not comparable with estimates of disabled persons available from other sources such as the 1993 Survey of Disabled and Aged Persons.

Comparability with 1989–90 NHS

Data collected by the 1995 NHS are broadly comparable with those collected by the previous NHS in respect of days off work, days off school and other days of reduced activity. However, in the 1995 survey, questions regarding days spent in bed were not asked of respondents. These previously were obtained as a subset of either days away from work/school or other days of reduced activity. The number of 'other days of reduced activity' was not collected in the 1995 survey, nor was information on days spent in hospital during the reference week. As a result it is not possible to derive a total days of reduced activity comparable with that available from the 1989–90 NHS.

USE OF MEDICATIONS

Definition

This topic refers to the consumption or other use of any medications, pills or ointments during the two weeks prior to interview (other than vitamins, mineral supplements and herbal or natural medications, see page 56).

Information was collected about the following categories of medication:

- arthritis drugs;

- allergy medications;
- asthma medications;
- diabetes medications;
- heart and blood pressure drugs;
- fluid/diuretic medications;
- serum lipid reducing agents;
- analgesic medications;
- psycholeptic medications;
- medications for anxiety/depression/nervous conditions;
- vitamin and mineral supplements (see also next section, page 56);
- cough/cold medications;
- skin ointments and creams;
- stomach medications;
- laxatives; and
- other medications (including antibiotics).

Data uses

As described by the 1989–90 NHS, the use of medications is the most common health-related action taken, as a response to illness/injury and as a preventive health measure. The correct use of medications is associated with successful treatment, prevention or control of illness.

Previous studies have indicated that many people with illnesses (particularly asthma and hypertension), are not taking medications or not taking medications in such a way that would optimise the beneficial effects in the management of those conditions. Further, the misuse of medications is a growing area of concern, in terms of the health risks involved and the consequential effects on the usage of health services.

Information from the survey indicates usage:

- by reason(s) for use;
- in respect of different types of medical conditions and for different population groups within the community;
- relative to and in conjunction with, other health-related actions;
- of prescribed medications relative to non-prescribed;
- of combinations of medications, both in respect of particular medical conditions and for the individual taking medications for a number of different conditions; and
- which by reason of frequency and/or duration of use may be considered to pose possible health risks.

Methodology

Respondents were asked whether in the last two weeks they had used any medications (apart from vitamins, minerals, herbal or natural preparations). If they answered yes, they were then asked to provide the interviewer with the names or brands for up to 12 medications they had used. The total number of medications used in the last two weeks was also collected and recorded with a separate question. In an effort to record the correct name or spelling of the medicine interviewers encouraged respondents to refer to the actual bottles or packets of the medications during interview. Medications were office coded using a classification based on the WHO's ATC Cassification, see Appendix B.

Further information was collected about the first seven medications reported by the respondent as described in the list of data items below.

Population

Information was collected for all persons in scope of the survey.

Data items

Items include:

- whether used any mediations;
- types of medications (up to 12 recorded; selected types, indicated by an ◆ in the list below, coded to generic classification); and
- total number of medications.

In relation to the first seven medications:

- category best describing medication (respondent's perception):
  - ◆ medications for diabetes;
  - ◆ asthma medications;
  - ◆ medications for arthritis;
  - medications for cough/colds;
  - skin ointments/creams;
  - stomach medications;
  - laxatives;
  - ◆ medications for allergies;
  - ◆ fluid tables/diuretics;
  - ◆ medications for heart problems/blood pressure;
  - ◆ medications to lower cholesterol/triglycerides;
  - ◆ pain relievers;
  - ◆ sleeping medications;
  - ◆ medications for anxiety/nervous tension/depression;
  - ◆ tranquillisers or sedatives; and

- other.

- reason(s) for taking the medication;
- whether taken on advice of a health professional;
- type of health professional advising use of medication;
- whether needed prescription to obtain medication;
- whether medication is taken regularly;
- frequency of use;
- duration of use; and
- whether asthma medication is for prevention, relief or both.

Interpretation

Points to be borne in mind in interpreting data from this survey on the use of medications include:

- the information is 'as reported' by respondents. This may have implications for the extent to which usage of certain types of medications were reported (e.g. sedatives, tranquillisers) and the accuracy of some details provided (e.g. name of medication used, frequency of use). Respondents were encouraged to check the labelling on their medication(s) to assist in the correct recording of medications; and
- type of medication, as described by respondents, was retained to provide comparability with data from the 1989–90 survey (see note below). It primarily reflects the reason(s) for use, rather than the type of medication itself. While in many cases a type of medication may be specific to a particular condition, medications may be used for a range of different conditions. This should be considered in interpreting data for this item.

Comparability with 1989–90 NHS

The overall methodology for collecting data on medication use was similar between the 1989–90 and 1995 surveys, providing direct comparability for some items. However, there are important differences between the surveys which reduce comparability, particularly at the more detailed level:

- type of medication as described by respondents was collected in both surveys. While the list of types identified was expanded in the 1995 survey, for those types common to both surveys basic data on the prevalence of use and reasons for use are considered comparable;
- in both surveys generic type of medication was derived, based on reported brand or generic name recorded at interview, for selected types only. The range of types classified in this way was expanded in the 1995 survey. In addition, the classification used differed between surveys. However, at the finest level of classification, matches between surveys can be made and data compared. However, see points below;
- in the 1989–90 survey, generic type was coded and classified for those medications identified by respondents as pain relievers, sleeping medications, tranquillisers or sedatives. In the 1995

survey, generic type was coded and classified for these (and other) medications based on reported brand or generic name, irrespective of the respondent's perception of the medication type. As a result, generic type data from the 1995 survey describes the total use of those types, not selective use as per the 1989–90 survey. For some medications which have very specific applications, this change will have little effect on the generic type data recorded, but for other types with wider applications (e.g. aspirin) the effect of this change is significant, and caution should be used in making comparisons between the surveys;

- in the 1989–90 survey, information on whether medications were prescribed was obtained at the medication group level (types as reported by respondents) and was identified through a general question as to whether the medications were advised or prescribed by a doctor. The approach used in the 1995 survey was to separately identify those medications used on advice from those prescribed, to include health professionals other than doctors (particularly relevant to medications advised) and to collect this information for individual medications used (based on generic type where applicable) rather than at the broader group (reported type) level. The effect of these changes has been to substantially improve the quality and potential use of data in this area, but at the cost of reducing comparability with data from the 1989–90 survey. However, by manipulating categories from the 1995 survey to match the broader categories used in the earlier survey, some direct comparisons can still be made;

- information on frequency and duration of use was collected in the 1989–90 survey for pain relievers, sleeping medications, tranquillisers or sedatives at the medication group level (types as reported by respondents). The approach used in the 1995 survey was to record this information for individual medications used (based on generic type where applicable), but only in those cases where the respondent had first reported their use of the medication to be regular;

- the 1995 survey enables the number of different medications within a group to be identified. This was possible only for pain relievers, sleeping medications, tranquillisers or sedatives in the 1989–90 survey;

- natural and herbal medications were not specifically identified in the 1989–90 survey. This may have led to some reporting of these medications as vitamins or mineral supplements (see Use of Vitamins, Mineral Supplements, Herbal or Natural Medications, page 56) and as other medication types (e.g. as pain relievers). By separating out these medications in the 1995 survey, the possibility of these medications being recorded in other medication groups has been minimised. The extent to which this effects the comparability of data between the surveys cannot be quantified at the time of writing; and

- other factors potentially affecting comparability of medications data between surveys include the availability of medications (coming onto or leaving the market), changes affecting accessibility (e.g. prescription requirements), access to/arrangements for pharmaceutical benefits, evolving practices for the treatment/management of conditions, etc.

USE OF VITAMINS, MINERAL SUPPLEMENTS, HERBAL OR NATURAL MEDICATIONS

Definition

This topic refers to the consumption or other use of a broad range of products which may be labelled under the heading of vitamins and mineral supplements, herbal or natural medications.

Data uses

The taking of these types of products continues to increase in popularity, either in response to certain illnesses (conditions) or for other health reasons e.g. preventive measures.

Information collected by the survey will assist in establishing the prevalence of use of these types of products and help in identifying the reason(s) why people use them.

Methodology

Respondents were asked whether in the last two weeks they had taken any vitamin or mineral supplements. If they answered yes, they were then asked the reason(s) for taking the product. A maximum of four responses was allowed. Similarly, respondents were asked whether in the last two weeks they had taken any natural or herbal medicines. Again, if they answered yes, the reason(s) for taking the medicine was recorded. No questions were asked as to the type of vitamin, mineral, natural or herbal medicine taken, nor was any information collected that would provide an indication of whether they were used on advice of a health professional.

Population

Questions were asked of all respondents in scope of the survey.

Data items

Items collected include:

- whether in last two weeks used any vitamin or mineral supplement;
- reason(s) for use;
- whether in last two weeks used any natural or herbal medication; and
- reason(s) for use.

Interpretation

Points to bear in mind when interpreting this data include:

- no questions were asked about the type of product/substance taken or used in these categories. Whether or not these products are actually vitamin, mineral, herbal or natural type medicines are based on the respondents perceptions only; and
- some medicines reported in the main section of the questionnaire on medications may be coded as vitamins and mineral supplements in generic coding (see section Use of Medications, page 51). For output, these can be added to, or excluded from those reported in this section.

Comparability with 1989–90 NHS

Data collected about the use of vitamins and minerals in the 1989–90 NHS were more detailed than those collected by the 1995 survey. Items collected in the previous survey included, whether taken on the advice of a health professional, whether more than one kind taken, whether taken for a medical condition (and if so what condition) and the frequency of use. Data are considered comparable for those items common to both surveys.

Survey testing showed that respondents perceptions of vitamins or minerals differed, and some overlap between herbal/natural medicines and vitamins and minerals may have occurred. The previous survey did not include questions on the use of herbal or natural medicines.

HEALTH RISK FACTORS

	Page
Introduction	59
Smoking	60
Alcohol consumption	62
Exercise	66
Injury/accidents	69
Height and weight	74
Supplementary women's health topics	75
Contraception	79
Sun protection	80
Breastfeeding	81

A great variety of social, economic and environmental, as well as aetiological, factors are recognised as increasing the risk of ill-health i.e. the chance an individual has of developing a particular illness or injury. For example, healthy lifestyle and risk factors highlighted in the first report on National Health Goals and Targets (1986) included: diet and nutrition, quality use of medicines, overweight and obesity, healthy sexuality, physical activity, reproductive health, high blood cholesterol, sun protection, high blood pressure, oral hygiene, smoking, safety behaviours, alcohol misuse, immunisation, illicit drug use and mental health.

The *Goals and Targets for Australia's Health in the year 2000 and Beyond* (1993), identified areas/behaviours under the heading of lifestyle and risk factors which either contributed positively to the maintenance of good health or increased the risk of ill-health or premature mortality.

Four focus areas from the National Health Goals and Targets were selected by Health Ministers at the 1993 Health Summit for implementation. The focus areas and the risk factors commonly associated with those are shown in the table below:

AREAS OF FOCUS

Area of focus	*Associated health risk factors*
Cardiovascular	Smoking, physical activity, diet/nutrition, high blood cholesterol, overweight/obesity, high blood pressure.
Cancer	Sun protection, smoking, diet/nutrition,alcohol, obesity.
Injury	Alcohol misuse, quality use of medicines, mental health, safety behaviours, physical activity.
Mental health	Mental health, diet/nutrition, quality use of medicines, alcohol misuse, illicit drug use.

Recently, diabetes has also been identified as another area of focus.

It was clearly not possible, and in some cases inappropriate in a survey such as the 1995 NHS to attempt to address the range of factors likely to negatively effect health. The approach taken in this survey was to focus on selected health risk factors identified through consultations with health professionals, administrators, policy makers, etc. as major issues of concern and considered appropriate for inclusion based on the criteria developed for this survey (see Background to the Survey, page 2).

Health risk factor topics selected for inclusion in 1995 NHS were:

- smoking;
- alcohol consumption;
- exercise;
- injury/accidents;
- height and weight;
- specific women's health issues;
- contraception;

- sun protection; and
- breastfeeding.

In addition, other aspects of health risks were identified through the information obtained on health status (e.g. persons experiencing hypertension), health-related actions (e.g. use of medication), demographic and employment characteristics, etc.

The 1995 NHS represents a unique and powerful data source in the sense that it obtained data about these health risk factors side by side with indicators of health status and the usage of health services and other health-related actions. This arrangement enables data on each of the health risk factors covered to be considered:

- independently;
- in relation to other risk factors;
- in relation to medical conditions and other indicators of health status;
- in relation to health-related actions;
- in relation to combinations of the above; and
- both overall and for particular groups in the community (within the limits of sampling variability).

However, while data from the survey may suggest apparent associations between particular risk factor(s) and certain illness condition(s), the data should not be interpreted as proof of causal relationships. Rather the survey results can assist in quantifying clinical relationships already established by other means, and point to other areas for investigation and research.

Some caution should be used in drawing together data for the different risk factors covered as the reference periods used differ e.g. smoking — regularly, alcohol consumption — last three occasions last week, exercise — last two weeks, etc.

Most of the specific risk factors covered have been addressed in previous ABS surveys, either at the national or State or Territory level. Where appropriate to the survey vehicle and consistent with the data requirements of users, similar methodologies were employed in the 1995 NHS to those used in previous surveys (particularly 1989–90 NHS) to enhance comparability and enable use of the data for time-series analysis.

SMOKING

Definition

This topic refers to the regular smoking of tobacco, including manufactured (packet) cigarettes, roll-your-own cigarettes, cigars and pipes, but excludes chewing tobacco and smoking of non-tobacco products. The topic focused on 'regular smoking', where regular was defined as one or more cigarettes (or pipes or cigars) per day on average as reported by the respondent.

The topic describes smoking status (current smokers, ex-smokers and never smoked) at the time of interview.

Data uses

Tobacco smoking has been described by the WHO as the single greatest cause of disease in the developed world. Health risks which have been associated with smoking include cardiovascular diseases, cancers, emphysema, stroke and thrombosis.

Smoking has been a major target of health education and other public health initiatives such as the National Campaign Against Drug Abuse. One of the major goals identified in the AIHW report, ***Better Health Outcomes for Australians*** (1994), is to reduce the prevalence of smoking among adults to 20% by the year 2000.

Information about smoking enables the relationships between smoking and illness, and smoking and usage of health services, etc. to be investigated and analysed. Data collected in the 1995 NHS will go part way to meeting these needs. For example, results:

- indicate the current prevalence of smoking, and enable changes over time in the levels of smoking to be monitored, both overall and in respect of particular population groups; and
- enable investigation and analysis of the relationships between smoking and indicators of health status and usage of health services.

Methodology

Respondents were asked whether they currently smoke (and if so whether they smoke regularly), or have ever smoked regularly.

Population

Information was collected for all persons aged 18 years or more in scope of the survey.

Data items

Items available for this topic:

- current smoker — occasional, regular; and
- smoking status — (regular) smoker, ex-smoker, never smoked.

Interpretation

Points to be considered in interpreting data from this survey include:

- some under-reporting of persons identifying as current smokers is expected to have occurred. Reasons may include social pressures, guilt/embarrassment (particularly in cases where other household members were present at the interview). The extent to which under-reporting has occurred, and hence its effects on the accuracy of survey estimates are unknown; and
- concepts such as 'regular' are open to different interpretation by respondents and hence may not have been consistently applied in reporting information in this survey, despite a prompt to respondents that regular meant 'at least once a day'.

Comparability with 1989–90 NHS

Data collected on smoking in the 1995 NHS were not as detailed as data collected by the previous NHS which included items on:

- type of smoker;
- aged commenced smoking;
- usual number of cigarettes smoked daily;
- tar and nicotine levels in cigarettes smoked;

- duration of smoking; and
- reasons for giving up (if applicable).

Data on smoking status are considered directly comparable between surveys.

ALCOHOL CONSUMPTION

Definition

This topic refers to consumption of alcoholic drinks, and focuses on the intake of alcohol derived from information about the types and quantities of alcoholic drinks consumed on up to three occasions in the week prior to interview. Homemade wines and beers were included.

Data uses

Health problems associated with the excessive intake of alcohol include liver damage, heart disease, ulcers, cancers of the head and throat, alcoholism, and impairment of mental functions. Overuse of alcohol has also been shown to contribute to obesity and high blood pressure. In addition to these direct health implications for the alcohol user, alcohol abuse has been associated with a wide variety of other social concerns such as road traffic and other injuries, violence, social disruption, etc.

There are a range of issues related to alcohol consumption as set out in the National Health Policy on Alcohol in Australia, which was adopted by the Ministerial Council on Drug Strategy in 1989. This overall policy, which aimed at the minimisation of harm associated with the use of alcohol, included specific policies related to education, control, legal issues, research and treatment.

It was clearly not possible or appropriate to attempt to address the issue of alcohol use or effects in such a wide context in the NHS. Rather the aim was to:

- provide national indicators of current consumption levels and patterns, both overall and for particular groups within the community;
- indicate relative levels of personal health risk associated with reported consumption;
- provide information enabling the linkages between alcohol consumption and use of health services to be investigated; and
- enable changes in the levels and patterns of consumption to be monitored over time.

This information was considered essential to the effective targeting of health policies and programs.

Methodology

Respondents were asked if in the last seven days they had consumed any drinks containing alcohol. Those respondents who answered yes were then asked on which days of the preceding week they consumed those drinks. Information on alcohol consumption was collected for up to three days in the week prior to interview.

For each of the (up to) last three days on which alcohol was consumed, respondents were asked the type and the quantity of all drinks consumed that contained alcohol. Information was collected in respect of seven categories of alcoholic drinks:

- extra/special light beer;

- low alcohol beer (including shandies);
- full-strength beer (including home-brew and stout);
- wine (including champagne);
- spirits (including cocktails and liqueurs);
- fortified wine; and
- other alcoholic drinks (including alcoholic cider and coolers).

If respondents reported 'beer', interviewers were asked to clarify with the respondent the type of beer. Interviewers were provided with a card showing the types of drinks in each category (see Appendix G). If interviewers were unsure as to which of these categories a reported drink belonged, details were recorded in 'other alcoholic drinks' for checking/reclassifying as appropriate during office processing.

In general, identification of the particular category involved was sufficient. However, in some cases interviewers were asked to record the name of the drink reported to enable more accurate calculations of alcohol intake. In the main this occurred in cases where a particular drink had a significantly different alcohol content to others in that category e.g. stout-full strength beer, name of cocktail–spirits.

For each of the types of drinks reported, respondents were asked how much they had drunk on each occasion in that previous week i.e. the number and size of the drinks consumed. It was recognised that the collection of accurate data on quantity consumed is difficult, particularly in a recall situation, and bearing in mind the nature and possible circumstances of consumption. Interviewers were provided with extensive documentation and training covering the recording of amounts consumed. Where possible, information was collected in terms of standard containers or measures i.e. 10 oz glass, stubbie, nip, etc. In other cases interviewers were asked to record as much information as necessary to clearly indicate quantity.

Reported quantities of drinks were converted during office processing to millilitres of alcohol present in those drinks. For this purpose, a series of look-up tables was prepared covering most categories of drink identified in the survey. These tables showed the alcohol content by the number of standard containers/measures of various sizes. For non-standard quantities, factors were applied to the reported quantities to convert them to millilitres of alcohol.

The conversion factors applied in deriving the look-up tables and as applied to non-standard quantities were:

- special/extra light beer 0.009;
- low alcohol beer 0.027;
- full-strength beer 0.049;
- stout 0.058;
- coolers 0.035–0.055;
- low alcohol wines 0.061;

- reduced/light alcohol wines 0.065;
- fortified wines 0.179;
- white wine 0.124;
- red wine 0.127;
- sparkling wine/champagne 0.119;
- spirits 0.385;
- liqueurs 0.200;
- pre-mixed spirits (e.g. UDL) 0.060;
- alcoholic cider 0.047;
- extra-strong cider 0.083;
- alcoholic soft drinks/sodas 0.042–0.055;
- cocktails — various, as per special listing by cocktail name; and
- other alcoholic beverage 0.127.

It is recognised that particular types or brands of beverage within each of these categories may contain more or less alcohol than indicated by the factor e.g. full-strength beers are usually in the range 4% to 6% alcohol by volume. The factors are considered to be sufficiently representative of each category as a whole for the purposes of indicating relative health risk as appropriate to the aims of this survey. However, it should be noted that these categories, defined by the conversion factors used, may not reflect legal definitions.

Population

Information was collected for all persons aged 18 years or more who were not selected in the sub-sample to complete the General Health and Well-Being Questionnaire i.e. approximately half the adult respondents.

Data items

Items collected include:

- day of week of interview;
- period since last consumed alcohol; and
- number of days last week on which consumed alcohol.

For each of the last (up to) three days:

- type(s) of alcoholic beverage consumed;
- quantity of alcohol consumed; and
- day of week.

For the reference week:

- number of days of week that alcohol was consumed;
- estimated total quantity of alcohol consumed in reference week;

- average daily consumption (3 day and 7 day basis);
- alcohol risk level (none, low, medium, high); and
- whether consumption in reference week more, less, same as usual.

Interpretation

Points to be considered in interpreting data on alcohol consumption from this survey include:

- some under-reporting of consumption, both in terms of persons identifying as having drank alcohol in the reference week, and in the quantities reported, is expected to have occurred. Analysis of results of previous surveys have indicated under-reporting when results were compared with data from other sources (e.g. the ABS Apparent Consumption of Foodstuffs series). As data were not directly comparable between these sources it is not possible to accurately quantify the level of under-reporting, but comparisons based on tests leading up to the 1977 Survey of Alcohol and Tobacco Consumption Patterns indicated that reported consumption only accounted for around half of apparent consumption. Comparisons using data from the 1989–90 NHS and the Apparent Consumption of Foodstuffs of the same year, show that differences did occur and varied for different types of alcohol. NHS consumption figures expressed as a proportion of Apparent Consumption varied between 33.2% and 60.4%;
- however, the possible under-reporting which has occurred does not invalidate the survey results as indicators of relative consumption levels (current and over time), and of the relative health risks of the consumption levels identified;
- the indicators of alcohol risk level were derived from the average daily amount of alcohol consumed over the reference week. According to average daily intake, respondents were grouped into three categories of relative risk level based on recommendations of the National Health and Medical Research Council (NH&MRC).

