

Report 30

women's health *a u s t r a l i a*



the australian longitudinal
study on women's health

June 2008



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

in association with



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

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EXECUTIVE SUMMARY

1. This report covers the six-month period from January to June 2008.
2. Survey 5 for the Older cohort was finalized in late December 2007 and the survey was mailed to 6,998 participants on 17th March 2008. As of 14th May 2008, 64% of the surveys have been received. Participant follow-up and data processing activities are in progress will continue during 2008.
3. Preparation has commenced for Survey 5 of the Younger cohort, scheduled to be mailed in March 2009. A meeting of the research team was held on 11th March 2008 to make decisions about possible changes for Survey 5 of the Younger cohort and drafting and final decision-making on content for the pilot survey is currently in progress.
4. A number of important methodological issues have been examined. There has been extensive work regarding missing scripts in the Pharmaceutical Benefits Scheme data. A section has been written for the Data Dictionary describing the scoring for Activities of Daily Living. Factor analysis of the Composite Abuse Scale has been conducted in preparation for Survey 5 of the Younger cohort.
5. A major report has been prepared for The Office for Women examining physical activity and health in Mid-age and Older women.
6. There have been 29 papers published or accepted for publication in national and international scientific journals during the reporting period. Seventeen conference papers have been presented to scientific and professional audiences both in Australia and internationally. Sixteen postgraduate students are currently working on aspects of the project.

1. COLLABORATIVE RESEARCH ACTIVITIES

1.1. Scientific meetings and teleconferences among research team

The Steering Committee is responsible for the overall direction of activities and resources to ensure that timelines and deliverables are met. Meetings and teleconferences are conducted at least once a month among the Steering Committee, with agendas, notes and minutes circulated to all investigators. Steering Committee membership is flexible and decided on an annual basis, so that a group of at least six investigators is involved at this level at any one time. Steering Committee members are:

- Professor Annette Dobson (Chair)
- Professor Wendy Brown
- Professor Julie Byles
- Professor Christina Lee
- Dr Deborah Loxton
- Dr Anne Young
- Dr Jayne Lucke
- Dr Leigh Tooth
- Associate Professor Nancy Pachana

Steering Committee meetings during the reporting period have been held by teleconference on 16th January, 13th February, 16th April and 14th May, and a face-to-face meeting was held in Newcastle on 10th March. For minutes of the Steering Committee meetings held during this reporting period see Appendix 1.

The Data Management Group is responsible for all technical issues involving data quality, derivation of variables, checking and cleaning of data sets, linkage, and archiving. The group is chaired by David Fitzgerald (Data Manager – Surveys) with current members including Professor Annette Dobson (Study Director), Professor Julie Byles (Investigator), Deborah Loxton (Project Manger), Jayne Lucke (Senior Research Fellow), Janneke Berecki (Research Fellow), Anna Graves (Data Manager – Cohorts), and project statisticians and other staff including Xenia Dolja-Gore, Richard Gibson, Richard Hockey, Jenny Powers, Melanie Watson, Danielle Herbert and Cath Chojenta.

A monthly update is provided to all investigators, staff, students, collaborators and others with an interest in the progress of the project. Monthly newsletters for this reporting period are shown in Appendix 2.

1.2. New research findings

1.2.1. Projects completed and in progress by ALSWH investigators and collaborators

Project:	Health costs of inactivity and overweight
ALSWH Investigators:	Professors Wendy Brown and Annette Dobson
Collaborative Investigator:	Mr Richard Hockey (School of Population Health, University of Queensland)
Funding Source:	ALSWH

The aims of this study were to quantify the relationships between physical activity, Body Mass Index (BMI) and Medicare costs in the Mid-age and Older cohorts of women participating in the Australian Longitudinal Study on Women's Health, and to estimate the potential population cost savings of increasing physical activity and decreasing BMI in sedentary women. Cross-sectional analysis of survey and health service linkage data were conducted, with data from 7004 Mid-age women (50-55 years) and 5161 Older women (73-78 years).

The mean annual costs per woman of Medicare subsidised services were AUD\$542 and AUD\$714 in the Mid-age and Older women respectively. Costs were 17% higher in obese than in healthy weight women and 24-26% higher in sedentary than in moderately active women. For sedentary obese women, mean costs were 43-44% higher than in healthy weight, moderately active women. Adjusted relative risk of high number of Medicare claims (≥ 15 claims for Mid-age, ≥ 24 claims for Older women) was greater in obese sedentary mid-age and older women than in women with moderate physical activity/healthy weight. For sedentary women, increasing physical activity to between 60 and 150 minutes per week, without concomitant changes in BMI category, would result in Medicare costs in women aged between 40 and 80 years being reduced by AUD\$76.2m per annum.

These analyses indicate that lower physical activity and higher BMI are associated with small individual but significant population increases in healthcare costs. At the population level there would be significant cost savings if all sedentary mid-age and older women achieved at least low levels of physical activity, even if their BMI did not change. Greater investment by governments in "activating" mid-age and older women appears to be a good public health strategy for reducing future healthcare costs.

This work has now been extended to include PBS costs in the Mid-age women. This work is to be presented at the International Conference on Physical Activity and Public Health in Amsterdam during April 2008.

The work on the Older women is ongoing.

A paper on health care costs for Mid-age women has been published in the Australian and New Zealand Journal of Public Health.