RELATIVE RISK OF ALCOHOL CONSUMPTION[1]

Relative risk	*Male*	*Female*
Low	< 50 ml	< 25 ml
Medium	50–75 ml	25–50 ml
High	> 75 ml	> 50 ml

[1] Recommendations expressed in grams of absolute alcohol per day have been converted to millilitre equivalents using the ratio 1ml=0.79g.

- it should be noted however that the NH&MRC recommendations relate to consumption on a regular basis, whereas indicators derived in the 1995 NHS relate to consumption only during the reference week and take no account of whether or not consumption in that week was more, less or similar to usual consumption levels. In addition, this indicator takes no account of other factors related to health status, other lifestyle behaviours, etc. which may influence the absolute level of personal health risk from drinking alcohol; and
- as noted previously, reported quantities of alcoholic drinks consumed were converted to quantities of alcohol consumed. This conversion was based on factors representing the alcohol content of each type of drink category as a whole. To the extent that

individuals consumed particular brands/types of drink within each group with an alcohol content higher or lower than that represented by the factor, the derived intake may over or under-state actual intake.

Comparability with 1989–90 NHS

The methodology used in the 1995 survey was similar to that used in the 1989–90 survey, but was based on a three-day reference period for the detailed consumption data instead of the seven-day period used in the earlier survey. Despite this change, estimates from the 1995 NHS are considered comparable with those from the 1989–90 survey. Results of pilot tests on this topic showed that of respondents who drank in the last seven days, 68% drank on three days or less in that week. For those people, the data collected under the new methodology represents complete enumeration of consumption in the reference week. Other results indicated that for those respondents who drank on more than three occasions in the last week, consumption tended to be consistent throughout the week for both type and quantity of drinks consumed.

Because information was not collected for each of the days in the previous week, day of heaviest consumption (for the entire week) was not able to be derived as in the 1989–90 NHS.

In drawing comparisons, consideration should also be given to the social factors and general changes in health awareness which have occurred in the period between surveys and which may have influenced the levels of reporting. A number of ABS surveys covering alcohol consumption have also been conducted at the State level in recent years (see Other Health and Related ABS Publications, page 112).

EXERCISE

Definition

This topic refers to physical exercise undertaken for recreation, sport or health/fitness purposes during the two weeks prior to interview. The topic does not include physical activity undertaken in the course of work, or for reasons other than recreation, sport or health/fitness.

Data uses

Physical activity has been identified as an important factor in the prevention of certain illness, and hence in raising health status and reducing the demand for health services. Regular physical activity has been established as instrumental in reducing the risk of cardiovascular disease (for example, through its moderating effect on blood pressure and reduction in body weight and fat) and other medical conditions such as injury, osteoporosis and diabetes.

In its 1988 report, the Health Targets and Implementation (Health For All) Committee recommended as a health goal to increase participation by adults in sufficient activity to achieve and maintain physical fitness and health. It suggested strategies aimed at achieving this goal, including the regular collection and dissemination of statistics on the fitness levels of Australians. Goals highlighted in the report on *Better Health Outcomes for Australians* (1994) included the need for 'an increase in participation in regular physical activity'.

Data from the 1995 NHS does not directly address these strategies and goals. As noted above, data from this survey relate only to exercise for sport, recreation or health/fitness purposes and hence do not necessarily indicate levels of total physical activity or of absolute or relative levels of fitness. However, data from the 1995 NHS do:

- establish minimum levels of physical activity, and on this basis enable identification of those groups in the community at apparently greatest health risk through inactivity;
- establish common exercise patterns in terms of intensity, frequency and duration of exercise for the population overall and for particular demographic and socioeconomic groups within it;
- enable exercise patterns to be examined in relation to health status and use of health services; and
- enable the relationship between exercise patterns and other lifestyle behaviours (such as smoking and alcohol consumption) and other health risk factors (e.g. overweight, presence of selected illness conditions) to be investigated.

Methodology

Respondents were asked whether, during the previous two weeks, they did any:

- walking for sport, recreation or fitness;
- moderate exercise (apart from walking); and
- vigorous exercise.

For each of these categories, respondents were asked the number of times they had exercised in the previous two weeks and the total amount of time spent (hours and minutes) on exercise in each of those categories over that two weeks.

For the purposes of the survey, moderate exercise was defined as exercise or other activities (undertaken for recreation, sport or fitness) that caused a moderate increase in the heart rate or breathing of the respondent. Vigorous exercise was defined as exercise or other activities (as above) that caused the respondent to perspire and/or resulted in a large increase in the respondent's heart rate or breathing.

The application of these definitions reflected the respondent's perception of moderate or vigorous exercise or walking, and the purpose of that activity. Responses may have varied according to the type of activity performed, the intensity with which it was performed, the level of fitness of the participant, and their general health and other characteristics (e.g. age). For example, some respondents may consider a game of golf to be moderate exercise while others may consider it walking.

Information was not recorded in the survey about the type of activities undertaken and reported against each of the three categories above.

From the information recorded about the frequency, duration and intensity of exercise an exercise level was derived for each respondent. The aim was to produce a descriptor of relative overall exercise level, and to indicate the quality of the activities undertaken in terms of maintaining heart, lung and muscle fitness. The level is based on a score, derived from:

No. of times activity undertaken	X	Average time per session	X	Intensity

where intensity is a measure of the energy expenditure required to carry out the exercise, expressed as a multiple of the resting metabolic rate. Because the NHS did not collect details of the types of activities undertaken an intensity value was estimated for each of the three categories of exercise identified in the survey. A score was derived for each of the three categories of exercise and then summed to provide a total for the respondent for that two week period. Respondents were grouped into exercise levels according to their score.

Exercise level was derived according to the formula in two ways:

- in order to provide data directly comparable with those from the 1989–90 NHS, intensity values of 3.2 for walking, 5.7 for moderate exercise and 8.5 for vigorous exercise were used, with score ranges as follows:
  - 0 = no exercise;
  - 1 < 1 500 = low exercise level;
  - 1 500–3 250 = medium exercise level; and
  - > 3 250 = high exercise level.
- in order to provide data reflecting more recent developments in the field of exercise statistics, intensity values of 3.5 for walking, 5.0 for moderate exercise and 9.0 for vigorous exercise were used, with score ranges as follows:
  - < 100 = sedentary;
  - 100 < 1 600 = low exercise level;
  - 1 600–3 200 or
    > 3 200 and < 2 hours vigorous exercise = moderate exercise level; and
  - >3 200 and 2 hours or more of vigorous exercise = high exercise level.

Relative to the 1989–90 methodology, the effect of calculating exercise level using the second of these methods is to significantly reduce the number of respondents classified to the high exercise level category and increase the numbers classified to the medium level, with small increases in the remaining categories.

Population

Information was collected for all persons aged 15 years or more in scope of the survey.

Data items

In respect of the two weeks prior to interview:

- whether walked for exercise or recreation;
- number of times walked;

- total time spent walking;
- average length of walking session;
- whether did any moderate exercise;
- number of times moderate exercise undertaken;
- total time spent in moderate exercise;
- average length of moderate session;
- number of times vigorous exercise undertaken;
- total time spent in vigorous exercise;
- average length of vigorous session;
- total time spent exercising; and
- exercise level.

Interpretation

Points to be borne in mind in interpreting these data include:

- as the topic excludes physical activity undertaken at work, and for reasons other than exercise, sport or recreation (e.g. household duties), the data should not be interpreted as necessarily indicative of overall activity levels of persons, or of their fitness;
- the information is 'as reported' by respondents and reflects the respondent's perception of the activity undertaken, the intensity of their participation, their level of fitness, etc; and
- in general the use of a two-week reference period was not considered to pose significant recall problems for respondents. For many people, participation in exercise is regular and/or for a set period each session. However, to the extent that persons undertook exercise in less formal circumstances or that the reference period was atypical of usual exercise patterns the accuracy of the information provided may have been affected.

Comparability with 1989–90 NHS

Data on exercise were collected using the same methodology as in the 1989–90 survey. This will enable reliable time-series analysis to be undertaken.

INJURY/ACCIDENTS

Definition

This topic refers to events identified by respondents as accidents, incidents or exposures which resulted in injury or other recent or long-term medical condition reported in the survey. Detailed information such as the time since and injuries sustained was collected for the most recent incident.

Unless otherwise indicated, the term accident is used in the following text to refer to events (accidents, exposures to harmful factors and other incidents (with or without intent)) which resulted in injury or illness.

This topic does not provide data indicating the number of accidents (either injury or otherwise) occurring over a period.

Data uses

Accidents are a significant source of preventable illness, injury, disability, and mortality, and an important factor in the usage of health services and other health-related actions. For the year 1989–90, the National Centre for Health Program Evaluation estimated the cost of medical treatments of injuries at $1,170 million. Injury prevention and control are one of the four priority areas for improvement highlighted in the 1993 report *Better Health Outcomes for Australians*.

Data are required to determine the level of illness, injury or disability caused by accidents, examine the types of illness/injury sustained, the circumstances of accidents, consequences of accidents in terms of usage of health services and the population groups most affected and/or at risk. This information will enable a more comprehensive picture of accidents and their consequences to be established and the effectiveness of previous education/prevention strategies to be assessed to assist in the development and targeting of future strategies.

Data from the 1995 NHS goes some way to meeting these data needs by:

- establishing the prevalence of illness/injury/disability caused by accidents;
- providing some insight into the short-term consequences of accidents (e.g. usage of health services, time lost from work or school) and the longer-term effects of chronic illness and disability;
- describing the location of accidents, and in particular identifying accidents which occurred at work and those conditions which respondents considered to be work-related (though not necessarily related to an accident at work); and
- enabling the issues above to be analysed for particular groups in the community.

Methodology

Questions on accidents were placed after all other questions relating to health in the questionnaire. All persons who reported experiencing an illness or injury in the two weeks before interview, or who reported a long-term medical condition were asked whether any of the previously reported conditions (apart from colds and flu) were the result of any of the following:

- any accidents resulting in injury;
- any incidents resulting in injury; and
- any exposure to harmful factors resulting in injury/illness.

Where the injury was no longer present but the respondent reported experiencing a condition which was the residual effect of an accident (e.g. disability or impairment) the residual condition was classified. To simplify the classification process procedures were adopted using the period since the accident as a classification determinant as follows:

- if the accident occurred in the previous month the condition was classified to 'injuries';
- if the accident occurred in the period one month to 12 months prior to interview, the condition was classified to 'injuries' (if still present) or to the appropriate code relating to the residual effect

(as determined from the description of the condition provided by the respondent); and

- if the accident occurred more than 12 months previous, the residual effect was classified.

These rules were used for all injuries recorded in the questionnaire. Details of the rules applied in classifying and coding medical conditions are provided in Appendix A.

For any conditions reported, further questions were asked to ascertain whether any or all of the those were work-related, and whether all reported conditions were the result of the same incident or not. If more than one incident contributed to the number of conditions, respondents were asked to give details about the most recent accident/incident for which the following information was collected:

- type of injury(ies)/illness(es) received:
  - fracture;
  - dislocation, sprain, strain;
  - internal injuries;
  - open wounds;
  - bruising and crushing;
  - foreign bodies;
  - burn and scalds;
  - poisoning;
  - complications of surgical and medical care;
  - mental stress; and
  - other.
- method how received the injury(ies) or illness(es):
  - vehicle accident;
  - fall;
  - hitting something or being hit by something;
  - attack by another person;
  - bite or sting;
  - single or long-term exposure to harmful factor; and
  - other.
- time since accident/incident or first exposed to harmful factor;

- whether accident/incident/exposure occurred while participating in sport or other recreational activity; and
- place of accident or incident:
  - at work;
  - at school/college/univerisity;
  - inside own/someone else's home;
  - outside own/someone else's home;
  - while travelling; and
  - other.

Some questions were asked in the style of a running prompt in the order shown above, such that although in some cases more than one category could apply, responses in general were recorded against the appropriate category appearing first in the list (for that age group).

'At work' includes any accident occurring at the workplace (whether or not the respondent was working at the time), on the way to or from work, or at home if the respondent carried out paid employment from home.

Population

Information was collected for all persons in scope of the survey who reported a relevant recent or long-term condition.

Data items

Items include:

- whether any reported illness/injury was caused by an accident;
- type(s) of condition caused by accident;
- whether any illness/injury reported due to work or working conditions;
- type(s) of condition due to work or working conditions; and
- whether conditions result of same accident.

For most recent accident/incident:

- conditions resulting from accident;
- period since accident;
- type of injury/illness sustained;
- how injury/illness sustained;
- place of occurrence of accident; and
- whether participating in sport, game or other recreational activity at time of accident.

Interpretation

Points to be considered in interpreting data for this topic include:

- as noted previously, data from this survey do not indicate the number of accidents (resulting in injury or otherwise) occurring;

- data for this topic related only to those reported illness/injuries/disabilities which were described by respondents as caused by accident. If for some reason (e.g. forgot, embarrassment, considered it too trivial) the respondent failed to report a condition the accidental cause or otherwise was not established;

- the identification of accidents was entirely at the discretion of respondents and reflected their perceptions of the elements of intent, neglect, etc. which may have been factors in the occurrence and their willingness to identify such occurences;

- while the survey identified those accidents occurring at work and conditions which respondents considered work-related, the data are not necessarily indicative of compensible injuries or claims made under workers' compensation provisions; and

- detailed data are only available for the most recent accident and should not be associated with any other conditions reported that had also been caused by previous accidents.

Comparability with 1989–90 NHS

A number of important changes to the methodology used for this topic were introduced in the 1995 NHS, aimed at improving the quality and usefulness of the data. A consequence of these changes however has been a reduction in comparability with data from the 1989–90 survey, as outlined below:

- the scope of accident data was similar between the 1989–90 and 1995 surveys; i.e. related only to injuries/illnesses which had previously been reported by the respondent. However, the methodology for identifying those injuries/illnesses due to an accident differed between surveys. It is felt that the approach used in the 1989–90 survey may have led to some under-reporting of accidents, particularly incidents which resulted in injury/illness through intent or neglect and incidents occurring over time such as exposures to harmful factors. While such incidents were conceptually within scope, it is probable that some incidents of this type were not reported since they were not perceived as accidents by respondents. In an effort to overcome this, the approach used in the 1995 survey involved use of a prompt card which explicitly identified these types of incidents. The effect of this change cannot be quantified. However, a comparison of 1989–90 data with preliminary data from the 1995 survey shows approximately 14% of respondents reporting accidents, which may in part be attributable to the methodological change;

- the approach to the identification of work-related injuries/illness differed between surveys. In both surveys, conditions arising from accidents at work were separately identified. However, whereas the 1989–90 survey identified accidents at work separately from and additional to conditions which the respondent reported as due to work, working conditions or overwork, the 1995 survey identified work-related conditions as a subset of conditions resulting from accidents (including incidents and exposures). While the broader concept of accident explicit in the 1995 survey was expected to minimise the effect of this change, a break in the direct comparability will have resulted. A comparison of preliminary data from the 1995 survey with 1989–90 data shows 8% of eligible

respondents reporting injury/illness due to working condition (excluding accidents at work), whereas the proportion of respondents from the 1989–90 NHS who reported a condition as caused by a working condition was 18%;

- data on place of accident are not directly comparable between surveys. The classification categories were revised for the 1995 survey, and accidents occurring during sport or recreational activities were identified independently from the place of accident, rather than as a subset of location as in the 1989–90 survey; and

- detailed information on type of injury and on how the injury/illness was received was not collected in the 1989–90 survey and therefore comparable data for these items are not available.

HEIGHT AND WEIGHT

Definition

This topic refers to the height (without shoes) and weight (without clothes and shoes) of respondents, as reported during interview. No measurements of height and weight were taken as part of this survey.

Data uses

Body mass (i.e. weight in relation to height) is regarded as an indicator of possible health risk for conditions such as heart disease, high blood pressure and diabetes, particularly when linked with other lifestyle factors including lack of exercise and smoking. Concern has also arisen about the number of women, especially in the younger age groups, developing eating disorders.

Previous studies have indicated that a significant proportion of Australians are overweight or obese. The National Heart Foundation's *Risk Factor Prevalence Study No. 3 1989* found that 47.9% of males and 33.5% of females aged 20–69 years in their study sample were overweight or obese as measured by Quetelet's body mass index. Similarly, data from the 1989–90 NHS also showed high proportions of adults who where overweight or obese (43.5% males and 29.6% females).

Data from the 1995 NHS can assist in monitoring body mass by:

- establishing the patterns of height and weight through the population and indicating the prevalence of overweight and underweight;

- enabling body mass to be analysed in conjunction with indicators of health status, use of health services and major health risk factors; and

- enabling body mass to be described for particular groups within the population for development of relevant services and programs.

Methodology

Respondents were first asked whether they considered themselves to be of an acceptable weight, underweight or overweight. The next questions simply asked them to report their height and weight. Women who were pregnant at the time of the interview were asked to provide their usual weight before pregnancy. Answers provided in imperial measurements were recorded by interviewers and converted into metric measurements during processing of the computer file.

Body mass was derived during processing using Quetelet's body mass index which is calculated as weight divided by the square of height. Scores were grouped into four categories, defined by the NH&MRC, as shown below.

BODY MASS

Index (kg/m^2)	*Category*
<20	Underweight
20–25	Acceptable weight
>25–30	Overweight
>30	Obese

Other categories for body mass e.g. as defined by the WHO, can also be derived from the Quetelet's body mass.

Population

Data were collected for all persons aged 15 years or more in scope of the survey.

Data items

Items include:

- height (cm) output groupings as required;
- weight (kg) output grouping as required;
- self-perceived body mass; and
- derived body mass.

Interpretation

In interpreting data for this topic users should bear in mind that the data are 'as reported' by respondents and hence may differ from those which might be obtained by measurement. However, measured data collected by the NNS should offer an opportunity to assess the reliability of self-reported height and weight.

Comparability with 1989–90 NHS

Data collected on height and weight in the 1995 NHS used the same methodology as in 1989–90, therefore estimates are comparable. The only difference in methodology lies with the conversion of imperial measurement to metric measurement and should not effect comparability to any extent.

SUPPLEMENTARY WOMEN'S HEALTH TOPICS

Definition

Aspects of women's health are addressed in all topics included in the 1995 NHS. The supplementary women's health topics refer to additional health issues covered in the survey which focus on women, namely:

- screening for breast and cervical cancer;
- breastfeeding of infants;
- use of hormone replacement therapy; and
- hysterectomy.

Data uses

In 1989 the Australian Health Ministers endorsed a National Women's Health Policy developed under the auspices of the National Agenda for Women. The goal of the National Women's Health Policy is to improve the health and well-being of all women in Australia with a focus on those most at risk and to encourage the health system to be more responsive to the needs of women.

The policy identifies seven priority health issues for women: reproductive health and sexuality, health of aging women, women's emotional and

mental health, violence against women, occupational health and safety, the health needs of women as carers, and the health effects of sex role stereotyping on women. In addition, the policy identifies five areas of the health system in which action is required to improve women's health, including the provision of health information for women and research and data collection on women's health.

As noted above, aspects of women's health are addressed throughout the 1995 NHS. Information from the survey for example establishes the prevalence of different types of illness among women, their levels and patterns of use of health services and describes selected lifestyle behaviours which may effect their health. Data obtained in the survey enable these issues to be analysed in respect of particular socioeconomic, educational and cultural groups among women, and in respect of other factors which may influence their health such as geographic location and social situations (e.g. family situations).

Information obtained under the women's health topics supplements these more general health indicators in areas of major concern specific to women's health. Breast and cervical cancer are significant causes of female death and morbidity. While overseas experience suggests the effectiveness of screening programs in bringing about reductions in the death rates for these conditions, coverage of similar programs for women at risk in Australia is recognised as deficient, and investigations are continuing to determine the most appropriate ways of delivering education and screening services. Information obtained in the 1995 NHS indicates the general level of awareness and use of the various screening techniques and services, enabling programs aimed at increasing awareness of the need for regular screening and the provision of appropriate services to be better targeted.

Breastfeeding questions asked in the supplementary health form in relation to this topic attempt to establish patterns of breastfeeding among women of different age groups and in different socioeconomic groups. Information was collected about the number of children breastfed and the duration for which they were breastfed. Several studies have suggested that breastfeeding may also have a protective effect against the development of breast cancer. Data collected by this survey will enable the prevalence of breastfeeding to be identified. Detailed information about the breastfeeding of children aged three years and under was collected in the main questionnaire for each child, see Breastfeeding, page 81.

Hormone replacement therapy (HRT) is commonly prescribed as a treatment for symptoms associated with menopause and as a preventive measure against osteoporosis. Studies on the use of this treatment have linked it with reduced risk of cardiovascular disease in older women and have shown it to have some effect in retarding the development of osteoporosis and reducing the incidence of bone fractures in women after menopause. However, other studies have shown a link between the use of HRT and the increase of certain types of cancers. Previously little data has been collected on the use of HRT. Information collected by this survey will assist in determining the prevalence of use in relation to women of different ages and from different socioeconomic backgrounds.

Methodology

At the completion of their survey interview, female respondents aged over 18 years (and who were not selected in the sub-sample for the SF-36 questionnaire) were invited to complete an additional women's health questionnaire relating to the specific women's health issues outlined above. Women who agreed to participate were asked to complete the

questionnaire themselves and return it to the interviewer in a sealed envelope provided. The envelope was opened during office processing. Approximately 92% of eligible female respondents agreed to complete the women's health questionnaire. This methodology, which had previously been used in the 1989–90 NHS, was adopted in the 1995 NHS in recognition of the potential sensitivity of the topics covered. The questionnaire contained a total of 30 questions and was designed and refined through testing to be as simple and straightforward as possible. Questionnaires were made available in a number of languages to assist respondents who had difficulty in reading English (see section Data Collection: Interviews, page 9).