Project:	Physical activity in Australian women
ALSWH Investigators:	Professors Wendy Brown, Annette Dobson and Julie Byles
Collaborative Investigators:	Dr Kristiann Heesch, Dr Yvette Miller, Dr Nicola Burton (School of Human Movement Studies, University of Queensland) and Mr Richard Hockey (School of Population Health, University of Queensland)
Funding Source:	Office for Women (Department of Families, Community Services and Indigenous Affairs), NHMRC program grant, NHMRC capacity building grant

This project examined the associations between physical activity and health in mid-aged and older women in Australia.

The first stage involved a literature review of the evidence from prospective studies published since 1996 that examined physical activity and health outcomes in women. There was evidence that physical activity provided a protective effect against cardiovascular disease, type 2 diabetes, breast cancer, colon cancer, bladder cancer, endometrial cancer, poor psychological well being, and cognitive decline. There was mixed evidence of an association between physical activity and gestational diabetes, pancreatic cancer, injury, depressive symptoms, and reproductive health outcomes. There was no evidence of an association between physical activity and renal cell carcinoma, lung cancer, and osteoarthritis.

The review also examined the amount of physical activity required for health benefits in mid-age and older women. While 150 minutes of moderate intensity physical activity per week (600 MET. mins) was associated with a range of health benefits, benefits in some areas (eg diabetes) were also seen in women who reported only 60 minutes per week (240 MET. mins). It may be necessary to accumulate greater amounts of physical activity to prevent some conditions, such as breast and colon cancer. There was little evidence to suggest that mid-age and older women will gain additional health benefits from vigorous physical activity, above those seen with brisk walking or moderate intensity physical activity, after adjustment for total energy expenditure.

The second stage of this project focussed on new data from the Australian Longitudinal Study on Women's Health, and the proportions of Australian women who are currently achieving sufficient physical activity for health benefit. The proportion of mid-age women meeting or exceeding the National Physical Activity Guidelines (i.e. active) increased from 2001 (45%) to 2004 (54%); this was primarily attributable to walking. Between 2001 and 2004, approximately one third were consistently active, 18% decreased their physical activity, and 26% increased their physical activity. The proportion of active older women declined from 34 to 30% between 1999 (when they were 73-78 years old) and 2005 (when they were 79-84 years old). The proportion of those who were sedentary increased from 31 to 44%. During this same period, 26% decreased their activity, and 16% increased their physical activity.

The final stage included new analyses from the ALSWH data on the relationships between physical activity and selected health outcomes in mid-age and older women. Changes in physical activity were not related to menopausal symptoms in mid-age women. Among the Older women, very low, low, moderate and high levels of activity (75+ mins/week) were associated with lower anxiety and depression scores. Memory complaints were slightly less likely among older women who reported high levels of activity (i.e. 60+ mins/day). High levels of physical activity were associated with reduced risk of falls, and of broken or fractured bones in older women who had not had a previous serious fall injury. Overall physical and mental well-being scores were significantly higher in mid-age and older women who were consistently active than in those who were consistently sedentary. Physical activity was inversely associated with healthcare costs in both mid-age and older women, with the greatest differences being between sedentary women and those doing low levels of activity.

Several papers are currently being written up.

Project:	Physical activity, weight and mental health
ALSWH Investigator:	Professor Wendy Brown
Collaborative Investigators:	Dr Kylie Ball (School of Exercise & Nutrition Sciences, Deakin University) and Dr Nicola Burton (School of Human Movement Studies, University of Queensland)
Funding Source:	None

The aim of this study is to investigate the associations between physical activity, overweight/obesity and depressive symptoms in the Australian Longitudinal Study on Women's Health Young cohort. Overweight and obese women were more likely to develop depressive symptoms than those of healthy weight. Active women were less likely to develop symptoms than those who were sedentary, though this was significant only for low and high levels of activity after multivariate adjustment. Both an increase and a decrease in Body Mass Index (BMI) over three years were significantly associated with increased risk of symptoms. Sedentary women who increased their activity over three years had a lower risk of symptoms than those who remained sedentary. Increases in activity were protective against depressive symptoms regardless of BMI changes, except for those women who increased BMI by more than 10%, amongst whom risk for depressive symptoms was comparable with those who remained sedentary. A manuscript has been revised and submitted to a journal.

Project:	Exploratory analyses of relationships between physical activity and reproductive health and reproductive health symptoms in young and mid-age women
ALSWH Investigator:	Professor Wendy Brown
Collaborative Investigators:	Dr Yvette Miller (School of Psychology, University of Queensland) and Dr Mireille van Poppel (Department of Public and Occupational Health, Free University Amsterdam Medical School)
Funding Source:	None

The first study aimed to assess the relationship between changes in physical activity and self-reported menopause related vasomotor, somatic and psychological symptoms. Data were from Surveys 3 (2001) and 4 (2004) of Mid-age women (N=3,330). In linear regression models, the relationships between changes in physical activity and total menopausal symptoms, vasomotor, somatic and psychological symptoms were determined. Results indicated that physical activity was not associated with total menopausal symptoms, or with vasomotor or psychological symptoms. A weak association with somatic symptoms was found. Weight gain was associated with increased total, vasomotor and somatic symptoms. Weight loss was associated with a reduction in total and vasomotor symptoms. It was concluded that changes in physical activity were not related to vasomotor or psychological symptoms, and only marginally to somatic symptoms. Changes in weight showed a stronger relationship with menopausal symptoms.

A manuscript on physical activity and menstrual symptoms is being prepared.

A second study is underway and is examining the association between physical activity and menstrual symptoms in young women.

Project:	Does sitting cause weight gain?
ALSWH Investigators:	Professors Wendy Brown and Annette Dobson
Collaborative Investigators:	Ms Melanie Watson (School of Population Health, University of Queensland) and Dr Jannique van Uffelen (School of Human Movement Studies, University of Queensland)
Funding Source:	NHMRC program grant

Previous analyses in the Australian Longitudinal Study on Women's Health cohort have shown that sitting time is a predictor of weight gain in the Mid-age women. The objectives of the present study are to further examine the relationships between changes in sitting time and weight, using both cross sectional and prospective analyses. Exploratory analyses in the mid-age women have been completed using data from Surveys 3 and 4. Unadjusted analyses show that there is a cross-sectional

association between weight and sitting time at both surveys. There are also associations between increases in sitting time and increases in weight.

Analysis is now complete and a manuscript is in preparation.

Project:	What is an optimal weight for women aged 70-75?
ALSWH Investigators:	Professors Wendy Brown and Annette Dobson
Collaborative Investigators:	Dr Jannique van Uffelen (School of Human Movement Studies, University of Queensland) and Dr Janneke Berecki (School of Population Health, University of Queensland)

Current recommendations advise a BMI range of 20-25 for optimal health. However, information about the optimal BMI range in older adults in particular is scarce. Moreover 'the optimal range' may differ for various health conditions (e.g. osteoporosis, diabetes, depression, arthritis, heart disease and cancer).

The objectives of this study are to examine the prospective associations between weight (BMI) in the Older cohort at Survey 1 and incidence of chronic disease over 9 years and to recommend an optimal weight (BMI) range for each condition.

The main variables to be used are: weight/BMI at Survey 1, lifestyle data (e.g. smoking/ physical activity level/ dietary intake) and chronic diseases at the following surveys.

The analysis for this project has commenced.

Project:	Does one hour of physical activity a day prevent weight gain in adult women?
ALSWH Investigators:	Professor Wendy Brown
Collaborative Investigators:	Dr Kristiann Heesch and Mr Paul Chang (School of Human Movement Studies, University of Queensland)
Funding Source:	NHMRC program grant

This study looks at changes in physical activity (PA) and weight, and relationships between these variables, over the course of the first four surveys of the Young and Mid-age cohorts.

The main research question is: "Does one hour of physical activity per week prevent weight gain?"

Linear regression was used to examine the relationship between PA (summary scores from four surveys) and weight change from Survey 1 to 4 in the whole cohort and in women categorised on the basis of weight change as: gainers; maintainers; or losers. Variables shown to be associated with weight and PA were included as covariates

(smoking, education, occupation, marital status, country of birth, sitting time, energy intake and OCP).

The analysis for this study is completed and manuscript preparation will commence in late 2008.

Project:	The validity of self reported height, weight, and physical activity among mid-age women
ALSWH Investigators:	Professors Wendy Brown and Annette Dobson
Collaborative Investigators:	Dr Nicola Burton, (School of Human Movement Studies, University of Queensland), Dr Yvette Miller (School of Psychology, University of Queensland) and Dr Alison Marshall (School of Public Health, Queensland University of Technology)
Funding Source:	ALSWH, NHMRC program grant, NHMRC capacity building grant

The aim of this study was to compare self-reported height, weight and physical activity (PA) with objective measurements, and to determine the extent of participant misreporting in relation to Body Mass Index (BMI), health status, and sociodemographic characteristics. A secondary aim of the project was to obtain data on key PA indicators, such as the average number of steps per day (weekdays and weekends) taken, frequency of incidental PA, and average time spent sitting per day. This study was limited to mid-age Australian Longitudinal Study on Women's Health participants living in Brisbane. Recruitment and data collection (telephone recruitment; mail surveys; and individual home visits to deliver PA monitors and logbooks, and assess height and weight; N=159) is complete. Analyses have been completed and manuscripts have been submitted.

Project:	Volunteering and older women
ALSWH Investigator:	Professor Julie Byles
Collaborative Investigators:	Dr Lynne Parkinson, Dr David Sibbritt, Mr Richard Gibson (Research Centre for Gender and Health, University of Newcastle) and Dr Jeni Warburton (Australasian Centre on Ageing, University of Queensland)
Funding Source:	None

A recent review of the international literature proposed that a number of health indicators such as morbidity rates, functional health indices, self-reported health and life satisfaction may be affected by social involvement, such as volunteering. This evidence suggests that volunteering may be associated with better health. While it is very difficult to assert a causal relationship, there are suggestions that being active in the community through volunteering helps keep people healthy psychologically and even physically. This may be particularly important for older women, who benefit from the social aspects associated with volunteering, and who are more likely to have

a long term commitment as volunteers. However, some recent Australian evidence has suggested that volunteering might actually be bad for your health because it can be a stressful, time-consuming activity. Therefore the broad aim of this research was to explore the relationship between health and volunteering in older women, from a secondary analysis of Australian Longitudinal Study on Women's Health data, across three survey periods.

A 'volunteer' was defined as those who undertook regular community or organizational volunteering (eg fundraising, community welfare, church activities, organising groups or classes), every day, every week, or every month. Those who undertook this type of activity less than every month or never were defined as not volunteers. Thirty-seven percent of women reported volunteering (2% every day, 20% every week and 15% every month). Volunteers were more likely to live in a rural or remote area than in an urban area. Volunteers were also more likely to be younger, more educated, Australian born, to live alone, have private health insurance, be of English speaking background, to have income besides the pension, and to report managing on their income, than non volunteers. Volunteers rated their health as excellent to very good more often than did non-volunteers. Volunteers were also more likely to be healthier than non volunteers on a variety of physical measures (health problems in last 12 months, GP visits in last 12 months, satisfaction with physical ability, eyesight, exercise level and alcohol intake) and psychosocial measures (depression, major personal illness or injury in last 12 months, major decline in health of spouse or partner in last 12 months, major life events last 12 months, social connections).