All women answering the questionnaire were asked questions on screening for breast and cervical cancer. They were asked whether they had heard of tests such as mammograms and pap smear tests, and for those who had, whether they had ever had the test, usual time between tests, and when last had the test. Information concerning hysterectomy (whether had a hysterectomy and age when had hysterectomy) was obtained to assist in interpreting data on pap smear tests. For those women who answered yes to having a mammogram, the reason(s) for having the test was also collected. In regards to screening for breast cancer, women were asked whether they regularly examined their own breasts for lumps or whether they regularly had their breasts examined by a doctor or medical assistant. If a yes response was given to either of the questions, how often these examinations occurred was also collected. In addition, women were asked whether they had ever been diagnosed as having breast cancer and if so, at what age was first diagnosis. All women were asked whether they currently used a HRT, and if so, how long they had been using the treatment for.

Information on breastfeeding children was only collected from those women aged under 65 years. Testing of the questionnaire indicated that for most women aged 65 years and over, the duration of breastfeeding of children was difficult to recall. Women were asked whether they had ever breastfed, how many children had they breastfed and for each child the duration of breastfeeding.

Population

Information was collected from all participating women aged 18 years and over in scope of the survey but not selected as part of the SF-36 sub-sample.

Data items

In respect of all women aged 18 years and over:

- whether heard of pap smear test;
- whether ever had pap smear test;
- time since last pap smear test;
- usual time period between pap smear tests;
- whether heard of mammogram;
- whether ever had mammogram;
- time since last mammogram;
- usual time period between mammograms;
- reason(s) for last mammogram;

- whether regularly examine own breasts for lumps;
- how often examines own breasts for lumps;
- whether had breast examination by doctor or medical assistant;
- how often has breast examination by doctor or medical assistant;
- whether ever diagnosed with breast cancer;
- age when first diagnosed with breast cancer;
- time since first diagnosed with breast cancer;
- whether had hysterectomy;
- age when had hysterectomy;
- time since had hysterectomy;
- whether currently uses hormone replacement therapy; and
- how long has been using hormone replacement therapy.

In respect of women aged under 65 years:

- whether ever breastfed;
- number of children breastfed;
- duration breastfed each child; and
- duration breastfed all children.

Interpretation

Points to be considered in interpreting data for this topic include:

- the self completion questionnaire methodology used for this topic may have affected the reliability of the information reported and its consistency relative to data recorded in the interviewer administered part of the survey;
- some eligible female respondents chose not to complete the women's health questionnaire. While there is no reason to suspect that the women's health characteristics of those who participated differed from those who did not it cannot necessarily be assumed that this was the case;
- some respondent misunderstanding and recording errors occurred in completing the questionnaires e.g. incorrectly following sequence guides, missing questions, illogical combinations of answers, etc. As the completed questionnaires were not sighted by interviewers, these problems could not be queried/resolved with respondents. While efforts were made during processing to correct the more straightforward errors, some errors and apparent inconsistencies will have survived in the final output;
- the women's health questionnaire was made available in a number of languages other than English (Arabic, Chinese, Croatian, German, Greek, Italian, Polish, Serbian, Spanish, Turkish and Vietnamese). However, some language problems may have

persisted e.g. if the respondent only read a language other than one of the above, or if the respondent had difficulty reading English but chose not to request a foreign language form. These language problems, together with more general literacy factors may have affected the reliability of information reported; and

- the issues of screening practices for breast and cervical cancer have been the focus of major public health education programs. Despite the confidential nature of the questionnaire there may have been a tendency for some respondents to report recommended or desirable screening patterns rather than actual practices.

Comparability with 1989–90 NHS

Information on women's health was collected in this survey using the same methodology as in 1989–90 i.e. a separate form to be completed by the respondent. While new items were included in the 1995 survey, where items are common to both surveys the data are considered directly comparable.

CONTRACEPTION

Definition

This topic refers to the use of contraceptive methods only and should not be used to infer information about sexual behaviours or use of safe sexual practices.

Data uses

Increased availability of contraceptive methods has enabled people to plan and limit family size as well as decrease the rates of unintended pregnancies. However, evidence suggests that effective contraception is still problematic.

Contraceptive methods such as the oral contraceptive pill and intrauterine devices (IUD) have been linked with other health problems among women such as increased risks of pelvic inflammatory diseases, some cancers and problems with fertility.

Data collected by the NHS provides indicators of the types of contraceptive methods used by women and their partners and of patterns of usage for particular groups. Linking of this information with other information collected in the survey will assist in establishing profiles of groups who are potentially more at risk, e.g. women who smoke and take the contraceptive pill.

Methodology

Questions on contraception were included on the women's health supplementary form. Data were therefore collected only from women, but applied to the respondent and partner where appropriate. The self-completion methodology was adopted in recognition of the potential sensitivity of the topic. Women aged 18–49 years were asked whether they had ever taken the contraceptive pill, whether they were currently taking the contraceptive pill and their age when they first started taking the pill. Women who were not currently taking the pill were asked about the types of contraceptive methods currently used by themselves and their partners.

Population

Information was collected for all women not selected for the SF-36 sub-sample who were aged 18–49 years.

Data items

Items collected by the survey include:

- whether currently taking the oral contraceptive pill;
- whether ever taken the oral contraceptive pill;

- age when first started taking the contraceptive pill;
- whether (self or partner) using other contraceptive method;
- other type of contraceptive method used; and
- reasons for non-use of contraceptive method.

Interpretation

Some points that should be kept in mind when interpreting data on contraception include:

- space and time constraints on the survey resulted in questions on this topic only being asked of adult female respondents. Although these respondents were asked to report practices used by themselves and their partners (where applicable), the data recorded may differ from those recorded if males had also been asked these questions. The methodology may also have resulted in a tendency for the data to reflect practices in ongoing relationships;
- the data relate to contraceptive practices and should not be interpreted as necessarily indicative of sexual patterns; and
- when interpreting data concerning contraception, points highlighted in section Women's Health: Interpretation, page 78, relating to other information collected in the women's health supplementary form should be kept in mind.

Comparability with 1989–90 NHS

Questions about whether the respondents were currently using an IUD or the oral contraceptive pill were asked in the 1989–90 survey, therefore data relating to these two contraceptive methods are comparable.

SUN PROTECTION

Definition

This topic refers to measures taken for protection from the sun, focussing on measures taken in the month prior to interview.

Data uses

Skin cancers are the most common form of cancer in the population and some of the highest rates of incidence of skin cancers in the world are recorded by Australia. Exposure to sunlight (the ultraviolet component) is the major risk factor associated with these type of cancers. Preventive measures such as avoiding exposure to sunlight (particularly between the hours of 11 a.m. and 3 p.m.), use of sunscreens and wearing protective clothing have been widely promoted in recent times. As well as these primary preventive practices the examination of skin for early changes or possible cancers has also been promoted. Data collected in the survey will assist in providing indicators of sun protection and screening practices and may indicate levels of awareness of the health risk to exposure to sunlight.

Methodology

Respondents were asked whether in the last month they had taken any measures to protect themselves from the sun, and if so which ones. A protective measure was considered to be a deliberate action taken to reduce exposure to sunlight. A prompt card with the following categories was shown to the respondent as a guide:

- sunscreen;
- umbrella;

- hat;
- clothing;
- sunglasses;
- avoided sun; and
- other.

Further questions were asked on how often protective measures were deliberately taken and whether the respondent had their skin regularly checked for changes in freckles and moles.

Population

Information was collected for all persons in scope of the survey. Parents answered on behalf of their children.

Data items

Items collected by the survey include:

- whether in last month taken sun protection measures;
- types of protective measures taken;
- frequency of protective measures; and
- whether skin regularly checked for changes in freckles or moles.

Interpretation

When interpreting these data it should be kept in mind that the issues relating to safe sun protection behaviours have been widely promoted in the community, and therefore some respondents may tend to report towards the recommended practices rather than actual practices.

Comparability with 1989–90 NHS

Data collected in this survey differ to those collected in the 1989–90 NHS. Focus in the 1989–90 NHS was primarily on the use of sunscreens. Persons who reported that they were fully protected when in strong sun or those who did not go out in the sun, were not asked any further questions regarding types of sunscreen used.

BREASTFEEDING

Definition

This topic refers to the breastfeeding of children, and focuses on the age when substances other than breastmilk have been introduced into the diet of the child.

Data uses

Breastfeeding of infants has been linked with immunological and psychological benefits for children, as well as providing food of a high nutritional content. Breastfed children are regarded as better protected against many diseases associated with infancy such as respiratory tract infections and gastrointestinal infections, than children who are not. Studies have also suggested that there are possible links between breastfeeding and the reduced chance of cot death.

The prevalence of breastfeeding at discharge from hospital is generally seen as high, however drops significantly as infants get older. National targets on breastfeeding for the year 2000 (1995, *Dietary guidelines for children and adolescents*, Canberra, AGPS, NH&MRC.) recommend that

the prevalence of breastfeeding for:

- infants aged up to two months, be increased to 90% ;
- babies up to three months of age should increase to 60% of those who are fully breastfed and 80% of those who are partially breastfed; and
- babies up to six months of age should increase to 50% of those fully breastfed and 80% who are partially breastfed.

Data collected in the 1995 NHS establish the prevalence of breastfeeding and assist in determining why breastfeeding is stopped and at what ages.

Methodology

Questions on breastfeeding were asked in respect of children aged three years and under at the time of the survey. For most children, questions were answered on their behalf by a parent, usually the mother (approximately 80% at time of writing). Initially questions were asked to establish whether the child was currently breastfed, and if not whether had ever been breastfed. Following questions were designed to determine if foods other than breastmilk had been introduced into the diet and at what age regular consumption of these had started. These foods included:

- infant formula;
- cow's milk;
- other milk substitutes (soya bean milk, goat's milk, evaporated milk); and
- solid food.

For those children who had never been breastfed, the same series of questions established the type of food (other than breastmilk) the child initially was given, and the age at which the other foods listed had been introduced (if at all). Introduced was defined as when first started taking the food on a regular basis, as opposed to when first offered. Excluded were non-regular or one-off occasions when the foods were taken, for example, times when left with someone other than a parent or a stay in hospital.

Times when changes in the child's diet occurred were recorded using age of the child (either weeks or months), as reported by the respondent. For children who had ceased to be breastfed, the main reason for stopping breastfeeding was collected.

Population

Information was collected for all children aged 0–3 years, in scope of the survey.

Data items

Items collected by the survey include:

- whether ever/currently breastfed;
- whether breastfed at time of first discharge from hospital;
- length of time breastfed (derived);
- length of time exclusively breastfed (derived);

- whether ever given:
  - infant formula;
  - cow's milk; and
  - other milk substitutes;
- age first regularly given:
  - infant formula;
  - cow's milk;
  - other milk substitutes; and
  - solid food;
- type(s) of milk substitutes; and
- main reason for stopping breastfeeding.

Interpretation

Information is 'as reported' by respondents. No analysis has been undertaken regarding the accuracy of this reported data and whether parental recall declines as the child gets older. In addition, the accuracy of the data may be reduced in cases where an adult other than the child's mother, responded for the child. Another point to be kept in mind when interpreting data on breastfeeding is that issues relating to the benefits of breastfeeding have been promoted in the community, therefore some respondents may tend to report towards the recommended practices rather than to actual practices.

Comparability with 1989–90 NHS

In the 1989–90 survey, breastfeeding questions were asked only of mothers aged 18–50 years who were currently breastfeeding or had breastfed a child (or children) aged five years or under at the time of the survey. Data collected related to the age of each child, recorded in months and the duration of breastfeeding, also in months. The collection of breastfeeding data through the supplementary women's health questionnaire proved problematic because breastfeeding information about a child then formed part of the mother's record which limited the ability to link with other health-related data for that child. No information as such was collected on the separate questionnaire about those children who had not been breastfed. To rectify these problems in the 1995 survey, breastfeeding information for children is collected separately and forms part of the child's record. Breastfeeding information for mothers is collected on the supplementary questionnaire. While conceptually the data from common items are similar, the change in collected methodology may have reduced comparability between surveys.

Although, information on breastfeeding in the 1995 NHS differs from that collected in the 1989–90 NHS, some comparisons of breastfeeding prevalence can be made between data from the two surveys, in respect of children aged 0–3 years. However, as information to determine whether breastfeeding was exclusive or partial was not obtained in the 1989–90 survey, comparison of duration of breastfeeding can only be made at the broadest level, and should be made with care. In the 1995 survey, duration was derived based on the introduction of other foods, whereas in the 1989–90 survey duration was recorded as reported by respondents.

Information on the introduction of other foods was not obtained in the previous survey.

POPULATION CHARACTERISTICS

	Page
Demographic and socioeconomic characteristics	86
Demographics	86
Age	86
Marital status	86
Country of birth	86
Year of arrival	86
Indigenous status	86
Language other than English	86
Education	87
Whether attending school	87
Age left school	87
Post-school educational qualification	87
Current post-school study	87
Employment	87
Labour force status	88
Main job	88
Occupation	88
Hours worked	88
Full-time/part-time status	88
Status in employment	89
Usual major activity	89
Duration of unemployment	89
Income	89
Source of cash income	89
Gross cash income	90
Type of pension/benefit	90
Health insurance and health cards	92
Type of private insurance	92
Contribution rate	92
Health cards	92
Housing	92
Type of dwelling structure	92
Type of tenure	93
Landlord type	93
Number of bedrooms	94
Family/household/income unit	94
Family	94
Household	94
Income unit	95
Unit-level health characteristics	96
Other unit-level characteristics	97
Geographic classifications	98

DEMOGRAPHIC AND SOCIOECONOMIC CHARACTERISTICS

In addition to the specific health information collected, the 1995 NHS obtained a range of information describing the demographic and socioeconomic characteristics of the survey population. These characteristics can be linked with the health data obtained in the survey to analyse the health status and other health characteristics of particular groups in the community e.g. migrants, the aged, low income earners, etc. For presentation in this publication the characteristics obtained have been grouped under the following headings: demographics, education, employment, income, health insurance, housing, family/household/income unit and geographic classifications.

DEMOGRAPHICS

Age

Age recorded in single years; months if age less than one year. Standard output available in five and ten year groups; other groupings available on request.

Marital status

Marital status as reported: classified as married, de facto, separated, divorced, widowed, or never married.

Country of birth

Classified to the finest level of the *Australian Standard Classification of Countries for Social Statistics* (1269.0), which is a hierachical classification based on the concept of geographic proximity. The abbreviated classification to be used in most standard output is shown in Appendix C; other groupings available on request.

Year of arrival

Collected for persons reporting country of birth other than Australia. Available as year of arrival, and used in the derivation of period of residence in Australia, (any time spent overseas since first arrival is not included in this derivation).

Indigenous status

As identified by an adult spokesperson within each household and classified as Aboriginal, Torres Strait Islander, both Aboriginal and Torres Strait Islander, and neither Aboriginal or Torres Strait Islander.

Language other than English

Obtained for all respondents aged six years or more, and classified at the finest level of the ABS standard classification; the abbreviated classification to be used in most standard output is shown in Appendix D.

Proficiency in English was not collected directly in the survey. However, an indicator was obtained, based on the interviewer's assessment and record of the interview. For each respondent, the interviewer recorded whether a personal interview was obtained:

- fully in English;
- easily or with difficulty;
- partly or fully in a language other than English; and
- whether the interview was obtained by proxy due to English language difficulties or other reasons.

This information is available as an output item from the survey, groupings available on request.

EDUCATION

Persons aged 6–14 years were assumed to be attending school. Respondents aged 15 years and over were asked a series of questions relating to current attendance at school or some other educational institution and the level of education attained.

Whether attending school

Persons were recorded as still attending if currently full time at school at the time of the survey, including cases where the respondent had previously left school and subsequently returned.

Age left school

Refers to the age the respondent left a recognised primary or secondary school (including correspondence school and private tuition). However, this does not include study of school subjects at a post-school institution. For persons who left school at an early age and returned to continue studies at primary/secondary schools, the age at which they most recently left school was recorded.

Post-school educational qualification

Information on post-school education qualification was recorded for approximately half the respondents. Respondents were asked whether they had obtained a qualification since leaving school and the highest qualification completed. Information about duration of study to complete the course, and additional information about reported nursing and teaching qualifications was collected to enable more accurate classification of the qualification to level of attainment where possible. Qualification was classified according to the standard ABS Classification of Qualifications as follows:

- higher degree;
- post-graduate diploma;
- bachelor degree;
- undergraduate diploma;
- associate diploma;
- skilled vocational; and
- basic vocational.

Information relating to field of study of post-school qualifications is not available from this survey.

Current post-school study

Respondents other than those still at school were asked whether they were currently studying at a college, university or other educational institution, and whether this study was as a full or part-time student. An educational institution was defined as an institution whose primary role is education; excluded for example are teaching hospitals. A person was recorded as studying full time if classified as such by the institution they were attending or if they regarded themselves as a full-time student. All apprentices were recorded as part-time students. However, it is possible under survey definitions for a person to be classified as a full-time student and be classified as employed.

EMPLOYMENT

Questions relating to employment were asked of respondents aged 15 years or more, other than those identified as still at school. The minimum standard ABS question module was used to collect employment-related data in the survey. This may have resulted in small differences in classification of labour force status and full-time/part-time,

compared with the classification that would have been derived had the full standard question module be used.

Labour force status

Persons were classified as either employed, unemployed or not in the labour force based on criteria relating to whether the person had a job in the week prior to interview, whether those who did not have a job were actively seeking work, and whether those actively seeking work were available to start. Employed persons were those who reported that in the preceding week they had worked in a job, business or farm for one hour or more or who had a job but were absent during that week. Unemployed persons were those who were not employed in the reference week, and who actively looked for work at some time during the previous four weeks and were available to start, or waiting to start within the following four weeks. Persons who were neither employed nor unemployed as defined above were classified as not in the labour force.

Main job

Some respondents had more than one job at the time of the interview. A person's main job was defined as the job in which they usually worked the most hours. Details of the person's occupation and working arrangements were recorded in respect of the main job, as outlined below.

Occupation

Office coded to the Australian Standard Classification of Occupations (ASCO) from the respondent's description of the kind of work they performed. Occupation was classified to the full four-digit level of ASCO, and details can be made available at this level on request (although for many categories observations in the survey will be relatively few, and therefore the reliability of the data will be significantly reduced). For standard output purposes occupation is classified to the eight major groups:

- managers and administrators;
- professionals;
- para-professionals;
- tradespersons;
- clerks;
- salespersons and personal service workers;
- plant and machine operators and drivers; and
- labourers and related workers.

Hours worked

Refers to hours usually worked (in all jobs) per week, including paid or unpaid overtime.

Full-time/part-time status

Based on hours usually worked, as above, persons were classified as full-time workers if they usually work 35 hours or more per week. Persons who usually work less than 35 hours per week were classified as part time. It should be noted that this definition differs from that used in ABS Labour Force Surveys.

Status in employment

Refers to the working arrangements of the respondent in their main employment (job), classified as follows:

- employee — a person who works for a public or private employer and receives remuneraton in wages, salary, a retainer fee by their employer while working on a commission basis, tips, piece-rates or payment in kind, or a person who operates his or her own incorporated enterprise with or without hiring employees;
- employer — a person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade, and hires one or more employees;
- own account worker — a person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade and hires no employees; or
- contributing family worker — a person who works without pay in an economic enterprise operated by a relative.

Usual major activity

Derived from education and employment details. All persons aged 15 years and over were classified to one of the following:

- employed (excluding full-time students);
- unemployed (excluding full-time students);
- full-time student;
- part-time student (excluding employed); or
- other (including home duties and retired).

Duration of unemployment

This refers to the period from the time a person began looking for work or was stood down, to the end of the reference week. For persons who began looking for work while still employed, the item refers to the period from the time the person last worked full time for two weeks or more until the end of the reference week. The item is a continuous variable, measured in completed weeks. Long-term unemployment is defined as unemployment for a period of 52 weeks or more.

INCOME

Information about income was obtained for all persons aged 15 years and over. It was collected in two parts, using an abridged version of the ABS standard module of questions, and relates to primarily regular/recurring cash income. For further information about the concepts and classification used, see *Income Distribution, Australia (6523.0)*.

Source of cash income

Persons were firstly asked whether they had received income from the following in the last financial year:

- profit or loss from own business (excluding limited liability company(s)) or profit or loss from share in a partnership;
- profit or loss from rental investment properties;
- dividends; and
- interest.

Persons were then asked whether they currently received income from:

- a wage or salary from an employer;
- a wage or salary from own limited liability company;
- family payment;
- any other government pension or cash benefit;
- maintenance/child support;
- superannuation/annuity;
- workers compensation/accident or sickness insurance; and
- other source of income.

Receipts which are excluded from income because they are not cash, regular or recurring consist of the following:

- income in-kind including employee benefits such as superannuation payments in salary sacrifice schemes;
- capital transfers such as inheritances and legacies, maturity payments on life insurance policies, lump sum compensation for injuries or other damage; and
- capital gains and losses.

Each source of income reported was separately recorded. The main source of income, as identified by the respondent was also recorded.

Gross cash income

Income was recorded in actual dollar amounts as reported by the respondent. Gross cash income refers to an individual's total cash income from all sources before tax or anything else is taken out and is derived from the aggregation of reported income in the previous year from own business/partnership, rental investment, properties, dividends and interest and reported usual current income from other sources. Negative income from non-current sources was identified. The pay period (in weeks or months) appropriate to the reported current income was recorded.

For standard output purposes income data are presented in terms of ranges of income, compiled as weekly or annual equivalent; other aggregations of income are available on request.

Type of pension/benefit

Respondents who reported receiving income from a government pension/benefit were asked to identify (from prompt cards) the type(s) of pensions/benefits received. Types identified were as below.

List A:

- Age Pension;
- Service Pension;
- Disability Support Pension/(Invalid Pension);
- Widow's Pension;

- Wife's Pension;
- Carer's Pension;
- Sole Parent's Benefit;
- Sickness Allowance/Sickness Benefit;
- Newstart Allowance/Job Search Allowance/Mature Age Allowance/ Unemployment Benefit;
- Special Benefit; or
- none of these.

List B:

- Additional Family Payment;
- Austudy/Abstudy;
- Austudy Supplement/Abstudy Supplement;
- Disability Pension;
- War Widow's Pension;
- Child's Disability Allowance;
- Overseas Pension or Benefit;
- other pension/benefit; and
- none of these.

Respondents were recorded as receiving only one type of pension/benefit from List A, that being the reported type appearing first in the list. Respondents were recorded against each type of pension/benefit in List B which they reported they received.

For standard output purposes, the types of government pension/benefit received will be available in the following groups:

- pensions for aged persons;
- allowances for the unemployed;
- pensions and allowances for the sick and disabled;
- pensions for lone parents and widowed persons;
- family payments;
- special benefits;
- benefits for study purposes; and
- other pensions, benefits and allowances.

HEALTH INSURANCE AND HEALTH CARDS

Information was obtained about the private health insurance arrangements of approximately half of respondents aged 15 years and over. Information on health cards was obtained for all respondents aged 15 years or more.

Type of private insurance

Private health insurance is cover provided by private health insurance organisations to reimburse all or part of the cost of hospital and/or ancillary services. Type of insurance refers to whether persons were covered for hospital expenses, expenses for ancillary services, for both hospital and ancillary or had no private health insurance. Private insurance for hospital expenses provides cover for the costs of accomodation in private hospitals and private accomodation in public hospitals. Ancillary cover includes services such as dental, physiotherapy, optical, acupunture, etc. The range of services and the level of cover provided for each service may vary.

Contribution rate

Single cover (which provides cover for one person only) or family cover which provides cover for all designated members of the immediate family only (with most funds) usually for twice the single rate cost regardless of the number of persons in that family.

Health cards[1]

Respondents were asked whether they have a DVA Treatment Entitlement Card, and the colour of the card. There are four types of DVA card uniquely identified by colour which provide for different types of treatment and/or access to health services. Respondents were (also) asked if they were covered by a range of (other) government health concession cards. A prompt card, containing the following was provided to respondents to assist them in reporting:

- pensioner concession card;
- Commonwealth seniors health card;
- health benefits card;
- health care card;
- safety net concession card; and
- safety net entitlement card.

These cards provide for medical and/or related services free of charge or at reduced rates to recipients of Commonwealth government pensions or benefits.

Testing for the survey indicated significant under-reporting of safety net cards. Final results of the survey were not available at the time this publication was prepared, but based on those test results, data for these cards should be interpreted with caution.

HOUSING

Information relating to housing was obtained at the household level, from either the reference person of the household or from the spouse/partner of the reference person if they were the first person from that household to provide an interview.

Type of dwelling structure

Refers to the best description of the structure containing the household, as reported by the interviewer. Categories are:

- separate house;

[1] Health card issued by the Department of Veterans' Affairs (DVA) and the Department of Social Security.

- semi-detached/row or terrace house/town house:
  - one storey;
  - two or more storeys;
- flat attached to house;
- other flat/unit/apartment:
  - one or two storeys;
  - three storeys;
  - four or more storeys;
- caravan;
- houseboat;
- improvised home/campers out; or
- house or flat attached to shop.

Type of tenure

As reported by respondents, using a running prompt question:

- paying rent or board to reside in the dwelling;
- paying off the dwelling;
- outright owner of dwelling;
- living in dwelling rent or board free; and
- other.

Landlord type

Relates to those households not identified as an owner or purchaser, and refers to the legal entity to which rent is paid or with whom the tenure contract or arrangement is made. As reported by respondents, using a prompt card, categories are:

- real estate agent;
- State housing commission;
- person not in the same household:
  - parent/other relative;
  - other person;
- person in same household:
  - parent/other relative;
  - other person;
- owner/manager of caravan park;

- employer:
  - defence housing authority;
  - government authority;
  - other employer;
- other:
  - housing co-operative/community/church group;
  - other.

Number of bedrooms

Collected in single units, as reported by respondents. Standard categories for output are none (includes bedsitter), 1, 2, 3, 4, 5 or more.

FAMILY/HOUSEHOLD/INCOME UNIT

In addition to data from the survey about housing characteristics, other data may be compiled in respect of families, households and income units and be cross-classified using characteristics of those units.

For the purposes of this survey these units were defined as follows.

Family

Two or more persons (one of whom is at least 15 years old) who usually live in the same household and who are related to each other by blood, marriage (including de facto) or adoption. All usual members of households in private dwellings were grouped into family units and those units were classified to family type as follows:

- couple without children;
- couple with children;
- couple with children and other relatives;
- one parent with children;
- one parent with children and other relatives; and
- other family and non-family individuals.

Children in the above categories includes children less than 15 years, dependant students and non-dependant children.

Household

A group of two or more related or unrelated people who usually reside in the same dwelling and who make common provision for food or other essentials for living; or a person living in a dwelling who makes provision for his/her own food and other essentials for living, without combining with any other person. Lodgers who receive accommodation but not meals are therefore regarded as separate households.

Individuals were classified according to their position within the household:

- partner of a couple with children;
- partner of a couple without children;
- one parent;

- child of one of the above;
- other relative of one of the above;
- other member of family;
- person living with others to whom he/she is unrelated; and
- person living alone.

Household type, based on usual residents only, was categorised as follows:

- family household (family members only):
  - one family;
  - two families;
  - three or more families;
- family households (non-family members present):
  - one family;
  - two families;
  - three or more families;
- non-family households:
  - lone person household;
  - group household;
- not classifiable:
  - visitor only dwelling;
  - other not classifiable; and
- not stated/inadequately described.

Income unit

An income unit may comprise one person, or a group of related persons, within a household, whose command over income is shared. The relationship allowed for in the definition of income unit is restricted to those of marriage (registered or de facto) and of parent/dependent child. An income unit may therefore include:

- the partner (for couples);
- all children aged less than 15 years; and
- unmarried full-time students aged 15–25 years (includes students with dependents of their own providing they were living with parents).

All other persons were considered to be non-dependent and hence to form their own separate income units.

Income units were categorised as follows:

- couple (including de facto) without dependent children;
- couple (including de facto) with dependent children;
- one person without dependent children; and
- one person with dependent children.

Standard items available in respect of family, household and income units include number of persons in unit, number of income earners in unit, number of dependent children in unit, etc.

Unit-level health characteristics

In addition to those items above which describe the characteristics of the various units enabling analysis of personal health characteristics by the type of unit, a range of health items will be derived at the household and family levels. Collection of data about each household member also provides the opportunity to analyse health characteristics at unit levels. To facilitate this, the following unit-level items have been derived.

Health status

- lowest reported health status in household/family among persons 15 years and older;
- proportion of persons in fair/poor health to persons in very good/excellent health (for aged 15 years and over);
- number of persons in household/family requiring help or supervision;
- number of persons in household/family who reported:
  - recent illness;
  - long-term conditions;
- number of conditions reported by household/family members (both recent and long-term);
- average number of conditions per household/family member;
- whether persons in household/family with:
  - sight problems not corrected by glasses;
  - hearing problems;
  - arthritis/rheumatism;
  - asthma;
  - diabetes;
- whether persons in household/family with asthmatic symptoms in last 12 months; and
- number of persons in household/family with:
  - asthma;

- hayfever;
- sinusitis;
- bronchitis/emphysema.

Health risk factors

- number of adult smokers in household/family;
- number of adult drinkers in household/family;
- number of adult drinkers in household/family consuming at a moderate/high risk level;
- number of persons in household/family who exercise (aged 15 years and over);
- number of persons in household/family who exercise at moderate/high level; and
- number of persons in household/family who are overweight/obese (aged 15 years and over).

Health-related actions

- number of persons in household/family who consulted in previous two weeks with doctor, dentist, OHP, hospital or day clinic;
- number of consultations by household/family members in previous two weeks;
- average number of consultations per household/family member; and
- number of medications used regularly by household/family members.

The unit-level health items listed above have been defined by ABS based on consultations with users of the data on the types of analyses expected to be undertaken. However, these items represent only a selection of those potentially available, and additional unit-level health characteristics can be derived on request (and at user cost) to meet special needs.

Other unit-level characteristics

SEIFA

There are five Socioeconomic Indexes For Areas (SEIFA) used for the 1995 NHS. Each index summarises a different aspect of the socioeconomic condition in an area. They are:

- Urban Index of Relative Socioeconomic Advantage;
- Rural Index of Relative Socioeconomic Advantage;
- Index of Relative Socioeconomic Disadvantage;
- Index of Economic Resources; and
- Index of Education and Occupation.

Further information on SEIFA is contained in *Information Paper, 1991 Census — Socio-Economic Indexes for Areas* (2912.0).

Equivalent Income

Differences in household types and their requirements relative to income can be taken into account by the application of equivalence scales. These scales are a set of ratios which when applied to the income of different household types produce standardised estimates of income which reflect the households' relative standards of living.

The scales used for the 1995 NHS are the Henderson Simplified Equivalence Scales and are derived at Income unit level. The Henderson scale was chosen in order to maintain comparability of equivalent income data with those available from the 1989–90 NHS. ABS endorsement of this scale should not however be inferred from its use for this survey. Standard output will be in the form of deciles.

GEOGRAPHIC CLASSIFICATIONS

Geographic information available from the 1995 NHS relates to the location of the sample dwelling at which respondents were enumerated. As a result of the scope and coverage rules applied for this survey (see Scope and Coverage, page 5) most respondents were surveyed at their place of usual residence.

Five standard classifications of geographic area are available for use in output from this survey:

- States, Territories and Australia;
- capital cities/remainder of State, for each State where the capital city is defined as the area covered by the relevant city Statistical Division;
- Statistical Divisions within each State and Territory, as defined by the *Australian Standard Geographical Classification (ASGC)* (1216.0);
- health regions within each State as defined by each State health authority; and
- section of State — major urban, other urban, rural/remote, based on population size as described by the 1991 Census of Population and Housing.

The ASGC is a hierachical system for the classification of statistical units by geographic areas. The basic spatial unit of the classification is the CD. Statistical Local Areas (SLAs) are the next level of the classification, and comprise one or more CDs; they are similar in size to LGA's (i.e. Legal LGAs). Under the hierarchical system of the ASGC, SLAs can be further grouped into larger units called Statistical Sub-Divisions, which in turn may be grouped into still larger Statistical Division units. At each level of the classification the units in aggregate cover the whole of Australia without gaps or overlaps. The ASGC defines 65 Statistical Divisions across Australia. Further details of the units defined in the ASGC and of the areas covered by them are contained in the ASGC itself which is available from any office of the ABS.

Health regions are geographic areas defined by each State health authority for the purposes of administering health programs and services in their State. Health regions tend to be defined in terms of groupings of SLAs, and in most cases region boundaries coincide with SLA boundaries. Details of health regions, as specifed for output from this survey, may be obtained by contacting the ABS or relevant State health authority.

Although provision has been made to compile statistics from the survey in respect of geographic areas within States and Territories, there are limits to the extent to which survey data can usefully be compiled for those areas, particularity in those States in which the survey sample was not supplemented (Queensland, New South Wales, Western Australia and Tasmania). The ability of the survey to provide reliable estimates for sub-State areas varies from area to area according to the number of persons in the area which were included in the sample and the level of data disaggregation (e.g. number of variables cross-classified, level of detail required for each variable) attempted.

In addition to the five geographic classifications outlined above, data from the 1995 NHS may be compiled in respect of other geographic units (to suit individual user requirements) on request. Such requests will be considered on a case-by-case basis in terms of sampling, data reliability and confidentiality issues and the additional costs to the user involved in programming to create the units. It is recommended that any such units be of a similar size to Statistical Divisions or health regions, and that the areas be defined in terms of component CDs or SLAs, with boundaries to coincide with CD or SLA boundaries. Data from this survey will not be released for individual CDs, SLAs or equivalent units.

INTERPRETATION OF RESULTS

	Page
Data quality	101
Sampling variability	101
Measure of sampling variability	101
Non-sampling errors	102
Other factors effecting estimates	104
Sampling variability	104
Scope and coverage	104
Personal interview and self-assessment nature of the survey	105
Concepts and definitions	105
Wording of questions	105
Reference periods	105
Coding framework	105
Collection period	106

DATA QUALITY

Although care was taken to ensure that the results of this survey are as accurate as possible, there are certain factors which affect the reliability of the results to some extent and for which no adequate adjustments can be made. One such factor is known as sampling variability. Other factors are collectively referred to as non-sampling errors. These factors, which are discussed below, should be kept in mind in interpreting results of the survey.

Sampling variability

Since the estimates are based on information obtained from a sample of the population, they are subject to sampling variability (or sampling error), i.e. they may differ from the figures that would have been obtained from an enumeration of the entire population, using the same questionnaires and procedures. The magnitude of the sampling error associated with a sample estimate depends on the following factors:

- sample design — there are many different methods which could have been used to obtain a sample from which to collect data on health status and health-related actions. The final design attempted to make survey results as accurate as possible within cost and operational constraints. (Details of sample design are contained in Sample Design and Selection, page 6);
- sample size — the larger the sample on which the estimate is based, the smaller will be the sampling error; and
- population variability — the third factor which influences sampling error is the extent to which people differ on the particular characteristic being measured. This is referred to as the population variability for that characteristic. The smaller the population variability of a particular characteristic, the more likely it is that the population will be well represented by the sample, and therefore the smaller the sampling error. Conversely, the more variable the characteristic, the greater the sampling error.

Measure of sampling variability

One measure of sampling variability is the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors. The relative standard error is the standard error expressed as a percentage of the estimate to which it relates.

Standard errors of estimates were computed using the split-halves method. Details of the methodology used and a table of standard errors and relative standard errors for estimates of numbers of persons are provided in Appendix H.

Very small estimates may be subject to such high relative standard errors as to detract seriously from their value for most reasonable purposes. Only estimates with relative standard errors less than 25% are considered sufficiently reliable for most purposes. However, estimates with relative standard errors between 25% and 50% are included in ABS publications of results from this survey, preceded by the symbol * as a caution to indicate that they are subject to high relative standard errors. Estimates with relative standard errors greater than 50% are generally not shown in published output, but can be made available on request. Figures for these small components can in some cases be derived from published output by subtraction, but they should not be regarded as reliable.

Non-sampling errors

The imprecision due to sampling variability should not be confused with inaccuracies that may occur for other reasons such as errors in response and reporting. Inaccuracies of this kind are referred to as non-sampling errors, and may occur in any enumeration whether it be a full count or a sample. The major sources of non-sampling error are:

- errors related to scope and coverage;
- response errors such as incorrect interpretation or wording of questions, interviewer bias, etc.;
- bias due to non-response, because health status, health-related behaviour and other characteristics of non-responding persons may differ from responding persons; and
- errors in processing such as mistakes in the recording or coding of the data obtained.

Each of these sources of error is discussed in the following paragraphs.

Errors related to scope and coverage

Some dwellings may have been inadvertently included or excluded because, for example, the distinctions between whether they were private or non-private dwellings may have been unclear, lists of non-private dwellings were not completely current, etc. All efforts were made to overcome such situations by constant updating of lists both before and during the survey.

Some persons may have been inadvertently included or excluded because of difficulties in applying the coverage rules concerning household visitors or scope rules concerning persons excluded from the survey. Particular attention was paid to question design and interviewer training to ensure that such cases were kept to a minimum.

Other errors which can arise from the application of the scope and coverage rules are outlined in the section Scope and Coverage, page 5.

Response errors

In this survey response errors may have arisen from three main sources: deficiencies in questionnaire design and methodology; deficiencies in interviewing technique; and inaccurate reporting by the respondent.

Errors may be caused by misleading or ambiguous questions, inadequate or inconsistent definitions of terminology used, or by poor overall layout of the questionnaire causing questions to be missed. In order to overcome problems of this kind, individual questions and the overall questionnaire were thoroughly tested before being finalised for use in the survey. While the questionnaire was improved and streamlined during pilot testing, the large amount of data required from the survey and the need to enable linkage of various data items, resulted in a large and complex questionnaire. In some cases (e.g. where a respondent reported taking a large number of actions or experiencing a large number of illness conditions or where details had to be provided for several children) errors may have resulted from interviewer and/or respondent fatigue (i.e. loss of concentration).

Reference periods used in relation to each topic were selected to suit the nature of the information being sought. However it is possible that the reference periods did not suit every person for every topic and that difficulty with recall may have led to inaccurate reporting in some instances.

Lack of uniformity in interviewing standards will result in non-sampling errors. Thorough training and retraining programs, regular supervision and checking of interviewers' work were methods employed to achieve and maintain uniform interviewing practices and a high level of accuracy in recording answers on the survey questionnaire (see Data Collection: Interviews, page 9.)

Non-uniformity of the interviewers themselves is a potential source of error in that the impression made upon respondents by personal characteristics of individual interviewers such as age, sex, appearance and manner, may influence the answers obtained.

In addition to response errors resulting from deficiencies in questionnaire design, methodology, interviewing techniques etc., inaccurate reporting by the respondent may occur due to misunderstanding of questions, inability to recall the required information and deliberate incorrect answering to protect personal integrity, etc. Lack of accurate information, for example, about the nature of illness conditions experienced, may also lead to incorrect reporting especially for conditions not diagnosed by a medical practitioner.

Non-response bias

Non-response may occur when people cannot or will not co-operate, or cannot be contacted.

Non-response can introduce a bias to the results obtained in that non-respondents may have different characteristics and behaviour patterns in relation to their health than those persons who responded to the survey. The magnitude of the bias depends on the extent of the differences and the level of non-response.

As it was not possible to accurately quantify the nature and extent of the differences between respondents and non-respondents in this survey, every effort was made to reduce the level of non-response (see Measures to Maximise Response, page 13).

Individuals for whom a partial response was obtained were treated as fully responding for estimation purposes if sufficient information was recorded, e.g. if the only questions not answered related to income or age (provided the interviewer had provided an estimate) then the non-response was coded to 'not stated'. If any other questions were not answered, they were treated as non-responding (i.e. as if no questionnaire had been obtained).

The estimation procedures used make some adjustment for non-response (see Estimation Procedures, page 20).

Processing errors

Processing errors may occur at any stage between initial collection of the data and final compilation of statistics. Specifically, in this survey, processing errors may have occurred at the following stages in the processing system:

- clerical checking and coding — errors may have occurred during checking of questionnaires for completeness and during coding of various items by office processors;
- data transfer — errors may have occurred during the OMR transfer of data from the original questionnaires to computer files;

- editing — computer editing programs may have failed to detect errors which could reasonably have been corrected; and

- manipulation of data — errors may have occurred during various stages of computer processing involving the manipulation of raw data to produce the final survey data files (e.g. during the estimation procedure or weighting of the data file or in the course of deriving new data items from raw survey data).

A number of steps were taken to minimise errors at various stages of processing:

- coding — detailed coding instructions were developed and staff engaged in coding were trained in the various classifications and procedures used. Office coding of health-related items was constantly checked throughout the 12 months of the survey to ensure consistency and adherence to procedures;

- computer editing — edits were devised to ensure that logical sequences were followed in the questionnaires, that necessary items were present and that specific values lay between certain ranges. These edits were designed to detect reporting errors, errors that may have occurred when the data were entered onto computer files, incorrect relationships between data items or missing data items; and

- data file checks — at various stages during processing (such as after computer editing and subsequent amendments, weighting of the file and after derivation of new data items) tabulations were obtained from the data file showing the distribution of persons for different characteristics. These were used as checks on the contents of the data file, to identify unusual values which may have significantly affected estimates and illogical relationships not previously picked up by edits.

OTHER FACTORS EFFECTING ESTIMATES

In addition to data quality issues, there are a number of other factors, both general and specific to individual topics, which should be considered in interpreting the results of this survey. The general factors affect all estimates obtained, but may affect topics to a greater or lesser degree depending on the nature of the topic and the uses to which the estimates are put. This section outlines these general factors. Additional issues relating to the interpretation of individual topics are discussed in the topic descriptions provided in other sections of this publication.

Sampling variability

It is important to bear in mind that survey estimates are derived from a sample of the population and are, therefore, subject to sampling variability. Consideration should be given to whether estimates are sufficiently reliable for the uses to which they are to be put. Sampling variability and its implications for data reliability are discussed in Data Quality: Sampling Variability, page 101.

Scope and coverage

The scope and coverage of the survey (outlined in Scope and Coverage, page 5) defines the boundaries of the population to which the estimates relate. The most important aspect of scope and coverage affecting the interpretation of estimates from this survey is that institutionalised persons (including inpatients of hospitals, nursing homes and other health institutions) were excluded from the survey. As a result, survey

estimates should be seen as relating to the non-institutionalised population of Australia.

Personal interview and self-assessment nature of the survey

The survey was designed using personal interview and self-completion questionnaires (with proxy interviews for children aged under 15 years), to obtain data on respondents' own perceptions of their state of health, their use of health services and aspects of their lifestyle. The information obtained is therefore not necessarily based on any professional opinion (e.g. a doctor, nurse, dentist, etc.) or on information available from records kept by respondents. For this reason data from this survey are not necessarily compatible with data from other sources or with data collected by other methods.

Concepts and definitions

The scope of each topic and the concepts and definitions associated with individual pieces of information (see Survey Content and Methods, page 22) should be considered when interpreting survey results.

Wording of questions

To enable accurate interpretation of survey results it is essential to bear in mind the precise wording of questions used to collect individual items of data, and particularly in those cases where the question involved a series of 'running prompts' or where a prompt card was used.

Reference periods

All results should be considered within the context of the time references that apply to the various topics. The reference period for conditions and actions for the 1995 NHS is generally the two weeks prior to interview. However, a variety of other reference periods was used for specific topics (e.g. one week for alcohol consumption). Caution should be exercised when attempting to extrapolate results of this survey to time periods other than those on which the estimates are based or when attempting to interpret cross-classifications of items which used different reference periods.

Although it can be expected that a larger section of the population would have reported taking a certain action if a longer reference period had been used, the increase is not proportionate to the increase in time. While it is possible to produce reasonable estimates of the number of actions taken in a year by multiplying the estimate for two weeks by 26, it is not possible to produce, by this method, estimates of the number of persons who took those actions.

This should be taken into consideration when comparing results from this survey to data from other sources where the data relates to different reference periods.

Coding framework

The coding framework (i.e. the classifications and categories) used in the survey provides an indication of the level of detail available in survey output. However, the coding framework adopted had to take account of the ability of respondents to provide the data, and may limit the amount of detail that can be provided in statistical output. For example, the classification used to classify medical conditions reported by respondents was developed in recognition of the type of information reported (e.g. non-medical terminology, symptoms rather than conditions, generic rather than specific terminology, etc.). One result of this is that some caution should be used in interpreting counts from this survey of the number of medical conditions experienced, since such counts would, in part, be a function of the categories contained in the classification. The major classifications used in this survey are briefly discussed under the relevant topic descriptions in Content and Methods. Copies of, or references to, the full classifications are provided in Appendixes.