Multivariate longitudinal analyses have been completed and papers are in preparation for submission by the end of June 2008.

Project:	Utilisation of oral health care services by women
ALSWH Investigator:	Professor Julie Byles
Collaborative Investigators:	Dr David Sibbritt and Associate Professor Deborah Cockrell (School of Medicine and Public Health, University of Newcastle)
Funding Source:	None

The aims of this research were to report the prevalence of consultation with a dentist by Australian women and to identify factors associated with consultation with a dentist. Women in this study were participants in the Australian Longitudinal Study on Women's Health. The analysis was conducted on information obtained from Survey 2 of 12,338 Mid-age women (47-52 years) and 10,434 Older women (73-78 years), in 1998 and 1999 respectively. Women in the Mid-age cohort were more likely to have consulted a dentist in the previous year (57%) than women in the Older cohort (35%). In both age groups, those who consulted a dentist were more likely to live in an urban area, be better educated, have a greater ability to manage on their income, and be in better physical health. They also tended to be higher users of both traditional and alternative health services. This study has highlighted not only the association between oral health care and other aspects of good health but also a major source of inequity in the community. Given the breadth of evidence to support the

importance of regular dental care in protecting other aspects of health, the under use of dental services by certain socio-economic groups may be a major factor in health inequity.

A paper from this study has been published.

Further analyses are underway for mid-age women.

Project:	Change in health status and healthcare use for women who have not had health assessments
ALSWH Investigators:	Professor Julie Byles and Dr Anne Young
Collaborative Investigator:	Xenia Dolja-Gore (Research Centre for Gender and Health, University of Newcastle)
Funding Source:	None

In November 1999, the Australian government introduced Medical Benefits Schedule item numbers for enhanced primary care (EPC) services. These services included case conferencing and complex care plans, and health assessments for those aged 75 years and over. The health assessment items (Medical Benefits Schedule items 700, 702, 704, 706) were the most rapidly adopted items. The Australian Longitudinal Study on Women's Health includes 4,020 women who consented to the release of Medicare data and were 75 years of age or older in November 1999 (and therefore eligible for a health assessment). 58% of these women had at least one health assessment between November 1999 and the end of 2005. Repeat assessments were less common: 40% of women had two or more assessments, 26% had three or more assessments, 14% had four or more, 6% had five or more, 2% had six or more, and only 3 women (0.1%) had an assessment every year since their introduction.

Women who had at least one health assessment had more visits to the GP and were more likely to have reported having hypertension, to be taking more than five prescribed medications and to have been admitted to hospital in the 12 months prior to Survey 2 (1999). Among women who did not report heart disease, cancer, diabetes or asthma/bronchitis, those who had at least one health assessment were more likely to have been born in Australia and were more likely to live in rural areas when compared with women who had not had an assessment. These differences were not apparent for women who had any one or more of these conditions.

Health assessments had no great impact on survival. While there was a slight trend for women who had a health assessment to have better survival than women who had no assessments, interpretation of these data is difficult since assessments are dependent on survival. Among women who were still alive in 2004, there was no statistically significant difference between physical function scores for women who did and did not have health assessment. However, there was a small trend towards a lesser decline in scores for women having more than one assessment. There were no differences in SF-36 Mental Health sub-scale score.

Project:	Further research on incontinence among women in Australia
ALSWH Investigator:	Professor Julie Byles
Collaborative Investigators:	Dr David Sibbritt, Ms Cynthia Miller (Centre for Clinical Epidemiology and Biostatistics, University of Newcastle) and Associate Professor Pauline Chiarelli (School of Health Sciences, University of Newcastle)
Funding Source:	None

Urinary incontinence carries major social burden and considerable costs for health care systems. The first part of this study investigated changes in continence status among a large cohort of older women who had completed four health surveys over the past 10 years, and identified factors associated with incidence of incontinence, and with improvements in continence status in later life. Transitions in continence status were defined according to women's reports of "leaking urine" at each survey. General Estimating Equation models were used in longitudinal analyses of the factors associated with changing continence status over time.

Over six years of follow-up, 20% of the women in the study developed incontinence, and only a minority of women (2.3%) reported incontinence that was not present at later surveys. Around one-third of women reported incontinence on at least one survey; and 27% of women participating in Survey 4 in 2005 reported leaking urine sometimes or often at that survey, with women being twice as likely to report incontinence at this survey then they were six years earlier. Incontinence was clearly associated with lower physical and social functioning but these differences also preceded the reporting of leaking urine. Parity was not strongly associated with incontinence but other factors in the gynaecological history including prolapse, prolapse repair, and hysterectomy were. Constipation and dysuria were also strongly associated with incontinence in the longitudinal models.

The findings have important implications for prevention and management of incontinence at older ages. Similar analyses are now underway to investigate the prevalence and incidence of incontinence among women in the Younger and Mid-age cohorts and to identify factors associated with this condition at these younger ages.

Project:	Asthma amongst elderly women
ALSWH Investigator:	Professor Julie Byles
Collaborative Investigators:	Dr Peter Gibson (Hunter Medical Research Institute), Dr David Sibbritt (Centre for Clinical Epidemiology and Biostatistics, University of Newcastle) and Mr Ian Robinson (Research Centre for Gender and Health, University of Newcastle)
Funding Source:	None

The aim of this study was to quantify the extent to which older women with asthma are affected by health and social factors that may impinge on their asthma management. A secondary aim was to compare the health and social circumstances for older women who do and do not have asthma, and to identify the differences in survival and quality of life for these women as they age. Beyond these findings, further analyses has been undertaken to further explore those factors associated with asthma medication use among older women and the results of these analyses are summarised here.