Collection period

It is important to bear in mind the survey collection period (January 1995 to January 1996) when considering results in perspective, or when comparing them with data from other sources or collected at different times.

DATA OUTPUT AND DISSEMINATION

	Page
Data availability	108
Publication and other standard releases	108
Non-standard releases	110
Date reference package	110
Unpublished table sets	110
Special data services	110
Special tabulations	111
Unit record data	111

DATA AVAILABILITY

Results from the 1995 NHS will be available in the form of:

- publications and other releases of standard sets of tables;
- unidentifiable unit records, available on magnetic tape or computer disk; and
- tables produced on request to meet specific information requirements from the survey.

This section outlines the products and services it is proposed to make available. The program of publications and other releases, and the prices quoted in this publication are subject to change.

Information about the proposed products and services is contained in the brochure *1995 NHS Products and Services*, which is contained in the *1995 NHS Data Reference Package*, or is available separately free of charge from any office of the ABS. Publications and other standard products may be obtained by contacting Information Services at the ABS office in your State.

Unpublished data can be made available on request to:

- Director, Social Statistics at the ABS office in your State; or
- Director, Health Section at ABS Canberra.

PUBLICATION AND OTHER STANDARD RELEASES

Selected results of the 1995 NHS will be presented in the following:

- *National Health Survey: First Results, Australia* (4392.0)
  Expected Release — December 1996
  $14.00

  This publication contains summary level preliminary statistics for the main areas covered by the survey.

- *Information Paper: National Health Survey, Sample File on Magnetic Media, Australia* (4324.0)
  Expected Release — Mid 1997
  $10.00

- *National Health Survey: Summary of Results, Australia* (4364.0)
  Expected Release — Mid 1997
  $17.50

  This publication provides an overview of Australia's health based on final estimates from the survey relating to health status, the use of health services and facilities and health-related aspects of lifestyle. A cross-section of results including information on types of conditions experienced, consultations with doctors and other health professionals, use of medications and other actions taken as a result of illness and injury is presented. Information describing the levels and patterns of selected health risk factors (e.g. smoking, alcohol consumption) is also presented.

- *National Health Survey: Summary Results, Australian States and Territories* (4368.0)
  Expected Release — Mid 1997
  $17.00

  This publication contains a summary set of statistics for States and Territories, focusing on topics relevant to the National Health Goals and Targets.

- *National Health Survey: Diabetes, Australia* (4371.0)
  Expected Release — Mid 1997
  $13.50

- *National Health Survey: Cardiovascular and Related Conditions, Australia* (4372.0)
  Expected Release —Mid 1997
  $13.50

- *National Health Survey: Asthma and Other Respiratory Conditions, Australia* (4373.0)
  Expected Release — Late 1997
  $13.50

- *National Health Survey: Screening for Breast and Cervical Cancer, Australia* (4378.0)
  Expected Release — Early 1998
  $13.50

- *National Health Survey: SF-36 Population Norms, Australia* (4399.0)
  Expected Release — Mid 1997
  $13.50

- *National Health Survey: Use of Medications, Australia* (4377.0)
  Expected Release — Mid 1998
  $13.50

- *National Health Survey: Private Health Insurance, Australia* (4334.0)
  Expected Release — Late 1997
  $13.50

- *National Health Survey: Health Risk Factors, Australia* (4369.0)
  Expected Release — Mid 1998
  $13.50

- *National Health Survey: Injuries, Australia* (4384.0)
  Expected Release — Late 1997
  $13.50

NON-STANDARD RELEASES

In addition to products released as publications and other standard formats, other data or information from the survey will be available. Products include:

- 1995 National Health Survey, Data Reference Package; and
- unpublished table sets.

Data reference package

This contains:

- NHS questionnaires and associated interview documents;
- a guide to NHS products and services;
- listing of available data output data items;
- listing of available table sets of unpublished data;
- comparison of 1995 and 1989–90 condition code classifications; and
- sample counts (in tabular form) by selected characteristics.

The data reference package is designed to supplement information contained in this Users' Guide. Both products assist users of survey data by providing information which gives a better understanding of the nature of the survey and the information collected as well as contribute to better informed interpretations of survey results.

Release — currently available
$20.00

Unpublished table sets

Four sets of unpublished tables, compiled for Australia and States and Territories will be available, as follows:

- health status indicators (including SF-36) $225.00;
- health-related actions $135.00;
- health risk factors $115.00; and
- women's health, supplementary indicators $25.00.

The table sets will be available in hard copy or on disk. Population tables to enable the calculation of rates will be provided with each set. A list of available tables is included in the Data Reference Package.

Release — Mid 1997
Table set prices as above. Individual tables from the sets can also be obtained at $25.00 per table.

SPECIAL DATA SERVICES

As well as releasing information in publications and other standard formats the ABS will be making available:

- special tabulations produced on request to meet individual user requirements. These can be provided in printed form or on floppy disk; and

- unidentified unit record data on magnetic tape, floppy disk or CD–ROM.

Special tabulations

Subject to confidentiality and sampling variability constraints, tabulations can be produced from the survey incorporating data items, populations and geographic areas selected to meet individual requirements. The availability of this special tabulation service will coincide with the release of the publication *1995 National Health Survey: First Results, Australia* (4392.0) expected in December 1996.

For users who have need of special tabulations, listings of output data items from the survey which can be used in specifications of tables, are available as part of the *Data Reference Package* or by contacting the ABS Health Section on the number at the front of this publication.

All requests for special tabulations attract a service charge in addition to the charges arising from the table production.

Unit record data

For users who wish to produce their own tabulations and to conduct manipulations of survey data, a computer file on magnetic tape containing unidentified records from the survey can be purchased, subject to the approval of the Statistician.

To protect the confidentiality of individual persons and families some data items have been removed from particular records and the level of detail for some items has been reduced.

The unit record file for the survey is expected to be available in mid 1997 at a cost of $7,500.

An information paper describing the data content of the file and conditions relating to the use of the unit record data will be issued prior to the release of the file: copies can be obtained from any office of the ABS.

In addition to the products and services described above, the ABS can undertake to analyse and report on particular health topics or issues for clients on a consultancy basis. This service is of particular use to those clients who may not have resources or facilities to undertake analysis of survey data. Inquiries about consultancy services can be made by contacting ABS offices located in each State or Territory.

OTHER HEALTH AND RELATED ABS PUBLICATIONS

	Page
Introduction	113
National surveys	113
State surveys	114
Other ABS publications of health and related statistics	115

INTRODUCTION

Listed below are selected publications released from the 1989–90 NHS and other ABS population surveys of health and related topics conducted over the period 1987 to 1996.

These publications are available from ABS bookshops located in each State and Territory. Details about ABS publications and products can be found in the ABS *Catalogue of Publications and Products* (1101.0) available from all ABS Offices.

NATIONAL SURVEYS

Publication	*ABS Catalogue No.*
National Health Survey 1989–90	
Users' Guide	4363.0
Summary of Results	4364.0
Health Status Indicators	4370.0
Diabetes	4371.0
Cardiovascular and Related Conditions	4372.0
Asthma and Other Respiratory Conditions	4373.0
Musculoskeletal Conditions	4374.0
Health-related Actions	4375.0
Consultations with Health Professionals	4376.0
Use of Medications	4377.0
Screening for Breast and Cervical Cancer	4378.0
Children's Immunisation	4379.0
Health Risk Factors	4380.0
Alcohol Consumption	4381.0
Smoking	4382.0
Exercise	4383.0
Accidents	4384.0
Lifestyle and Health	4366.0
Women's Health, 1994	4365.0
Occasional Paper: Breastfeeding in Australia, 1989–90	4394.0
National Aboriginal and Torres Strait Islander Survey: Health of Indigenous Australians, 1994	4395.0
Health Insurance, 1992	4335.0
Apparent Determinants of Private Health Insurance, 1994	4335.0.040.001
Survey of Infant Sleeping Positions, 1992	4386.0
Children's Immunisation and Health Screening Survey, 1995	
Children's Health Screening	4337.0
Children's Immunisation	4352.0
Disability, Ageing and Carers, 1993	
Summary of Findings	4430.0
User Guide	4431.0
Data Reference Package	4432.0
Disability and Disabling Conditions	4433.0
Visual Impairment	4435.0
Hearing Impairment	4435.0
Brain Injury and Stroke	4437.0
Accidents	4438.0
Trends in Disability and Handicap	4439.0

Publication	*ABS Catalogue No.*
State of Health in New South Wales, 1995	4330.1
Health Issues, Tasmania, 1995	4396.6
Western Australian Child Health Survey, 1993	
Developing Health and Well-being in the Nineties	4303.5
Family and Community Health and Well-being	4304.5
Education and Health	4305.5
Alcohol and Tobacco Consumption, Darwin 1990	4302.7
Smoking and Asthma, South Australia, 1987	4306.4
Household Safety, New South Wales, 1992	4387.1
Safety in the Home, Melbourne, 1992	4387.2
Safety in the Home, Queensland, 1996	4387.3
Household Safety Devices, Western Australia, 1996	4387.5
Falls Risk Factors for Persons aged 65 years and over, New South Wales, 1995	4393.1

OTHER ABS PUBLICATIONS OF HEALTH AND RELATED STATISTICS

Publication	*ABS Catalogue No.*
Australian Health Classifications, 1996	1219.0
Australian Social Trends, 1997	4102.0
Inventory of Australian Health Data Collections, 1991	4320.0
Characteristics of Persons Employed in Health Occupations, 1991	4346.0
A Social Health Atlas of Australia, 1992	4385.0
Apparent Consumption of Foodstuffs and Nutrients, 1993–94	4306.0
Causes of Death, Australia, 1995	3303.0
Suicides, Australia, 1982–92	3309.0
Trends in Mortality, Australia, 1971–92	3313.0
Deaths due to Diseases and Cancers of the Respiratory System, Australia, 1979–94	3314.0
Private Hospitals, Australia, 1994–95	4390.0
Hospitals, Australia, 1991–1992	4391.0
Private Medical Practice Industry, Australia, 1994–95	8685.0
Private Medical Practitioners, Australia, 1994–95	8689.0
Occasional Paper: Smoking, Indigenous Australians, 1994–95	4701.0
Occasional Paper: Overweight and Obesity, Indigenous Australians, 1994	4702.0
Occasional Paper: Housing Satisfaction and Need, Indigenous Australians, 1994	4703.0
Occasional Paper: Health and Welfare, Indigenous Australians, 1996	4704.0
Occasional Paper: Mortality of Indigenous Australians, 1992	3315.0

APPENDIX A CLASSIFICATION OF MEDICAL CONDITIONS

The design of the 1995 NHS enabled medical conditions to be reported in the following ways:

- as a reason for taking a health-related action in the two weeks before interview;
- via a question which asked about other illness or injury experienced in the two weeks prior to interview for which no action had been taken; and
- as long-term conditions (i.e. conditions which have lasted or were expected to last for six months or more).

Conditions reported through health-related actions include illness, injury and 'healthy' reasons for action such as check-up and illness prevention. Conditions identified through other means related to illness and injury only.

All conditions reported in the survey were office coded to a single classification. This classification was based on the International Classification of Diseases, 9th Revision (ICD9). Many of the ICD categories were collapsed into broader groupings of conditions which reflect the type and level of information provided in a household survey situation and which were expected to yield sufficient observations in the survey to provide useable estimates. Some special categories were added to cover commonly reported conditions and 'healthy' reasons for action as outlined above. This classification is similar to that used for the 1989–90 NHS. However, a number of changes were introduced to the classification categories and for the coding rules, as outlined below. These changes need to be considered when making comparisons of conditions data between the two surveys.

CLASSIFICATION CATEGORIES

Changes introduced to the classification categories are as follows:

- the separate identification of skin and breast cancer within the neoplasms group;
- the separate identification of type 1 and type 2 diabetes mellitus, using an additional set of questions related specifically to this condition;
- the mental disorders group was substantially revised and expanded from five to eight categories;
- the range of sight and eye disorders was expanded to separately identify strabismus, visual disturbances, cataracts, glaucoma and astigmatism. An additional set of questions was used to assist in this identification;
- the separate identification of psoriasis within diseases of skin and subcutaneous tissue;
- the separate identification of curvature of spine and osteoporosis within musculoskeletal conditions, and separation of rheumatoid arthritis and osteoarthritis; and
- injuries were expanded from a single code to nine categories.

In addition to changes in the categories identified, some minor adjustments were made to the coverage of existing categories. An item by item comparison of the classification categories is available in the NHS Condition Code List: 1989/90 to 1995 comparison which is contained in the 1995 NHS Data Reference Package.

CODING RULES

General rule

The overall approach in the survey was to classify and code the manifesting condition (unless modified by other rules) to the most informative and precise classification category available. Consistent with the approach of focussing on the manifesting condition and not the cause, conditions in general were classified to the body system involved.

Accident rule

Where conditions were reported by respondents as due to an accident, incident or exposure the relevant section of the questionnaire was examined to determine whether or not the conditions could be considered current injuries. Cases were classified/coded as follows:

- if the accident occurred less than one month ago, the condition was coded to the relevant injury code for that type of injury;
- if the accident occurred from one month ago to less than 12 months ago and the injury was still present, the condition was coded to the relevant injury code for that type of injury. If the injury was no longer present, the manifesting condition was coded; and
- if the accident occurred 12 months or more prior to interview, the manifesting condition was coded.

This rule was applied in relevant situations where possible. However, in some cases the information necessary for the strict application of this rule was not available; for example, the period since the accident was recorded for the most recent accident only. In such cases codes were allocated on the basis of the condition described i.e. the injury codes were used where the injury was still present e.g. fracture, sprain, cut, burn and the manifesting condition was coded where the respondent reported a disability, impairment or other condition which was clearly the after-effect of the injury.

Disability rule

As a general principle, the medical conditions reported, rather than the nature of any resulting or associated disability or impairment was coded. However in the following cases disability/impairment may have been coded:

- where the interviewer recorded a specific disability or impairment but did not record an associated medical condition. In such cases the disability/impairment itself was coded; special classification categories were created for this purpose;
- where the medical condition reported by the respondent as causing or associated with a disability/impairment was clearly no longer current e.g. hearing loss due to mumps as a child; in such cases the residual effect of the condition i.e. the disability/impairment was coded (except in the cases of the after-effect of stroke—see section Other Classification Procedures below);
- where the disability impairment was the residual effect of an accident, injury or disability impairment was coded as appropriate under the accident rule outlined above; and

- if the disability/impairment was the residual effect of some other external cause, such as working conditions (identified through the 'cause' question in the accidents section of the questionnaire), disability/impairment was coded.

OTHER CLASSIFICATION PROCEDURES

Other classification procedures used in the 1995 NHS include:

- all conditions arising in the perinatal period (i.e. the first 28 days of life) identified in the survey were coded to the relevant body system. For example, respiratory conditions of the newborn such as birth asphyxia, hypoxia or anoxia were coded to 'other disease of the respiratory system' (code 023);

- a disability or condition directly caused by a stroke was classified to a special code 'after effects of stroke' (code 119). For example, paralysis on the right side due to stroke was classified to this code rather than to the general 'paralysis' category;

- all check-ups and tests for conditions which were not specified, diagnosed or otherwise confirmed conditions were classified to special categories relating to those procedures. Where these procedures related to a specified and diagnosed condition, the relevant conditions code was applied;

- as with other tests, X-rays for unknown reasons or for conditions which had not been confirmed were coded to X-ray. However, if the condition was mentioned elsewhere or a positive result was obtained by the X-ray then the condition was coded;

- cold symptoms (e.g. runny nose, sore throat, cough) were classified to the single condition category 'cold' (code 075) where they were clearly identified as symptoms from information contained in the questionnaire. However, ear and throat infections were considered to represent two separate conditions and were classified accordingly (codes 009 and 022 respectively);

- in previous health surveys, respondents were not always able to identify the medical condition for which fluid tablets were taken. To provide for this situation, the category 'fluid problems' (code 016) was used;

- allergies which were unspecified were further examined in the medications section of the schedule to assist in determining the type of allergy. If skin creams were used for the allergy then it was assumed to be a skin allergy and coded to the eczema dermatitis code, or if an inhaler was used, coded to the allergy – respiratory code;

- if arthritis was recorded against a particular question and no further information on the type of arthritis was given, the questionnaire was examined for any previous reporting of this condition. In the case where no further information was available and/or the respondent had reported both osteo and rheumatoid arthritis the code 'arthritis not specified (070)' was applied;

- contraceptive management included general counselling for contraception, advice, supervision and prescription, IUD insertion and supervision, sterilisation (female and male), elective abortion and other contraceptive management (specified or unspecified);

- all congenital anomalies were classified to the congenital anomalies group (048): this differs from the approach used in the 1989–90 survey whereby some congenital anomalies were classified to the body system;

- where diabetes was recorded, and no further information on the type of diabetes was given the questionnaire was checked for any previous reporting of this condition. Only when further information could not assist in the identification of the type of diabetes, the code diabetes, type unspecified or not known was applied;

- other than cases where a separate category was provided for in the classification, eye problems where loss of sight was either complete or partial, and not corrected by glasses, were coded to 007 (eye disorders with loss of sight uncorrected by glasses n.e.c.). Eye problems that could be corrected by glasses or contact lenses were coded to 107 (eye disorders with loss of sight corrected by glasses n.e.c.);

- the category 'preventive measures' was used in all cases (and only in those cases) where prevention was specified by the respondent. For example, where a skin cream was used to prevent sunburn;

- headaches which were reported by respondents as due to another condition (e.g. headache due to influenza) were classified to that condition, except for headaches reported as due to stress or tension, which were classified to the specific category provided (060). Headaches for which no cause was identified were classified to the general headache category (061);

- virus and infection were allocated codes (062 and 064 respectively) within the 'ill-defined' group of conditions. These were not included in the 'infectious and parasitic disease' group of conditions because experience had shown that respondents may report virus or infection when unsure of the true nature or cause of their condition; and

- the category 'other symptoms and ill-defined conditions' (code 064) was used in cases where an examination of the whole questionnaire indicated that no more informative code could be allocated.

A copy of the classification of medical conditions used in the survey is provided at page 127.

INTERPRETATION OF DATA ON MEDICAL CONDITIONS

As noted previously, information on medical conditions from this survey is based on conditions 'as reported' by respondents; this may or may not be based on medical diagnosis, may reflect symptoms rather than conditions and is subject to the vagaries of respondent recall and willingness to report together with other inaccuracies inherent in all population survey data. While these factors mean that conditions data from the survey should be interpreted with some care, they should not be seen as necessarily invalidating the data in terms of estimating the prevalence of conditions (particularly the relative prevalence of conditions overall and among population groups, bearing in mind that the survey relates to the non-institutional population only) and in terms of describing links between conditions and actions, and to a lesser extent, between conditions and risk factors. A particular strength of self-reported conditions data are their ability to inform actions data.

When assessing the quality of the conditions data, and therefore in considering how those data can be interpreted and used, there are two main issues to be examined:

- the reporting of illness conditions i.e. the extent to which conditions experienced are reported by respondents, irrespective of how they are identified or described; and
- the accuracy of the information on type of condition which is provided by respondents, and hence from which conditions data are classified and coded.

These are discussed below.

CONDITION IDENTIFICATION AND COUNTING

Conditions data are recorded in two streams; recent illness and long-term conditions. Survey methodology enabled a respondent to report the same condition as both a recent illness and long-term condition. The procedures used in collecting these data are described in detail in the section Health Status, page 25. In summary:

- recent illness is identified in the main through an actions-based approach, where respondents are asked whether they have taken certain types of action in the previous two weeks, and the medical conditions or other reasons for those actions. A two-week reference period was adopted as a compromise between minimising respondent recall errors and ensuring sufficient observations were recorded in the survey from which to produce reliable estimates; and
- long-term conditions were identified through a multi-stage approach, including some condition-specific questions (e.g. sight, hearing, diabetes, arthritis), questions supported by prompt cards seeking to identify other specific conditions and other more open-ended questions supported by prompt cards describing characteristics of some conditions.

There is little evidence within the health survey itself to indicate the extent to which the methodology used results in an over or under count of conditions experienced, nor the types of conditions most likely effected. Similarly, there are few comparable data available from other sources. Those available suggest some undercounting of conditions in the NHS. There are various reasons why this may occur, including respondents not remembering or choosing not to report, because the condition was of an embarrassing nature, or wanting to retain privacy when other household members were present at the interview.

The actions-based approach to the identification of recent illness may also contribute to under-reporting, mainly in regard to less serious conditions (for which defined actions are less likely to be taken).

Experience of the previous NHS also suggests some undercounting of long-term conditions. One indicator of this within the survey is the balance of reports of a condition as a recent or as a long-term condition. For example, some conditions such as diabetes, asthma and arthritis are typically experienced as long-term conditions (experienced for six months or more); the fact that some respondents report experiencing conditions such as these as recent illness but not also as long-term conditions suggests an undercount of long-term conditions. Findings from the 1989–90 NHS show that these types of occurrences are not large; e.g. around 2% of those reporting diabetes or asthma, and less than

1% of those reporting arthritis, but nevertheless should be considered in interpreting data on long-term conditions. Similarly, there are situations where conditions reported as long-term conditions are not also reported as recent illness, yet typically for conditions such as hypertension or emphysema, it could be expected that the conditions were manifest and/or that treatments were being received for those conditions in that two-week reference period. Again, occurrences are relatively low.

It is clearly not possible in the context of the NHS to quantify the level and nature of under-reporting; to do so would require access to other data sets (e.g. medical records) for comparisons. This is outside the scope of the NHS. In any case, such other sources of data could only inform for those respondents who had taken that particular type of action, and it could be argued that these respondents are the least likely to fail to report the condition in the survey.