At Survey 1, 2475 (21%) women reported they had breathing problems “sometimes” or “often”, 1607 (13%) women had ever been told by a doctor that they have asthma, and 2109 (17%) had bronchitis or emphysema. Of those women who completed Survey 4, 15% reported having been diagnosed with asthma at any survey. Around 60% of the women with asthma were currently taking medications for asthma in 2005, and the most common medication classes were beta-2 adrenoreceptor agonists, adrenergics, glucocorticoids and anticholinergics.

Among women with asthma there were few demographic differences between those who were and were not using medications for asthma (as identified in the PBS data). Older women with asthma and those who were identified as using asthma medications from PBS data were more likely to be overweight or obese than women with no asthma and no medications. Likewise, while few older women were current smokers, those identified with asthma medications were more likely to smoke and those with no report of asthma but identified with asthma medications were most likely to smoke.

Women with no asthma and no asthma medications had the lowest probability of reporting other conditions at Survey 4. In contrast, women identified as using asthma medications were more likely to have depression than were those with no asthma medications; similarly depression was more common among women with asthma than among women without this condition. Back pain was also slightly more common among women with asthma than without, regardless of asthma medications. Heart disease and arthritis was also more commonly reported by those identified as using asthma medications (regardless of self-reported asthma), and cancer was more commonly reported by women with asthma (regardless of asthma medications).

Women with PBS claims for asthma medications were more likely to report their health as fair or poor than women without medications, and women with asthma and medications were most likely to report fair or poor self-rated health state.

Women had more visits to GPs and other health care providers if they reported asthma or were identified as using asthma medications.

Project:	Women and arthritis: The burden of suffering by older Australian women
ALSWH Investigator:	Professor Julie Byles
Collaborative Investigators:	Mr Paul Kowal (World Health Organization), Dr Lynne Parkinson, Dr David Sibbritt and Mr Ian Robinson (School of Medicine and Public Health, University of Newcastle)
Funding Source:	Small grant from Arthritis Australia Small grant from Hunter Medical Research Institute

The Australian Longitudinal Study on Women's Health survey question referring to arthritis asks about doctor-diagnosed arthritis. Although this includes all types of arthritis, osteoarthritis is expected to be the most common condition among mid-age and older women.

32% of mid-age women and 64% of the older women reported having doctor-diagnosed arthritis by Survey 4 (in 2004 and 2005, respectively).

Not making any claims for arthritis medications was common among women with arthritis: 61% to 71% of mid-age women and 51% to 63% older women who reported having arthritis did not make claims for arthritis medications across all years.

Most mid-age and older women with doctor diagnosed arthritis and who had claims for arthritis medications, had claims for only one type of arthritis medication.

Mid-age women who reported having arthritis and/or who had a claim for arthritis medication had lower levels of education and more difficulty managing on their income than women without arthritis or arthritis medication claims.

Mid-age women with doctor-diagnosed arthritis and/or with claims for arthritis medication were more likely to be obese than those without claims.

Project:	Self-rated health, age and gender in longitudinal studies in Australia
ALSWH Investigators:	Professors Julie Byles and Annette Dobson
	Dr Kaarin Anstey (Centre for Mental Health Research, Australian National University)
Funding Source:	Ageing Well Ageing Productively NHMRC grant

There is now a large amount of data collected on ageing from Australian studies including The Australian Longitudinal Study on Women's Health. Through a Project known as DYNOPTA, the data from these studies are currently being examined and

harmonised to investigate factors affecting health, including gender, as people age. The collaborative analysis of these data will greatly advance our knowledge of Ageing in Australia.

Project:	Adequacy and equity of treatment for depression among older Australian women
ALSWH Investigators:	Professor Julie Byles and Dr Deborah Loxton
Collaborative Investigators:	Dr Lynne Parkinson, Mr Richard Gibson and Mr Ian Robinson (Research Centre for Gender, Health and Ageing, University of Newcastle)
Funding Source:	Hunter Medical Research Institute grant

By using data collected from the Australian Longitudinal Study on Women's Health and linking it with Medicare and Pharmaceutical Benefits Scheme data for the years 2002-2005, this project allowed for detailed prospective analyses of the health services and medications used by older women with depression, and the outcomes for women with different patterns of medication use. The main findings from the analyses were:

18% of older women had at least one claim for anti-depressant medications in 2005.

- Women who reported a doctor diagnosis of depression were more likely to have claims for anti-depressant medications than those who did not report this diagnosis.
- Many women who reported a doctor diagnosis were not identified as using anti-depressant medications in the PBS data. Among older women who reported a diagnosis of depression, 33% had no claims for any anti-depressant medication in 2005 and 18% had no claims at any time during the period 2002-2005.
- Depression and claims for anti-depressant medications were associated with area of residence (women in rural areas were less likely to receive anti-depressant medications), marital status, socio-economic status, health care use, and the presence of comorbid conditions such as arthritis, back pain and heart disease.
- Four claim patterns for anti-depressant medications were defined for women who reported depression during the period 2002-2005:
 1. Women who were taking anti-depressant medications at both the start of the study period and at the end.
 2. Women who commenced anti-depressant medications during this period.
 3. Women who ceased anti-depressant medications.
 4. Women who did not take anti-depressant medications during this time.
- Among older women, the most common pattern was continuing anti-depressant medications, with more than 50% of women having claims in 2002 and 2005.
- A significant improvement in scores on the SF-36 Mental Health Index was observed for women who ceased anti-depressant medications during this period, indicating positive outcomes for women in this group.

Project:	Transport for older women
ALSWH Investigators:	Professors Julie Byles and Annette Dobson
Collaborative Investigator:	Dr Lynne Parkinson and Mr Richard Gibson (Research Centre for Gender, Health and Ageing, University of Newcastle)

Among older women in the Australian Longitudinal Study on Women's Health, driving is the major form of transport, especially for those in rural and remote areas. At Survey 3, 60% of the women in the Older cohort reported driving themselves as their main means of transport. The majority of these women (86%) also reported driving themselves as their main means of transport at Survey 4, but 10% reported they were now being driven by someone else, and a small percentage were using taxis, buses and other options as their main means of transport. Change in main means of transport was not associated with Survey 3 area of residence; however women with lower levels of education were more likely to cease driving. Women were also more likely to cease driving if, at Survey 3, they reported taking five or more medications, being limited a lot in walking 100 metres, and if they had ever reported stroke or arthritis. Women were also more likely to cease driving if they had poor vision at Survey 3 (18% of those who ceased driving had poor vision at Survey 3, and 9% of those who continued driving had poor vision at Survey 3).

There was no association between ceasing driving and change in marital status, or transitions in difficulty in managing on income. Compared with women who continued driving, women who ceased driving as their main means of transport between surveys were more likely to show a transition to worse self-rated health and to needing help with daily tasks, and were less likely to have commenced caring for someone else. At Survey 4, women who ceased driving were more likely to report having made five or more GP visits, and to have made at least one specialist visit. They were less likely to be caring for someone else either in their own home or elsewhere. Women who ceased driving were also more likely to report troubles getting to places at night, getting to shops and services, and getting beyond their local neighbourhood. They were more likely to report that they had not been outside their home or outside their immediate neighbourhood, and that they had not been to movies, theatre etc, a sporting event, a restaurant, or attended a class or course.

Project:	Establishing common linear measures for the SF36 for Australian women
ALSWH Investigators:	Professors Julie Byles
Collaborative Investigator:	Dr Lindy Clemson and Professor Anita Bundy (Faculty of Health Sciences, University of Sydney)

The aim of this analysis was to establish common linear measures for the SF36 through Rasch modelling, using Winsteps software. We shall apply a partial credit rating and explore the effectiveness of the category rating scales. In addition we will establish the validity of these measures for use with different cohorts and different subgroups within cohorts, and the item functioning over time. Subgroups will include people with different conditions and levels of comorbidities, and with and without

need for help with daily tasks. The sample will be randomly divided into two groups with the first group being used to devise the measures and the second group used to validate the measures produced from the modelling.

A Database has been prepared for importing into Winsteps software and the randomisation process is being developed. Comparison of SF-36 scores across metropolitan, rural and remote areas indicated no variation suggesting the sample would be representative. Data will be analysed unweighted initially to explore fit statistics and hierarchies.

Project:	Regulatory and community response to discredited drugs
ALSWH Investigators:	Professor Julie Byles, Dr Anne Young and Dr Lynne Parkinson
Collaborative Investigators:	Professor David Henry (School of Health Sciences, University of Newcastle), Ms Xenia Dolja-Gore, Mr Richard Gibson (Research Centre for Gender, health & Ageing, University of Newcastle), Dr Evan Doran (School of Medicine and Public Health, University of Newcastle), Mr Andrew Searles (Hunter Valley Research Foundation), Dr Jane Robertson (School of Medicine & Public Health, University of Newcastle), Mr Paul Kowal (World Health Organization) and Professor Glen Salkeld (School of Public Health, University of Sydney)
Funding Source:	NHMRC project grant

This project will examine changes in coxib and other NSAID prescription over time, and the characteristics of those older women whose prescriptions continued and those whose did not following withdrawals of some of these preparations. Cyclooxygenase-2 inhibitors (commonly called coxibs), which include medicines such as rofecoxib (Vioxx), celecoxib (Celebrex), and meloxicam (Mobic/Movalis), were first approved for marketing in Australia in 1998, and were listed on the Pharmaceutical Benefits Scheme (PBS) from 2000. Rofecoxib was withdrawn by the manufacturer world-wide in September 2004 following concerns for the safety of this medication. Similar concerns were associated with other coxibs, but these medicines were not withdrawn. Rather, the Therapeutic Goods Administration (TGA) required manufacturers to place explicit warnings in product information about increased risk of CVD adverse events and advised that all medicines in the class of coxibs should be regarded as having an increased CVD risk.

The effects of these regulatory actions are evident within PBS data for older women with arthritis over the period 2002 to 2005. The sudden cessation of rofecoxib availability in the fourth quarter of 2004 was at first matched by a rise in celecoxib and meloxicam prescriptions. However, this level of use dropped in the first quarter of 2005 and stayed comparatively steady for the remainder of 2005.

Older women with arthritis who remained on coxibs for 2003 (before withdrawal of rofecoxib) and 2005 (after withdrawal) were more likely to be partnered, least likely to have difficulty managing on income or be caring for someone who lives with them, and less likely to drink rarely or not at all, than women who had never used this medication (in either year) or who had ceased use by 2005.

Project:	The impact of health on lifetime earnings, labour force experience and retirement and the effects of all these factors on the degree of income and health inequalities post retirement
ALSWH Investigators:	Professor Julie Byles
Collaborative Investigator:	Professor Sue Richardson and Ms Joanne Flavel (National Institute of Labour Studies, Flinders University)

This project applies an economic framework to empirically analyse relationships between poor health and labour market outcomes in Australia. It examines the role of poor health in determining the level and duration of workforce engagement and its effects on lifetime labour force experience. Given that previous studies have established links between unemployment and poor health, types of employment and health and income and health, this project proposes that ill health affects the earnings distribution and further affects health through reduced probability of employment, the types of employment obtained and reduced time in the labour force. It is proposed that the effects of ill health on the earnings distribution and on labour force experience leads to increased income and health inequities post retirement.