In summary, while steps were taken to reduce under-reporting of conditions in the 1995 NHS relative to the 1989–90 survey (e.g. inclusion of additional condition-specific questions on long-term conditions, inclusion of additional health-action categories) it is considered that:

- some under-reporting of conditions will have occurred. Available evidence within the survey itself suggests the overall level of under-reporting is relatively low, but the true extent cannot be quantified. Logic suggests that undercounting would be highest among the less serious recent illness conditions; and

- given the recent illness by long-term condition cross-overs as described above, it is felt that under-reporting can be minimised, and therefore the best estimates of prevalence of conditions can be achieved by combining counts of recent illness and long-term conditions. It is recognised however that separate counts of recent illness and long-term conditions are important for some uses (e.g. recent illness as a determinant of service use), and the factors described above need to be considered in interpreting the data. Results from the survey will be published by ABS in both combined and separate forms.

TYPE OF CONDITION

Through data collection and processing procedures, efforts are made to ensure that the final coded conditions data are as accurate and informative as possible. These procedures are described in the section Survey Design and Operation. Despite these efforts however, the quality of the data on types of conditions is ultimately dependent on the description of the condition provided by the respondents.

The descriptions may reflect medical diagnosis or may reflect conditions as perceived by the respondent. As actions data only relate to the two weeks prior to interview, the survey does not establish overall, whether or not a health professional has ever been consulted about the condition reported. However, in respect of the previous two weeks, information is available indicating those that have consulted a doctor or other health professional (including consultations at hospital), and those using medication advised or prescribed by a health professional; in these cases, respondents have the opportunity to report conditions which have (presumably in most cases) been medically diagnosed. It might also be reasonably assumed that the potential for reports of long-term conditions to be based on medical diagnosis is greater overall than for recent illness. At the time of writing, data from the 1995 survey were not available for analysis.

However, results from the 1989–90 survey (see table, actions enabling diagnosis, page 125) clearly indicate the opportunity for a significant proportion of respondents to report conditions based on medical diagnosis. It is recognised that for various reasons this opportunity may not have been fully realised; for example because a full diagnosis was not made at the consultation, the respondent did not remember the diagnosis, or remembers it in part only or remembers it incorrectly, or the respondent misunderstood the diagnosis given, or the respondent choose to provide a vague description rather than reporting the condition as diagnosed for privacy or sensitivity reasons.

It is not possible from the survey data to estimate the extent to which this has occurred, and little information from other sources is available which would enable some assessment to be made in the Australian context. However, results of a study conducted in Sydney 1987–1990 were reported in *Reasons for Encounter and Diagnosed Health Problems: Convergence Between Doctors and Patients; Britt, Harris, Driver, Bridges-Webb, O'Toole and Neary* [1]. Among the various issues examined in this study was the relationship between reasons for encounter and diagnosis as recorded by doctors and as reported by patients. The study found strong agreement between patients and doctors in terms of reasons for encounter, and while agreement was weaker in terms of diagnosis (particularly for encounters where blood, circulatory or digestive conditions were diagnosed) a reasonable level of agreement was identified in the study group overall. There was less agreement in comparisons for individual consultations. It should be noted that the classification used in the study differed from that used in the NHS and the classification level at which agreement was examined was very broad. It could reasonably be expected that differences would be greater at finer classification levels similar to the level of the conditions classification used in the 1995 NHS.

A further issue confounding the quality of data on type of condition is the differentiation between symptoms and conditions. This is less of an issue where the respondent had consulted a health professional, but some ill-defined conditions and symptoms were recorded in the NHS across all action and no-action groups, suggesting either that the consultation failed to yield a diagnosis, that the respondent had forgotten the diagnosis or chosen not to report it, or that the respondent chose to report in terms of the symptoms they experienced i.e. the effects the condition was having on the respondent. While the general approach underlying the classification of conditions used in the survey is to classify to the bodily system involved, some ill-defined conditions or symptoms were such that the system could not be reliably inferred from the description provided e.g. chest pain. Such cases were classified to a separate group (symptoms, signs and ill-defined conditions) within the classification. Users of condition data may need to consider this group in addition to those groups specifically relating to their areas of interest. For example, persons with an interest in respiratory conditions should make their own judgements about whether to include possibly related conditions classified to the symptoms, signs, etc. group, such as allergy (unspecified), difficulty breathing or chest pain.

Related to the point above is the question of the terminologies used by respondents in reporting the conditions experienced. This is more likely to be a factor in reports of conditions for which a medical consultation had not occurred, but as discussed above, to some extent it occurred across the board. Because of the terminologies used, essentially similar conditions may be classified to different categories, or different

1 Family Practice, Vol 9, No 2, 1992

conditions may be classified together. For example, respondents with a cold who reported their condition as influenza, or those with a respiratory allergy who reported their condition as hayfever or sinusitis, or vice versa. Where possible these types of occurrences were identified and resolved during processing. As a result, users with an interest in a particular type of condition should consider the possibility of leakages to, or from, similar conditions, or conditions which might be commonly perceived as similar or related.

In summary, the quality of data related to type of condition could be expected to be highest in those cases where the respondent had sought medical treatment or advice for that condition. Based on results from the 1989–90 survey a significant proportion of respondents reporting a recent illness were in this situation; the likelihood of reports of long-term conditions being based on a medical diagnosis is considered higher overall than for recent illness. Despite this, even where diagnosis could be assumed to have been made, reporting of conditions may not have been made in accordance with that diagnosis, although evidence from the *Britt et al* study suggests that at the broad level at least reasonable agreement could be expected. Users should bear these factors in mind in interpreting the conditions data, and in particular consider the potential for leakages to or from related condition and symptom categories.

COUNTING CONDITIONS

As a convenient way of grouping and interpreting conditions data, conditions are sometimes added together to provide an overall count; 1, 2, 3, etc, enabling some assessment of, and comparison between, the burden of illness on the individual or on a population group. Conceptually this is a valid use of conditions data, although some judgement may need to be made concerning the relative weight of different conditions. However, in the context of conditions data from the NHS, use of the data in this way should be considered with caution.

Clearly the factors described above relating to the reporting and identification of conditions have a direct bearing on any counts of conditions which are derived. In addition, the nature of the conditions classification used has a major effect. As described elsewhere, the classification was based on ICD9, but has been modified to suit usage in the NHS. The result is a mixture of classification levels — some conditions are separately categorised, others are grouped together. The effects of these different classification levels can be illustrated using a simple example: pleurisy and tonsillitis are both classified in the NHS conditions classification to the general category 'other diseases of the respiratory system'. Although a respondent may have reported both conditions, because they are classified to a single category, they would be counted as one condition in a condition count. Under other classification systems, such as the full ICD, they would be separately identified and counted as two conditions.

Over the full range of conditions, differences such as this have the potential to significantly effect condition counts. This does not mean that NHS data cannot be used at all in this way. However, it does mean that:

- care should be taken to ensure that counts are valid in the sense of combining similarly defined categories; and
- because resulting counts would be partial counts only, comparisons based on such counts should be made with care.

This counting issue also affects comparability between conditions data from the 1989–90 and 1995 surveys. Some changes were made in the

condition classifications used in these surveys; in general, conditions were classified at a finer level in the 1995 survey than in the previous survey. The effects of this will be to increase condition counts. For example, a respondent who reported short-sight and astigmatism would have been classified as having one condition (107) under the condition classification used in the 1989–90 survey, but would be classified as having two conditions under the 1995 classification. Special care should therefore be taken in comparing data between surveys for those groups of conditions for which the classification has changed.

Although the data were collected over a 12 month period, the data (both recent and long-term conditions) can be taken to indicate the prevalence of conditions in any two week period during 1995. Except where additional questions were asked to collect some information about respondent's history with a condition (e.g. diabetes), data from the survey do not establish the incidence of conditions i.e. conditions occurring over a period of time.

SUGGESTED USES OF THE DATA

In view of the issues noted above relating to the reporting, classification and counting of conditions data, there are certain uses for which the data are considered better suited than others. Examples of ways in which the data could best be used and could inform population health issues are outlined below:

- it is clear from the previous discussion that survey estimates of the prevalence of any particular condition are imprecise. However, the estimates do provide useful indicators of the prevalence of conditions in the population overall. Population-based data, such as those from the NHS, are the only means by which these indicators can be obtained;

- even allowing for some variation in data quality between population groups, the data indicate the relative prevalence of illness across groups, such that the illness experience of population groups can be compared and contrasted;

- the data provide some insight into multiple morbidity; levels and associations between types of conditions. These types of data are often not available from other sources which tend to focus on principle diagnosis or reason for encounter;

- while some changes were made to the methodology for collecting conditions data between the 1989–90 and 1995 surveys the data are considered broadly comparable. This enables changes between surveys to be examined, in the prevalence of conditions overall and relative to each other, together with changes in the prevalence of conditions in particular population groups;

- the data describe patterns of action in response to illness. The survey methodology establishes a direct link between recent illness experienced and actions taken. This link can be examined in terms of the types of illness experienced and the population groups involved. For example, the data enables the action responses to illness of different population groups to be compared and contrasted. Population-based collections such as the NHS are the only means by which information can be obtained about those people who do not contact health professionals or services in response to illness;

- the data provide some insight into combinations of actions taken in response to illness; e.g. consulted a doctor, took medication and took a day away from work due to this condition, enabling a more informed assessment of the consequences of illness to be made. Because of the two-week reference period used, the survey is limited in its capacity to fully describe such combinations;

- just as the data enable changes in the prevalence of illness to be examined, the data enable changes in actions response to illness to be examined, overall and among particular population groups. For example, for a given condition type (and population group) how have the levels and types of actions taken changed over time;

- while the survey data cannot be used to infer causal links between conditions and lifestyle behaviours they can, at the population level, inform associations which have been established by other means. For example, the data can describe the illness characteristics of lifestyle behaviour groups, defined by their smoking, alcohol consumption, exercise and body mass characteristics; and

- the NHS is unique in its capacity to describe the illness experience of, and enable some assessment of the burden on, households. The survey enables the patterns of illness within households to be compared and contrasted by household characteristics.

ACTIONS ENABLING DIAGNOSIS TO BE MADE, 1989–90 NATIONAL HEALTH SURVEY

Type of condition	*Consulted a health professional (including hospital visits)*[1] %	*Took prescribed medication*[2] %
Infectious and parasitic diseases	34	44
Neoplasms	51	55
Endocrine, nutritional, metabolic and immunity disorders	23	82
Diseases of blood and blood forming organs	26	74
Mental disorders	25	75
Diseases of nervous system and sense organs	50	43
Diseases of circulatory system	20	95
Diseases of respiratory system	23	49
Diseases of digestive system	42	36
Diseases of genitourinary system	27	50
Complications of pregnancy, childbirth and puerperium	62	52
Diseases of skin and subcutaneous tissue	15	58
Diseases of musculoskeletal system	33	52
Symptoms, signs, ill-defined conditions	9	27
Injury and poisoning	34	20

[1] Visited hospital (inpatient, outpatient or emergency), or consulted a doctor or other health professional for the condition in the two weeks prior to interview.
[2] Used prescribed medication in the two weeks prior to interview for the condition shown.

1995 NATIONAL HEALTH SURVEY CONDITION CODE LIST WITH APPROXIMATE ICD CODE EQUIVALENT

Code	*Condition*	*ICD code*	*Notes*
INFECTIOUS AND PARASITIC DISEASES			
043	Herpes	053–054	EXCLUDE shingles
044	Tinea	110–111	INCLUDE athlete's foot, tropical ear
045	Other infectious and parasitic diseases	001–009, 012–018, 020–027, 030–041, 046, 048–052, 055–057, 060–061, 065, 071–088 090–104, 112–118, 120–139	EXCLUDE virus infection INCLUDE salmonella, food poisoning, amoebic dysentery, botulism, diphtheria
NEOPLASMS			
065	Skin cancer	172–173	INCLUDES melanoma (skin)
066	Breast cancer	174	INCLUDES female breast
073	Neoplasms (NEC)	140–171, 175–239	INCLUDE all other cancer
ENDOCRINE, NUTRITIONAL, METABOLIC DISEASES AND IMMUNITY DISORDERS			
001	Thyroid disease	240–246	
002	Gout	274	
003	Obesity	278.0	INCLUDE overweight
078	Diabetes mellitus —Type 1	250.1	
079	Diabetes mellitus —Type 2	250.0	
093	Diabetes, unspecified	250	
106	High blood sugar	250.9, 790.6	INCLUDE hyperglyceamia
108	High cholesterol	272.0	
004	Other endocrine, nutritional, metabolic and immunity disorders	251–273, 275, 277–279 (except 272.0, 278.0)	INCLUDE dehydration, AIDS, calcium deficiency, cystic fibrosis
DISEASES OF BLOOD AND BLOOD-FORMING ORGANS			
046	Diseases of blood and blood-forming organs	280–289	INCLUDE anaemia
MENTAL DISORDERS			
005	Nerves, tension, nervousness	300, 308	INCLUDE anxiety
205	Depression	300.4, 309, 311	INCLUDE postnatal depression
206	Psychoses	290–299	INCLUDE senile dementia, alcoholic, organic and other psychoses, alzheimer's disease, autism
207	Emotional problems (NEC)	312–313	EXCLUDE anxiety
208	Body image and eating disorders	307.1, 307.5	INCLUDE anorexia nervosa EXCLUDE overeating of unspecified cause and vomiting
209	Alcohol and drug dependence	303–304	EXCLUDE alcoholic psychoses and drunkenness and physical complications of alcohol EXCLUDE nondependent abuse of drugs
306	Mental retardation, specific delays in development	315, 317–319	INCLUDE slow at learning
006	Other mental disorders	301–302, 305–307, 310, 314, 316, 797	INCLUDE senility

continued ...

Code	*Condition*	*ICD code*	*Notes*
DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS			
007	Blindness (complete/partial) NOT corrected by glasses)	369	INCLUDE low vision and any sight problems not corrected by glasses
107	Other disorders of refraction	367.3, 367.5, 367.8–367.9	
099	Visual disturbances	368	EXCLUDE electrophysiological disturbances
008	Other diseases of the eye and adnexa	360–364, 370–377, 379	INCLUDE conjunctivitis and corneal ulcer
115	Astigmatism	367.2	
116	Hypermetropia/Far-sighted	367.0	
117	Myopia/Short-sighted	367.1	
118	Presbyopia	367.4	
100	Cataracts	366	EXCLUDE congenital cataract
101	Glaucoma	365	
088	Strabismus	378	EXCLUDE nystagmus and other irregular eye movements
010	Deafness (complete/partial)	389	INCLUDE any hearing problems
011	Ear pain	380, 388.7	INCLUDE ear pain, ear ache
012	Other diseases of the ear and mastoid process	383–388	EXCLUDE tropical ear
009	Otitis media	381–382	INCLUDE middle ear/ear infection, glue ear
013	Epilepsy	345	
086	Migraine	346	
109	Paralysis	342–344	INCLUDE paralysis so named, paraplegia, monoplegia, diplegia hemiplegia, cerebral palsy
014	Other diseases of the nervous system	320–326, 347–359	INCLUDE brain damage, muscular dystrophy encephalitis, meningitis, poliomyelitis
110	Other hereditary and degenerative disorders of the nervous system	330–341	INCLUDE parkinson's disease, multiple sclerosis, myoclonus EXCLUDE spina bifada
DISEASES OF THE CIRCULATORY SYSTEM			
015	Atherosclerosis	440	INCLUDE hardening of the arteries, arteriosclerosis
016	Fluid problems (NOS)	276	INCLUDE taking fluid tablets (NEC), fluid retention
017	Varicose veins	454, 456	
018	Haemorrhoids	455	
072	Hypertension	401–405	INCLUDE high blood pressure
082	Heart disease	391, 393–398, 410–426, 428	INCLUDE coronary, heart attack, coronary thrombosis, angina, leaking valve
119	Stroke (including after effects of)	436, 438	
182	Ill-defined signs and symptoms of heart conditions	427, 429	INCLUDE heart problems/trouble, irregular heart beat, palpitations
219	Other cerebrovascular disease	430–435, 437	INCLUDE cerebral thrombosis
019	Other diseases of the circulatory system	390, 441–448, 451–453, 457–459	INCLUDE thrombosis
DISEASES OF THE RESPIRATORY SYSTEM			
020	Bronchitis/Emphysema	466, 490–492, 494–496	
022	Cough or sore throat	462, 786.2	INCLUDE dry throat
075	Common cold	460	INCLUDE nasopharyngitis, rhinitis unspecified
084	Influenza	487	INCLUDE flu

continued ...

Code	*Condition*	*ICD code*	*Notes*
DISEASES OF THE RESPIRATORY SYSTEM — *continued*			
071	Asthma	493	INCLUDE allergic asthma, respiratory allergy (inhaled)
021	Sinusitis	461, 473	INCLUDE allergic sinusitis, sinus
081	Hayfever	477	INCLUDE allergic rhinitis, respiratory allergy (nasal, etc)
023	Other diseases of the respiratory system	463–465, 470–472, 474–476, 478, 480–486, 500–508, 510–519, 786	INCLUDE blocked airway, respiratory allergy unspecified, apnea, croup, fluid on lung
DISEASES OF THE DIGESTIVE SYSTEM			
024	Diarrhoea, enteritis	555, 558	INCLUDE diarrhoea, gastric, intestinal infection, colitis
027	Constipation	564.0	
025	Ulcer	531–534	INCLUDE peptic, stomach, duodenal ulcers
026	Hernia	550–553	
029	Dental problems	520–529	INCLUDE toothache, teething, bleeding gums, gingivitis, mouth ulcer
030	Other diseases of the digestive system	530, 535–537, 540–543, 556–557, 560–579	INCLUDE bowel problems/trouble, stomach/digestive upset, indigestion, appendicitis, hepatitis, cirrhosis, gall bladder disease, dyspepsia, flatulence
DISEASES OF THE GENITO-URINARY SYSTEM			
031	Kidney disease:	580–593	INCLUDE kidney stone, kidney infection
032	Other diseases of the urinary system	594–599, 788	INCLUDE calculus of lower urinary tract, cystitis, other disorders of bladder, urethritis, not sexually transmitted, and urethral syndrome, urethral stricture, tract
085	Disorders of menstruation	625.4, 626–627	INCLUDE absence of menstruation, excessive bleeding, amenorrhoea, dysmenorrhoea
033	Other diseases of the genital system	600–625, 628–629	INCLUDE breast cyst, ovarian cyst, prostate disorders, endometriosis
COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM			
047	Complications of pregnancy, childbirth and puerperium	630–648, 651–676	EXCLUDE normal pregnancy, checkup and normal childbirth INCLUDE breastfeeding, problems of the mother, spontaneous abortion
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE			
034	Skin rash (NOS)	782	
035	Eczema, dermatitis	691–693	INCLUDE skin allergies, sunburn, heat eczema, nappy rash
036	Acne	706.0–706.1	INCLUDE pimples EXCLUDE acne rosacea
037	Other diseases of the skin and subcutaneous tissue	680–686, 690, 694–698, 700–706, 709	INCLUDE scar tissue, sebaceous cyst, dry skin, baldness, corns, callus, acne rosacea
114	Psoriasis	696.1	

continued ...

Code	*Condition*	*ICD code*	*Notes*
DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE			
038	Sciatica	722.1, 724.3	
039	Disorders of the intervertebral disc	722	INCLUDE slipped disc,
040	Back trouble (unspecified)	724	INCLUDE backache, back pain/trouble, bad back
063	Curvature of Spine	737	
067	Osteoporosis	733.0	
068	Rheumatoid arthritis	714	EXCLUDE rheumatic fever
069	Osteoarthritis	715	EXCLUDE osteoarthrosis of spine
070	Arthritis (NEC)	711–713, 716	
089	Rheumatism	725, 729	INCLUDE polymyalgia rheumatica INCLUDE other disorders of soft tissues
111	Absence of limbs or parts of limbs		INCLUDE amputation
112	Musculoskeletal deformities	734–736, 738	EXCLUDE absence of limbs or parts of limbs INCLUDE flat feet
042	Other diseases of the musculoskeletal system and connective tissue	710, 717–721, 723, 726–728, 730–733, 739	EXCLUDE absence of limbs or parts of limbs INCLUDE ache or sore muscle/joint, bunions, cramps, fibrositis, fluid in joint, tennis elbow, spondylitis
CONGENITAL ANOMALIES			
048	Congenital anomalies	740–759	INCLUDE chromosomal anomalies eg down's syndrome, spina bifida, sex chromosome anomalies.
SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS			
051	Allergy (unspecified)		EXCLUDE skin or respiratory allergy INCLUDE drug or food allergy
052	Insomnia	780.5	INCLUDE unable to sleep, sleeplessness
053	Pyrexia	780.6	INCLUDE fever, high temperature
054	Localised swelling	782.2	INCLUDE lump
055	Difficulty breathing	786.0	INCLUDE shortness of breath
056	Chest pain	786.5	
057	Abdominal pain	789.0	INCLUDE colic, stomach cramps
058	Heartburn	787.1	
059	Dizziness	780.4	
060	Headache, due to stress or tension		
061	Headache, due to unspecified or trivial cause		
062	Virus		
080	Hangover	305.0	INCLUDE drunkeness
064	Other symptoms and ill-defined conditions	780–781, 783–785, 787, 789–796, 798–799	INCLUDE loss of appetite, infection unspecified, vomiting unspecified, nausea, motion sickness, dyslexia, fatigue
INJURY AND POISONING (CURRENT CONDITIONS ONLY)			
050	Complications of surgical and medical care (NEC)	996–998	INCLUDE any complication/adverse effects
120	Fractures (any location)	800–829	
121	Dislocations, sprains and strains	830–848	
122	Internal injuries	850–854, 860–869	INCLUDE concussion
123	Open wounds	870–904	
124	Bruising and crushing	920–929	
125	Foreign bodies	930–939	
126	Burns and scalds	940–949	
127	Poisoning (other than food)	960–989	

continued ...