Project:	Use of ALSWH data to illustrate methodology for analysing longitudinal data
ALSWH Investigators:	Professor Annette Dobson and Associate Professor Gita Mishra
Funding Source:	NHMRC Capacity Building Grant in Public Health

Missing data is a common problem in survey based research. There are many packages that compensate for missing data but few can easily compensate for missing longitudinal data. WinBUGS compensates for missing data using multiple imputation, and is able to incorporate longitudinal structure using random effects. Superiority of longitudinal imputation is demonstrated over cross-sectional imputation using WinBUGS. Example data is used from the Australian Longitudinal Study on Women's Health (ALSWH).

We continue to use the ALSWH data sets to explore methodological issues in analysing longitudinal data.

Project:	Survival analysis of older women
ALSWH Investigator:	Professor Annette Dobson
Collaborative Investigators:	Ms Jess Ford (School of Human Movement Studies, University of Queensland) and Ms Melanie Spallek (School of Population Health, University of Queensland)
Funding Source:	None

The objective of this project was to test the hypothesis that morbidity and health-related behavioural factors are stronger than social factors as predictors of death among older women. The project is ongoing however recent results suggest:

- The strongest predictors of early mortality among the Older cohort are current health and health related behaviours.
- The differences in social factors are less predictive of mortality among people who survive to older ages.
- Adopting a healthier lifestyle, by doing more exercise and not smoking, is beneficial even in old age.

A paper has been published in *Age and Ageing*.

Project:	To what extent does having babies contribute to weight gain in young women?
ALSWH Investigators:	Professors Annette Dobson and Wendy Brown
Collaborative Investigators:	Dr Yvette Miller (School of Psychology, University of Queensland) and Mr Richard Hockey (School of Population Health, University of Queensland)
Funding Source:	NHMRC Capacity Building Grant in Public Health

The aims of this study were to investigate the relative impact of childbearing patterns and behavioural and demographic variables on weight gain among young women over a seven year period, and to estimate the relative rate of weight gain associated with each significant determinant of weight gain. Participants were 14,779 women in the Australian Longitudinal Study on Women's Health, aged 18-23 years when recruited from the national Medicare database in 1996. Consenting women completed surveys about demographics, health behaviours, and health outcomes in 1996 (Survey 1), 2000 (Survey 2) and 2003 (Survey 3). A random effects model was used to estimate average annual percentage weight change (kg) in women who did and did not have their first child between Surveys 1 and 2, and between Surveys 2 and 3, after adjustment for other statistically significant determinants of weight change (education, physical activity, sitting time, and energy intake). Patterns of childbirth and physical activity were significantly associated with average annual percentage weight change between Surveys 1 and 2, and between Surveys 2 and 3. Sitting time, energy intake and education were significantly associated with average annual percentage weight change between Surveys 1 and 3. After adjustment for all other

variables associated with rate of weight gain, women who had their first baby between Surveys 1 and 2 had higher mean annual weight gain (1.78%, 95% CI 1.51-2.05; approximately 1.2 kgs) than those who had never given birth (0.79%, 95% CI 0.70-0.88; approximately 0.5 kgs). Those who had their first baby between Surveys 2 and 3 had higher annual weight gain in that period (1.89%, 95% CI 1.62-2.16; approximately 1.4 kgs) than those who had never given birth (1.0%, 95% CI 0.91-1.09; approximately 0.7 kgs) or those who had their first child between Surveys 1 and 2 (0.39%, 95% CI 0.11-0.68; approximately 0.3 kgs), and higher weight gain compared with their previous nulliparous period (0.95%; 95% CI 0.69-1.21; approximately 0.6 kgs).

In conclusion, having a first baby resulted in an increased rate of weight gain compared with ageing-related weight gain among women who do not have children or had their first child previously. Weight gain prevention for young women should concentrate on promoting increased physical activity, reduced sitting time and reduced energy intake during and immediately after first pregnancy.

This analysis has been extended to include Young Survey 4 data in order to have more information on women who have had babies.

Project:	Bisphosphonates and comedications
ALSWH Investigators:	Professors Annette Dobson and Julie Byles
Collaborative Investigators:	Dr Janneke Berecki, Mr Richard Hockey (School of Population Health, University of Queensland), Ms Xenia Dolja-Gore and Mr Richard Gibson (Research Centre for Gender, Health & Ageing, University of Newcastle)

Aims:

1. To investigate adherence to bisphosphonates by elderly Australian women, determined from script-filling data (pharmaceutical benefits scheme, PBS)
2. To find factors associated with adherence, using linkage of survey data and PBS data. Factors include health and well-being, sociodemographics, lifestyle and level of medication subsidy.

A paper has been accepted for publication. The results were included in Major Report C (2008). This research is now completed.

Project:	Proton-pump inhibitors & comedications
ALSWH Investigators:	Professors Annette Dobson and Julie Byles
Collaborative Investigators:	Dr Janneke Berecki, Mr Richard Hockey (School of Population Health, University of Queensland), Ms Xenia Dolja-Gore and Mr Richard Gibson (Research Centre for Gender, Health & Ageing, University of Newcastle)

Aims:

1. Find patterns of PPI use by mid-aged women and identify chronic users
2. Investigate the relation between chronic PPI use and concomitant use of antidepressants

Two papers have been drafted. The first paper titled 'Initial proton pump inhibitor prescriptions often come with five repeats: insights from a record linkage study' has been submitted to a journal. The second paper titled 'Depression and acid-related disorders in mid-aged women: a pharmaceutical linkage study' will be submitted to a journal.