Code	*Condition*	*ICD code*	*Notes*
INJURY AND POISONING (CURRENT CONDITIONS ONLY) — *continued*			
128	Other injuries	910–919, 950–957, 990–995	INCLUDE superficial injuries, INCLUDE injury to nerves and spinal cord INCLUDE other and unspecified effects of external causes
129	Undefined injuries	958, 959	INCLUDE certain traumatic complications and unspecified injuries
SUPPLEMENTARY CLASSIFICATION OF REASONS FOR ACTION/FACTORS INFLUENCING HEALTH STATUS			
074	Checkup/examination	V70–V82	
076	Contraceptive management	V25	INCLUDE elective abortion
077	Counselling	V65.3–V65.9	
083	Immunisation	V03–V06	INCLUDE flu injection
087	Pregnancy supervision/childbirth	V22–V23	Normal pregnancy and normal childbirth ONLY
090	Tests		
091	X-ray	V72.5	
092	Donor	V59	
097	Preventive measures		INCLUDE use of creams to prevent sunburn and when prevention or words to that effect are used
DISABILITY (NEC)			
041	Speech impediment (NEC)	307.0	
102	Blackouts, fits or loss of consciousness, unspecified		INCLUDE fainting
103	Incomplete use of arms/fingers, unspecified		
104	Incomplete use of feet/legs, unspecified		
105	Disfigurement (NEC)		
113	Missing organs (NEC)		INCLUDE missing lung, kidney, etc
UNSPECIFIED			
999	Unspecified condition/reason for action reported		Action with no condition or other reason

APPENDIX B 1995 NATIONAL HEALTH SURVEY CLASSIFICATION OF MEDICATIONS

LISTING OF MEDICATIONS CODES BASED ON ANATOMICAL THERAPEUTIC CHEMICAL (ATC) CLASSIFICATION INDEX GROUPINGS

Condition	*Code*	*Medication*
1. ARTHRITIS DRUGS		
M01A—ANTI INFLAMMATORY & ANTI-RHEUMATIC PRODUCTS, NON-STEROIDS	1101	Diclofenac
	1102	Diflunisal
	1103	Ibuprofen
	1104	Indomethacin
	1105	Ketoprofen
	1106	Mefenamic acid
	1107	Naproxen
	1108	Phenylbutazone
	1109	Piroxicam
	1110	Sulindac
	1111	Tenoxicam
	1112	Tiaprofenic acid
	1113	Ketorolac
M01C—SPECIFIC ANTI-RHEUMATIC AGENTS	1201	Auranofin
	1202	Aurothioglucose
	1203	D-penicillamine (AKA Penicillamine)
	1204	Sodium aurothiomalate
	1999	Other Arthritis medications (NEC)
2. ALLERGY DRUGS		
R01A—NASAL DECONGESTANTS FOR TOPICAL USE	2101	Flunisolide
	2102	Methoxamine
	2103	Oxymetazoline
	2104	Phenylephrine
	2105	Tramazoline
	2106	Xylometazoline
R06A—ANTIHISTAMINES FOR SYSTEMIC USE	2201	Astemizole
	2202	Azatadineis
	2203	Cetirizine
	2204	Chlorpheniramine
	2205	Cyproheptadine
	2206	Dexchlorpheniramine
	2207	Dipenhydramine
	2208	Diphenylpyraline
	2209	Hydroxyzine
	2210	Loratadine
	2211	Mebhydrolin
	2212	Meclozine
	2213	Methdilazine
	2214	Pheniramine
	2215	Promethazine
	2216	Terfenadine
	2217	Trimeprazine
	2999	Other Allergy medications (NEC)

continued ...

LISTING OF MEDICATIONS CODES BASED ON ANATOMICAL THERAPEUTIC CHEMICAL (ATC) CLASSIFICATION INDEX GROUPINGS—*continued*

Condition	*Code*	*Medication*
3. ASTHMA MEDICATIONS		
R03A—ADRENERGICS, INHALANTS	3101	Adrenaline
	3102	Fenoterol
	3103	Isoprenaline
	3104	Orciprenaline
	3105	Salbutamol
	3106	Terbutaline
	3107	Salmeterol
R03B—OTHER ANTI-ASTHMATICS, INHALANTS	3201	Beclamethasone diproprinote
	3202	Budesonide
	3203	Ipratropium bromide
	3204	Sodium cromoglycate
R03D—OTHER ANTI-ASTHMATICS FOR SYSTEMIC USE	3301	Aminophylline
	3302	Theophylline
	3999	Other asthma medications (NEC)
4. DIABETES MEDICATIONS		
A10A—INSULINS	4101	Insulin (regardless of type)
A10B—ORAL BLOOD GLUCOSE LOWERING DRUGS	4201	Chlorpropamide
	4202	Glibenclamide
	4203	Gliclazide
	4204	Glipizide
	4205	Metformin
	4206	Tolbutamide
	4999	Other diabetes medications (NEC)
5. HEART & BLOOD PRESSURE DRUGS		
C01A—CARDIAC GLYCOSIDES	5101	Digoxin
	5102	Proscillaridin
C01B—ANTI-ARRHYTHMICS	5201	Amiodarone
	5202	Bretylium tosylate
	5203	Disopyramide
	5204	Flecainide
	5205	Lignocaine
	5206	Mexiletine
	5207	Procainamide
	5208	Quinidine
C01D—VASODILATORS USED IN CARDIAC DISEASES	5301	Glyceryl trinitrate
	5302	Isosorbide
C02A—ANTI-ADRENERGIC AGENTS, CENTRALLY ACTING	5401	Clonidine
	5402	Methylodopa
C02C—ANTI-ADRENERGIC AGENTS, PERIPHERALLY ACTING	5501	Alprostadil
	5502	Prazosin
2D—ARTERIOLAR SMOOTH MUSCLE, AGENTS ACTING ON	5601	Hydralazine
	5602	Minoxidil

continued ...

LISTING OF MEDICATIONS CODES BASED ON ANATOMICAL THERAPEUTIC CHEMICAL (ATC) CLASSIFICATION INDEX GROUPINGS—*continued*

Condition	*Code*	*Medication*
C02E—RENIN-ANGIOTENSIN SYSTEM, AGENTS ACTING ON	5701	Captopril
	5702	Enalapril
	5703	Fosinopril
	5704	Lisinopril
	5705	Perindopril
	5706	Quinapril
	5707	Ramipril
C07A—B-BLOCKING AGENTS, PLAIN	5801	Alprenolol
	5802	Atenolol
	5803	Metoprolol
	5804	Oxprenolol
	5805	Pindolol
	5806	Propanolol
	5807	Sotalol
	5808	Timolol
	5809	Esmolo
	5810	Labetalol
C08—CALCIUM CHANNEL BLOCKERS	5901	Amlodipine
	5902	Diltiazem
	5903	Felodipine
	5904	Nifedipine
	5905	Nimodipine
	5906	Perhexiline
	5907	Verapamil
	5999	Other Cardiovascular Drugs (NEC)
6. FLUID/DIURETIC MEDICATIONS		
C03A—LOW-CEILING DIURETICS, THIAZIDES	6101	Bendroflumethiazide (AKA Bendroflumethiadide)
	6102	Chlorothiazide
	6103	Cyclopenthiazide
	6104	Hydrochlorothiazide
	6105	Methyclothiazide
C03B—LOW-CEILING DIURETICS, EXCL. THIAZIDES	6201	Chlorthalidone
	6202	Indapamide
	6203	Metolazone
	6204	Quinethazone
C03C—HIGH-CEILING DIURETICS	6301	Bumetanide
	6302	Ethacrynic acid
	6303	Frusemide (AKA Furosemide)
C03D—POTASSIUM-SPARING AGENTS	6401	Amiloride
	6402	Spironolactone
	6403	Triamterene
C03E—DIURETICS AND POTASSIUM-SPARING AGENTS IN COMBINATION	6501	Amiloride and Hydrochlorothiazide
	6502	Triamterene and Hydrochlorothiazide
	6999	Other Fluid/Diuretic medications (NEC)

continued ...

Condition	*Code*	*Medication*
7. SERUM LIPID REDUCING AGENTS		
B04A—CHOLESTEROL AND TRIGLYCERID REDUCERS	7101	Cholestyramine
	7102	Clofibrate
	7103	Colestipol
	7104	Gemfibrozil
	7105	Nicotinic acid
	7106	Pravastatin
	7107	Probucol
	7108	Simvastatin
	7999	Other Serum Lipid Reducing Medications (NEC)
8. ANALGESIC MEDICATIONS		
N02A—OPIODS	8101	Buprenorphine
	8102	Codeine phosphate
	8103	Dextromoramide
	8104	Dextropropoxyphene
	8105	Fentanyl citrate
	8106	Methadone
	8107	Morphine
	8108	Oxycodone
	8109	Papaveretum
	8110	Pentazocine
	8111	Pethidine
	8112	Phenoperidine
N02B—OTHER ANALGESICS AND ANTI–PYRETICS	8201	Aspirin
	8202	Paracetamol
	8203	Aspirin combinations (including codeine phos., doxylamine, etc)
	8204	Paracetamol combinations (incl cod. phos., doxylamine, etc)
	8999	Other Analgesic medications (NEC)
9. PSYCHOLEPTIC MEDICATIONS		
N05A—ANTI–PSYCHOTICS	9101	Chlorpromazine
	9102	Fluphenazine
	9103	Haloperidol
	9104	Lithium
	9105	Pericyazine (AKA Periciazine)
	9106	Perphenazine (including combinations)
	9107	Pimozide
	9108	Thioridazine
	9109	Tjoptjoxerne
	9110	Trifluoperazine
	9111	Clozapine
	9112	Risperidone
N05B—ANXIOLYTICS	9201	Alprazolam
	9202	Bromazepam
	9203	Buspirone
	9204	Clobazam
	9205	Chlordiazepoxide (including combinations)
	9206	Diazepam
	9207	Lorazepam
	9208	Meprobromate
	9209	Oxazepam
	9210	Potassium clorazepate

continued ...

LISTING OF MEDICATIONS CODES BASED ON ANATOMICAL THERAPEUTIC CHEMICAL (ATC) CLASSIFICATION INDEX GROUPINGS—*continued*

Condition	*Code*	*Medication*
N05C—HYPNOTICS AND SEDATIVES	9301	Amylobarbitone (AKA Amobarbital)
	9302	Butobarbitone (AKA Butobarbital)
	9303	Chloral hydrate
	9304	Chlormethiazole
	9305	Flunitrazepam
	9306	Flurazepam
	9307	Nitrazepam
	9310	Triazolam
	9999	Other Psycholeptic medications (NEC)
0. MEDICATIONS FOR ANXIETY/DEPRESSION/NERVOUS CONDITIONS		
N06A—ANTI-DEPRESSANTS	0101	Amitriptyline
	0102	Clomipramine
	0103	Desipramine
	0104	Dothiepin
	0105	Doxepin
	0106	Fluoxetine
	0107	Imipramine
	0108	Mianserin
	0109	Moclobemide
	0110	Nortriptyline
	0112	Phenelzine
	0113	Tranylcypromine (including combinations)
	0114	Trimipramine
	0115	Paroxtine
	0999	Other medications for anxiety/depression/nervous conditions (NEC)
OTHER MEDICATIONS	0022	Vitamin and mineral supplements
	0023	Cough/cold medications
	0024	Skin ointments and creams
	0025	Stomach medications
	0026	Laxatives
	0027	Other medications (including antibiotics)
	0099	Don't know/can't remember

APPENDIX C CLASSIFICATION OF COUNTRY OF BIRTH

STANDARD NHS SET FOR OUTPUT

Country	*Code*[1]
Born in Australia	1100–1108
Born outside Australia	1000,1200–9999
New Zealand	1301
Oceania and Antarctica (excluding Australia and New Zeland)	1000,1200–1299 1401–1707
United Kingdom and Ireland	2100–2107
Southern Europe	2200–2212
Western Europe	2300–2310
Other Europe and the Former USSR	2400–2615
The Middle East	3000–3199
Southeast Asia	4100–4110
Northeast Asia	5100–5108
Southern Asia	6100–6108
Northern America	7100–7104
South America, Central America and the Caribbean	8000–8324
Africa (including North Africa)	3200–3299, 9000–9225
Not stated/Inadequately described/Other	0000–0003,9999

[1] Classified according to the *Australian Standard Classification of Countries for Social Statistics* (1269.0).

APPENDIX D CLASSIFICATION OF LANGUAGE OTHER THAN ENGLISH SPOKEN AT HOME

Broad group	*Second level category*
1 Northern European languages	
	11 Celtic
	12 English
	13 German and related languages
	14 Netherlandic and related languages
	15 Scandinavian
2 Southern European languages	
	21 French
	22 Greek
	23 Iberian Romance
	24 Italian
	25 Maltese
	29 Other Southern European Languages
3 Eastern European languages	
	31 Baltic
	32 Finnic
	33 Hungarian
	34 East Slavic
	35 South Slavic
	36 West Slavic
	39 Other Eastern European Languages
4 Southwest Asian and North African languages	
	41 Iranic
	42 Middle Eastern and North African Languages
	43 Turkish and Central Asian Languages
5 Southern Asian languages	
	51 Dravidian
	52 Indo-Aryan
	59 Other Southern Asian Languages
6 Southeast Asian languages	
	61 Burman
	62 Hmong-Mien
	63 Mon-Khmer
	64 Tai
	65 Western Austronesian Languages
	69 Other Southeast Asian Languages
7 Eastern Asian languages	
	71 Chinese
	72 Japanese
	73 Korean
	79 Other Eastern Asian Languages
8 Australian Indigenous languages	
	81 Northern Aboriginal
	82 Central Aboriginal
	83 Cape York Peninsula Aboriginal
	84 Torres Strait Island
	85 West Coast Aboriginal
	86 Eastern Aboriginal
	87 Australian Creoles
9 Other languages	
	91 American Languages
	92 African Languages (excluding North Africa)
	93 Oceanic Austronesia Languages
	94 Oceanian Pidgins and Creoles
	95 Papuan Languages
	96 Invented Languages
	97 Sign Languages

APPENDIX E 1995 NATIONAL HEALTH SURVEY: OTHERS CONSULTED

LISTING OF PERSONS OR AGENCIES OTHER THAN DOCTORS, DENTISTS OR OTHER HEALTH PROFESSIONALS (AS DEFINED FOR THIS SURVEY) CONSULTED FOR INFORMATION, ADVICE OR TREATMENT ABOUT HEALTH

Code	*Category*	*Comments*
21	Health and community centres	Include youth centres, baby health centres, aged care centres, immunisation clinics.
22	Clinics	Fixed or mobile, including drug and alcohol or methadone, rehab and convalescent centres, abortion clinics, STD clinics. Excluding immunisation centres.
23	Ambulance	Include treatment received from (St Johns) ambulance officers, first aid officer at work.
24	Practitioners (NEC)	e.g. iridologists, faith healers, reflexologists, aromatherapists, rehabilitation officers, masseuses.
25	Condition-related associations	e.g. Anti-cancer Council, Asthma Foundation, Heart Foundation, Diabetes Australia.
26	Women's health or referral centres	Excluding women's refuges.
27	Counselling and information services	Includes telephone services such as lifeline, poisons information, family planning, religious organisations (except domiciliary) school counsellor.
28	Welfare/domiciliary care	Includes Salvation Army, St Vincent de Paul, meals on wheels, refuges, home for blind/deaf, handicapped persons hostel, sheltered workshop.
29	Health authorities (NEC)	Services of facilities provided by Commonwealth, State or local government health authorities which cannot be classified to a more specific category.
30	Health and fitness centres	Include health farm.
31	Self-help groups	e.g. Alcoholics Anonymous, Vietnam Veterans Assoc., Narcotics Anonymous.
32	Family/friends	
33	Other	e.g. TV documentaries.
34	Not stated	

APPENDIX F ESTIMATION FORMULAE

QUARTERLY ESTIMATES AT STATE AND NATIONAL LEVELS

Final estimates were built up using the phases by which data is collected in this survey. In the first phase, data concerning the composition and scope status of the selected dwelling is used to form a household weight benchmarked to published estimates of the numbers of housheholds according to structure–numbers of adults against numbers of children.

For the Health survey the first phase [$k=1$] weights use inverse selection fractions adjusted for household level non-response calibrated to independent household structural benches. These household weights apply to all households which provide primary responses so include both fully and partially responding households. Sampling geography is used for the adjustment classes. The household structure marginals are tailored to cell sizes:

$$W_b^{q1} = F\{1/f_s \ x \ \phi_a^{NR} \ , \ HH_b^q \ \}$$

Where

f is the sampling fraction taking account of state supplements

s is part of state/region

ϕ_a^{NR} is non-response adjustment :

$$\phi_a^{NR} = n_a^{act(bb)} / n_a^{resp(bb)}$$

i.e. the ratio of active to responding households per sampling stratum a

HH_b^q is the household benchmark corresponding to the marginal b at time q.

and F depends on the choice of distance function used in the marginal calibration

Concerning the choices of weighting classes:

s is determined by the design

a is determined by the location of non-responding in-scope households, and by a judgement on the affect of location on primary response propensity — an assumption that location is not important in determining propensity could result in a simple global adjustment; if some State or regional variation in propensity is suspected, then selection classes can be used. A finer, data determined, set of classes could be chosen where propensity and location are observed to interact.

b is determined by benchmark format — currently set at State by household size (numbers of adults by numbers of children). It may be collapsed in some States to reflex the cell sizes from the half cluster sample.

The first phase weights are applied as initial weights for the second or person phase of the weighting. That is, persons initially adopt the weight of the household in which they reside. The formula for the second phase weight is similar to that for the first:

$$W_i^2 = F\{W_i^1 \ x \ \phi_{a'}^{NR(pers)} \ , \ N_{b'} \ \}$$

Where

i is individual in adjustment cell a' and benchmark cell b'

W_i^1 is the first phase weight attached to *i's* household

$\phi_{a'}^{NR(pers)}$ is non-response adjustment :

$$\phi_{a'}^{NR(pers)} = n_{a'}^{insc(pers)} / n_{a'}^{resp(pers)}$$

i.e. the ratio of active to responding persons per adjustment class *a'*

$N_{b'}$ is the household benchmark corresponding to the marginal *b*

and *F* depends on the choice of distance function used in the marginal calibration

Concerning the choices of weighting/adjustment classes:

a' is determined by a model for response proposensity of persons in responding households by judgement on the relative importance of response bias (as revealed by the model) at person schedule level to final estimates.

b' is determined by benchmark format — currently set at State by part of State by age (5 year groups) by sex. It may be collapsed in some States to reflex the cell sizes from the half cluster sample.

A third phase produces weights for the split schedules:

$$W_i^3 = F\{W_i^2 \ x \ \phi_{a''}^{SCH(pers)} , \ \hat{N}_{b''}\}$$

Where

i is individual in adjustment cell *a"* and benchmark cell *b"*

W_i^2 is *i's* second phase or core weight

$f_{a''}^{SCH(pers)}$ combines a selection and nonresponse adjustment :

$$f_{a''}^{SCH(pers)} = n_{a''}^{all(pers)} / n_{a'}^{sch(pers)}$$

i.e. the ratio of all individuals in *a"* to persons with complete schedules (either GHWB or RF) in adjustment class *a* "

$\hat{N}_{b''}$ is an estimated person benchmark from phase 2 for weighting cell *b* "

and *F* depends on the choice of distance function used in the marginal calibration

Concerning the choices of weighting/adjustment classes:

a" is determined by a model for schedule response propensity (given selection).

b" is determined by a model for target variables associated with the particular schedule.

APPENDIX G CLASSIFICATION OF TYPES OF ALCOHOLIC DRINKS

BEER—EXTRA/SPECIAL LIGHT	Generally have an alcohol content of 0.9% by volume e.g. Carlton Special light, Export (Light) brewed soft drink, Birell Premium Light, Swan Special Light.
LOW ALCOHOL	Generally fall within the range 2.4–3.5% alcohol by volume e.g. Foster's Light, Foster's Special Bitter, Power's Light, XXXX Light Bitter, Coopers Light, Swan Gold, Cascade Light Lager, Tooheys Blue Label Bitter, Tooheys Light Lager, Eagle Blue.
FULL STRENGTH	Generally falls within the range of 4.0–5.2% alcohol by volume e.g. Carlton Dinner Ale, Brisbane Pilsener, Reschs DA, Victoria Bitter, Tooheys Draught, Lager, West End Export, Tooheys Dry, Tooheys Red, Castlemaine XXXX Bitter Ale, Carlton Cold, Eagle Red, Eagle Bitter.
STOUT	Generally is over the 5.2% alcohol by volume e.g. Guiness Export Stout, Carbine Stout, Swan Stout, Special Stout, Guiness.
RED WINE	Red, Claret, Burgundy, Cabernet, Shiraz, Rose.
WHITE WINE	White, Riesling, Moselle, White Burgundy, Chardonnay, Hock, Chablis, Traminer.
SPARKLING, CHAMPAGNE	Champagne, Sparkling, White/Pink champagne, Carbonated.
COOLERS	Tropicana, West Coast, JB Reynolds, Wild Lime/Peach, Island Cooler.
FORTIFIED WINE	Sherry, Port, Muscat, Tokay, Cinzano, Brandivino, Madeira, Blackberry Nip.
SPIRITS	Brandy, Scotch, Rum, Vodka, Gin, Whisky, Tequilla, Pimms, Southern Comfort, Ouzo, Cocktails
LIQUEURS	Tia Maria, Cherry Brandy, Khalua, Advocaat, Creme de Menthe, Baileys, Midori, Curacao Blue, Grand Marnier, Cointreau, Drambuie, Galliano, Sambucca.
OTHER DRINKS	Alcoholic Cider, While label cider. Any other beverage containing more than 0.5% alcohol by volume. Alcoholic sodas and lemonades.

APPENDIX H STANDARD ERRORS

CALCULATION OF STANDARD ERRORS

The standard errors of all estimates were derived by the split-halves method. In strata where three stages of selection were used (see Sample Design and Selection), selected census collectors districts were alternately allocated to one of two groups known as variance groups. In the other areas, primary sampling units were allocated to variance groups. The estimates of sampling variance (the square of the standard error) were then derived by use of the split-halves variance expression:

$$V(\hat{X}_q) = \sum_h \{ \sum_z \sum_p [(\hat{X}_{qzph1} - \hat{X}_{qzph2}) - \frac{\hat{X}_{qzp}}{\hat{n}_{qzp}} (\hat{n}_{qzph1} - \hat{n}_{qzph2})] \}^2$$

The subscripts used to denote subsets are:

q: quarter
p: post-stratum (age, sex)
h: stratum
z: zone (state, part of state)
j: variance groups (j=1,2)
i: respondent i

n_{qzphj} = the number of respondents in zone z,quarter q, post stratum p, stratum h and variance group j.

$$\hat{n}_{qzphj} = \sum_i W_{qzphji}$$

$$\hat{X}_{qzphj} = \sum_i W_{qzphji} X_{qzphji}$$

$$\hat{X}_{qzp} = \sum_{h \in z} \sum_j \hat{X}_{qzphj}$$

Standard errors were 'smoothed' using models of the form:

$$\log(\text{RSE\%}) = A + B \log(\text{estimate}) + C \log(\text{estimate})^2$$

where RSE % (Relative Standard Error) equals the standard error of the estimate divided by the estimate expressed as a percentage, while A, B and C were estimated by ordinary least squares regression. Separate models were fitted for each region, for each State and Territory and for quarterly and annual estimates.

TABLE OF STANDARD ERRORS

A table of standard errors for general application in using annual State and national estimates is given in the table at the end of this appendix. These figures will not give a precise measure of the standard error of a particular estimate but they will provide an indication of its magnitude.

EXAMPLE OF THE USE OF STANDARD ERRORS

An example of the use of standard errors follows. The estimated number of persons aged 75 years or more who experienced asthma as a long-term condition was 72.0. The estimate has a standard error of about 3,130 and therefore there are about two chances in three that the value that would have been produced if all dwellings had been included in the survey will fall

within the range 68.9 to 75.1 and about 19 chances in 20 that the value will fall within the range 65.7 to 78.3.

STANDARD ERRORS OF RATES AND PERCENTAGES

The standard error of an estimated percentage or rate computed by using sample data for both numerator and denominator, depends upon both the size of the numerator and the size of the denominator. However, the relative standard error of the estimated percentage or rate will generally be lower than the relative standard error of the estimate of the numerator.

Approximate standard errors of rates or percentages may be derived by first obtaining the relative standard error of the number of persons corresponding to the numerator of this rate or percentage and then applying this figure to the estimated rate or percentage. For example, the rate of asthma as a long-term condition is 110.7 per 1,000 persons and the numerator of this rate is 1,999,700 which has a relative standard error of 0.9%. By interpolation, the standard error of this rate of 110.7 can then be approximated by:

Rate x Relative standard error

$$= 110.7 \times \frac{0.9}{100}$$

$$= 1.0$$

Therefore there are two chances in three that if all dwellings had been included in the survey the rate that would have been obtained would be in the range 109.7 to 111.7 per 1,000 persons and about 19 chances in 20 that it would be in the range 108.7 to 112.7 per 1,000 persons.

STANDARD ERRORS OF DIFFERNECES BETWEEN SURVEY ESTIMATES

The difference between two survey estimates is itself also an estimate and is therefore subject to sampling variability. The standard error of the difference between two survey estimates depends on the standard errors of the original estimates and on the relationship (correlation) between the two original estimates. An approximate standard error of the difference between two estimates (x-y) may be calculated by the following formula:

$$\text{Standard error } (x-y) = \sqrt{[\text{Standard error } (x)]^2 + [\text{Standard error } (y)]^2}$$

While this formula will only be exact for differences between separate and uncorrelated (unrelated) characteristics or sub-populations, it is expected to provide a good approximation for all differences likely to be of interest.

An example of the use of the above formula follows. The difference between estimates of number of males and females who reported complete or partial deafness as a long-term condition is:

$$1{,}083{,}900 - 620{,}000 = 463{,}900$$

The standard error of this estimate can be calculated as follows. From the table above the standard errors of each of the two original estimates can be approximated as 14,980 and 12,080 respectively. Therefore the standard error of the difference is given by:

$$\text{Standard error (difference)} = \sqrt{(14{,}980)^2 + (12{,}080)^2}$$

$$= 19{,}200 \text{ (rounded to nearest 100)}$$

Thus there are about two chances in three that if all dwellings had been included in the survey the difference between that would have been obtained, estimates would be within the range 444,700 to 483,100 and about 19 chances in 20 that this difference would be between 438,100 and 489,700.

STANDARD ERRORS OF MORE COMPLEX DERIVED STATISTICS

Approximate standard errors of more complex derived statistics (i.e. other than rates, percentages and differences) may be obtained by applying appropriate adjustment factors to the relative standard errors of the estimates of the numbers of persons who contribute to those derived statistics. Full details of adjustment factors and method for obtaining approximate standard errors of the more complex derived statistics are presented in the technical notes of the publications containing the statistics concerned.

HOW TO INTERPOLATE BETWEEN THE ESTIMATES FOR SE TABLES

To find the Australian RSE% for the estimate1,083,900 we used linear interpolation between the two adjacent estimates.

The estimate 1,083,900 lies between:

ESTIMATE	RSE%
1,000,000	1.5
2,000,000	0.9

The RSE% for an estimate is:

$$= \text{lower RSE\%} + \left(\frac{y-x}{z-x}\right)(\text{upper RSE\%} - \text{lower RSE\%})$$

where

x = estimate corresponding to lower RSE%
y = actual estimate
z = estimate corresponding to upper RSE%

RSE% for an estimate of 1,083,900 is

$$= 0.9 + \left(\frac{1,083,900 - 2,000,000}{1,000,000 - 2,000,000}\right) \quad (1.5 - 0.9)$$

$$= 0.9 + \left(\frac{916,100}{1,000,000}\right) \times 0.6$$

$$= 1.4$$

STANDARD ERRORS AND RELATIVE STANDARD ERRORS FOR ESTIMATES OF PERSONS

Size of estimate	NSW		Vic.		Qld		SA		WA		Tas.		NT		ACT		Aust.	
	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%
150													80	55.0				
200													100	48.4	110	54.4		
250													110	43.8	120	48.1		
300													120	40.3	130	43.5		
400													140	35.4	150	37.0		
500													160	31.9	160	32.7		
600													180	29.3	180	29.6		
700											360	51.9	190	27.3	190	27.1		
800							400	50.4			380	47.9	210	25.7	200	25.2		
900							420	47.0			400	44.5	220	24.3	210	23.6		
1 000							440	44.2			420	41.8	230	23.1	220	22.2		
1 100							460	41.8			430	39.4	240	22.1	230	21.1		
1 200							480	39.7			450	37.4	250	21.2	240	20.1		
1 300							490	37.8			460	35.6	270	20.4	250	19.2		
1 400							510	36.2			480	34.1	280	19.7	260	18.4		
1 500			780	52.3			520	34.7	750	50.1	490	32.7	290	19.0	270	17.7		
1 600			810	50.3			530	33.4	770	48.2	500	31.4	300	18.5	270	17.1		
1 700			830	48.6			550	32.3	790	46.5	510	30.3	300	17.9	280	16.5		
1 800			850	47.0			560	31.2	810	44.9	530	29.4	310	17.4	290	16.0		
1 900			860	45.5			570	30.2	820	43.4	540	28.3	320	17.0	290	15.5		
2 000			880	44.2			590	29.3	840	42.1	550	27.5	330	16.6	300	15.0		
2 100			900	42.9	1 090	51.8	600	28.4	860	40.8	560	26.7	340	16.2	310	14.6		
2 200			920	41.8	1 110	50.3	610	27.7	870	39.7	570	25.9	350	15.8	310	14.3		

STANDARD ERRORS AND RELATIVE STANDARD ERRORS FOR ESTIMATES OF PERSONS—*continued*

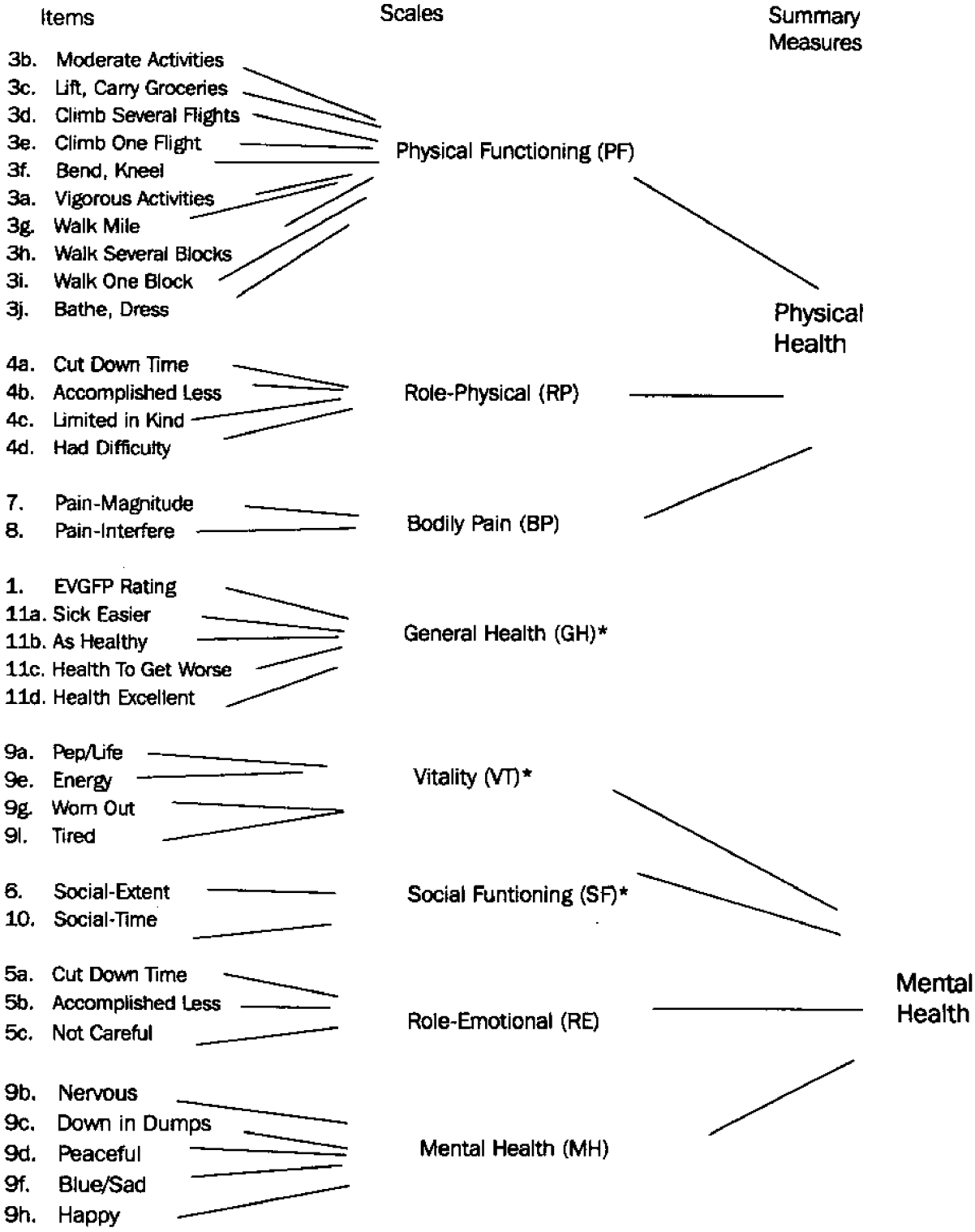
Size of estimate	NSW		Vic.		Qld		SA		WA		Tas.		NT		ACT		Aust.	
	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%
2 300			940	40.7	1 130	49.0	620	26.9	890	38.6	580	25.2	360	15.5	320	13.9	1 160	50.4
2 400			950	39.7	1 150	47.7	630	26.3	900	37.6	590	24.6	360	15.2	330	13.6	1 180	49.3
2 500			970	38.7	1 160	46.6	640	25.6	920	36.7	600	24.0	370	14.9	330	13.3	1 210	48.2
3 000	1 550	51.6	1 040	34.8	1 250	41.7	690	23.0	990	32.8	640	21.5	410	13.6	360	12.0	1 310	43.7
3 500	1 660	47.4	1 110	31.7	1 330	38.0	730	20.9	1 050	29.9	690	19.6	440	12.6	380	11.0	1 410	40.2
4 000	1 760	44.0	1 170	29.3	1 400	35.0	770	19.3	1 100	27.5	720	18.1	470	11.8	410	10.2	1 500	37.4
4 500	1 850	41.1	1 230	27.3	1 470	32.6	810	18.0	1 150	25.6	760	16.9	500	11.1	430	9.5	1 580	35.1
5 000	1 940	38.8	1 280	25.7	1 530	30.6	840	16.9	1 200	24.0	790	15.8	530	10.6	450	9.0	1 660	33.1
6 000	2 100	35.0	1 380	23.0	1 640	27.4	910	15.1	1 290	21.5	850	14.2	580	9.6	480	8.1	1 800	29.9
8 000	2 380	29.7	1 550	19.4	1 840	23.0	1 020	12.7	1 440	18.0	960	12.0	670	8.3	550	6.9	2 040	25.5
10 000	2 610	26.1	1 690	16.9	2 010	20.1	1 110	11.1	1 570	15.7	1 050	10.5	740	7.4	600	6.0	2 260	22.6
20 000	3 500	17.5	2 220	1.1	2 640	13.2	1 450	7.3	2 050	10.2	1 390	6.9	1 040	5.2	810	4.0	3 050	15.3
30 000	4 130	13.8	2 600	8.7	3 100	10.3	1 700	5.7	2 390	8.0	1 640	5.5	1 260	4.2	960	3.2	3 630	12.1
40 000	4 640	11.6	2 910	7.3	3 470	8.7	1 900	4.7	2 670	6.7	1 850	4.6	1 440	3.6	1 080	2.7	4 100	10.2
50 000	5 070	10.1	3 170	6.3	3 790	7.6	2 060	4.1	2 900	5.8	2 020	4.0	1 600	3.2	1 190	2.4	4 500	9.0
100 000	6 650	6.6	4 120	4.1	4 990	5.0	2 680	2.7	3 780	3.8	2 700	2.7	2 190	2.2	1 590	1.6	5 980	6.0
200 000	8 640	4.3	5 340	2.7	6 570	3.3	3 470	1.7	4 900	2.5	3 620	1.8	2 990	1.5	2 120	1.1	7 900	3.9
300 000	10 040	3.3	6 190	2.1	7 720	2.6	4 030	1.3	5 710	1.9	4 300	1.4	3 570	1.2	2 500	0.8	9 260	3.1
400 000	11 150	2.8	6 880	1.7	8 650	2.2	4 470	1.1	6 360	1.6	4 860	1.2	4 040	1.0	2 810	0.7	10 350	2.6
500 000	12 080	2.4	7 450	1.5	9 460	1.9	4 850	1.0	6 910	1.4	5 340	1.1	4 440	0.9	3 080	0.6	11 270	2.3

STANDARD ERRORS AND RELATIVE STANDARD ERRORS FOR ESTIMATES OF PERSONS—*continued*

Size of estimate	*NSW*		*Vic.*		*Qld*		*SA*		*WA*		*Tas.*		*NT*		*ACT*		*Aust.*	
	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%	SE	RSE%
1 000 000	15 410	1.5	9550	1.0	12 470	1.2	6230	0.6	8940	0.9	7200	0.7	5940	0.6	4070	0.4	14 630	1.5
2 000 000	19 500	1.0	12 180	0.6	16 440	0.8	7970	0.4	11 550	0.6	9730	0.5	7870	0.4	5380	0.3	18 840	0.9
5 000 000	26 270	0.5	16 690	0.3	23 720	0.5	10 980	0.2	16 170	0.3	14 540	0.3	11 300	0.2	7730	0.2	26 040	0.5
10 000 000	32 600	0.3	21 070	0.2	31 320	0.3	13 940	0.1	20 820	0.2	19 770	0.2	14 720	0.1	10 140	0.1	32 980	0.3
20 000 000	40 120	0.2	26 480	0.1	41 370	0.2	17 630	0.1	26 770	0.1	26 960	0.1	19 010	0.1	13 270	0.1	41 470	0.2

APPENDIX I SF-36 SCORING AND IMPUTATION

Scoring of the dimension scales is a way of bringing together and interpreting the responses provided to individual questions in the SF-36; scoring of the two summary scales is a way of bringing those dimension scores together to form a single physical and a single mental health score. The following diagram shows how individual question responses (items) are grouped to produce the scales and subsequently, summary measures.



* Significant correlation with other summary measures

Source: Ware, J.E., Kosinski, M. & Keller, S.D. 1994, *SF-36 Physical & Mental Health Summary Scales: A User's Manual*, Boston, MA, The Health Institute.

The SF-36 items and scales are scored so that a higher score indicates a better health state — for some dimensions the absence of ill-health, for others a positive state of well-being. However, the scores do not of themselves have an intrinsic meaning. Rather, their meaning is derived from the relativity of a score against other dimensions for an individual, or against scores for the same dimension for other individuals or populations, or against scores recorded over a period of time (i.e. as an indicator of change). Because NHS data relates to the general (non-institutionalised) population, which enjoys relatively good health overall, it could be expected that scores for each dimension would generally fall at the top end of the scales.

As with other 1995 NHS data, after the SF-36 questionnaires were converted to computer readable form they were edited to check for completeness and valid responses. The data were then merged with those of the main questionnaire and the Women's Health Supplementary Form to produce a combined file. After further processing this file was passed through a derivation program which included SF-36 scoring and imputation. This was done in two stages to create first the eight dimension scores (plus the health transition indicator) and then the two summary scores. The system used to derive scores for the various scales and summary measures of the SF-36 from data collected using the General Health and Well-Being Form was substantially that shown in the *SF-36 Physical & Mental Health Summary Scales: A User's Manual*. Some adjustment needed to be made to the standard SAS code provided in the manual to take account of the manner in which the data were collected and the way in which the ABS handles its data.

Scoring of health dimensions

Items and scales for the eight dimensions of health (and health transition) were scored in three stages:

- item recoding, for those 10 items in the scale for which the response categories were listed in reverse order. This stage of scoring also incorporated imputation of missing values where possible. The SF-36 scoring rules allowed for values of missing items to be imputed if at least 50% of the items for a scale were present. The algorithim used in the imputation process substitutes a person-specific estimate for the missing item: the estimate is the average score across completed items in the same scale for that respondent. Details are contained in the User's Manual.
- computing raw scores for each dimension, by summing across component items; and
- transforming the raw dimension scores to a 0–100 scale. The formula used converted the lowest and highest possible score to zero and 100 respectively; scores between these values represented the percentage of the total possible score which had been achieved.

Scoring of summary measures

Scoring of Physical Component Summary (PCS) and Mental Component Summary (MCS) measures — these measures were also scored in three stages:

$$\left[\frac{\text{Actual raw score} - \text{lowest possible raw score}}{\text{Possible raw score range}}\right] * 100$$

- Means and standard deviations were produced from the survey population;

- These were aggregated using factor score coefficients, derived from the survey population, for each of the eight SF-36 scales. The SAS code which was used to derive coeffients is reproduced below for the information of users of the data, as this is not contained in published SF-36 and related User manuals; and

```
DATA COMBINED (KEEP = PHYFUN RPHYFUN BODPAIN GHELTH
                      VITLTY SOCFUN ROLEMO MENHLT) ;
    SET SASDB.BRIAN ;
    IF GOODG = 0 OR GOODG = 1 THEN DO ; (Selects the
    responding SF-36 population)
        ARRAY BR PHYFUN RPHYFUN BODPAIN GHELTH VITLTY
    SOCFUN ROLEMO MENHLT ;
        DO OVER BR ;
            IF BR = 999 THEN BR = . ; (Has the effect of
            excluding insufficient responses)
        END ;
    END ;

PROC FACTOR DATA = COMBINED OUTSTAT = FACTOUT ;
    METHOD=PRIN ROTATE=VARIMAX SCORE NFACTORS= 2 ;
    VAR PHYFUN RPHYFUN BODPAIN GHELTH VITLTY SOCFUN
    ROLEMO MENHLT ;

PROC PRINT DATA = FACTOUT ;
```

- Finally the PCS and MCS scores were standardised to have a mean of 50 and a standard deviation of 10 in the survey population.

All of the operations described above were performed on individual records and took no account of any weights which have subsequently been applied. This methodology agrees with that described in the U.S. literature and in published Australian studies.

The means for scores derived during processing of the 1995 NHS were compared with those from the *SF-36 Physical & Mental Health Scales: A User's Manual* and with results of a series of national surveys conducted in Australia (Stevenson, C.E. 1996, *SF-36: Interim norms for Australian data,* Canberra, Australian Institute of Health and Welfare) as a check on the scoring and imputation process. A battery of validation and other tests on the data was also conducted. Details of these tests together with results from this section of the survey, including population norms, will be published in *National Health Survey: SF-36 Population Norms* (4399.0) to be issued in mid1997, and in a major report on the SF-36 in this survey, proposed for release late in 1997.

For more information . . .

The ABS publishes a wide range of statistics and other information on Australia's economic and social conditions. Details of what is available in various publications and other products can be found in the ABS Catalogue of Publications and Products available from all ABS Offices.

ABS Products and Services

Many standard products are available from ABS bookshops located in each State and Territory. In addition to these products, information tailored to the needs of clients can be obtained on a wide range of media by contacting your nearest ABS Office. The ABS also provides a Subscription Service for standard products and some tailored information services.

National *Dial-a-Statistic* Line

0055 86 400

Steadycom P/L: premium rate 25c/20 secs.

This number gives 24-hour access, 365 days a year, for a range of important economic statistics including the CPI.

Internet

http://www.abs.gov.au

A wide range of ABS information is available via the Internet, with basic statistics available for each State, Territory and Australia. We also have Key National Indicators, ABS product release details and other information of general interest.

Sales and Inquiries

Keylink	STAT.INFO/ABS
X.400	(C:Australia,PUB:Telememo,O:ABS,FN:STAT,SN:INFO)
Internet	stat.info@abs.telememo.au

National Mail Order Service	(06) 252 5249
Subscription Service	1800 02 0608

	Information Inquiries	Bookshop Sales
SYDNEY	(02) 9268 4611	(02) 9268 4620
MELBOURNE	(03) 9615 7755	(03) 9615 7755
BRISBANE	(07) 3222 6351	(07) 3222 6350
PERTH	(09) 360 5140	(09) 360 5307
ADELAIDE	(08) 8237 7100	(08) 8237 7582
CANBERRA	(06) 252 6627	(06) 207 0326
HOBART	(03) 6220 5800	(03) 6220 5800
DARWIN	(08) 8943 2111	(08) 8943 2111

Client Services, ABS, PO Box 10, Belconnen ACT 2616

Produced by the Australian Government Publishing Service

© Commonwealth of Australia 1996

2436300001955
ISBN 0 642 23140 0