Project:	Continuity and change in tobacco use among young women: a 10 year prospective analysis
ALSWH Investigators:	Professors Annette Dobson and Neville Owen
Collaborative Investigators:	Dr Liane McDermott (School of Population Health, University of Queensland)

Aims:

1. To examine, prospectively, factors associated with continuity and change in smoking behaviour among young adult women over a 10 year period.
2. To examine trajectories of smoking among young adult women who have never had children over a 10 year period. This paper would include a thorough investigation of factors associated with long-term, high-rate smoking.
3. To examine factors associated with continuity and change in smoking behaviour before and after pregnancy, with a specific focus on smoking relapse.

A range of explanatory variables will be examined including demographic, psychosocial, lifestyle risk behaviour and life-stage transition variables.

A paper has been completed and is currently under submission to a journal.

Project:	Regional variation in the health of elderly Australian women
ALSWH Investigators:	Professor Annette Dobson, Professor Julie Byles and Associate Professor Nancy Pachana
Collaborative Investigators:	Dr Deirdre McLaughlin, Dr Dimitrios Vagenas (School of Population Health, University of Queensland) and Professor Konrad Jamrozik (School Of Population Health and Clinical Practice, University of Adelaide)
Funding Source:	NHMRC Ageing Well Ageing Productively Grant

Analyses of health and survival of participants in the Older cohort have been completed and a paper drafted for submission. Our results indicate that there are differences in survival between urban and rural older Australian women, although both groups appear to have similar physical and mental health, both at baseline and longitudinally. Furthermore, rural women report using health services less frequently than urban women.

Project:	Access to medicines for cardiovascular health and primary care services in rural and remote Australia
ALSWH Investigators:	Professor Annette Dobson
Collaborative Investigators:	Ms Lynelle Moon, Ms Susana Senes, Ms Elizabeth Penm and Mr John Woodall (Australian Institute of Health and Welfare)
Funding Source:	Department of Health & Ageing and the Australian Institute of Health & Welfare

Aims:

1. Describe medicines used by older women with history of cardiovascular conditions.
2. Describe cardiovascular medicines used by older women with or without reported cardiovascular conditions.
3. Compare reported use of cardiovascular medicines by women living in rural, remote and urban areas.
4. Assess associations with factors that may affect use of medicines, such as reported number of GP consultations, hospital admissions, number of medicines reported, whether managing on income available.
5. Assess migration of women who reported taking cardiovascular medicines between urban, rural and remote areas from Survey 1 to 4.

We have received the data files, have allocated ASGC remoteness classification codes to each record and are starting analysis of the data.

Project:	Relative survival as an indicator of generalizability of results from longitudinal studies of older people
ALSWH Investigators:	Professors Annette Dobson
Collaborative Investigators:	Dr Leigh Tooth and Mr Richard Hockey (School of Population Health, University of Queensland)

There are many threats to the generalizability (external validity) of a study's results including the representativeness of the initial sample, choice of sampling frame and attrition. One means of assessing generalizability is to compare the cohort with the population of interest at baseline, for example on demographic and health characteristics and health service variables. As cohort/longitudinal studies progress this comparison needs to be repeated, on those remaining in the study and those who dropout. This is acceptable for cohorts in which drop-out is potentially related to current characteristics of people who choose to cease participation. For cohorts of older people however, drop-out may be due to deaths and this is a potential source of bias different from biases that lead to other types of attrition of participants who are still alive.

The purpose of this analysis is to explain and illustrate 'relative survival' as a tool for assessing generalizability of results from a cohort of older people among whom death is a potential threat to generalizability.

Relative survival over 10 years can be estimated using:

$$\frac{\text{Observed survival in the cohort}}{\text{Expected survival among women of the same age}}$$

Expected survival is obtained from life table data from the general population for each Australian State, Australia overall and by age and year (1996-2006) from which the cohort was selected. The method was developed for comparative studies of survival from cancer registry data – it does not appear to have been used before for the purpose we propose.

Data analysis is proceeding.

Project:	Examining health risks across sexual identity groups
ALSWH Investigator:	Professor Annette Dobson
Collaborative Investigators:	Dr Ruth McNair (Department of General Practice, University of Melbourne), Professor Tonda Hughes, Assistant Professor Laura Szalacha (College of Nursing, University of Illinois) and Professor Sharon Wilsnack (Department of Clinical Neuroscience, University of North Dakota)
Funding Source:	Lesbian Health Fund, USA

We received funding in February 2008 from the Lesbian Health Fund of the Gay and Lesbian Medical Association in USA to undertake this study. We have commenced analysis of the young Surveys 2 and 3. This analysis is longitudinal in that we are examining changes in sexual identity between two surveys. We are also focusing on two health areas:

1. Health service usage comparisons across all sexual identities, with regression analyses to determine influences on health service usage including socioeconomic status, education, satisfaction, mental health and physical health indicators.
2. Alcohol use and mental health comparisons according to sexual orientation.

Project:	How well do health and community services help older people with neurodegenerative disorders and their family caregivers?
ALSWH Investigators:	Professors Annette Dobson and Christina Lee
Collaborative Investigators:	Professor Andrew Wilson, Dr Leigh Tooth, Dr Jayne Lucke (School of Population Health, University of Queensland) and Associate Professor Gerard Byrne (Psychiatry Department, University of Queensland) and Ms Anne Russell (School of Nursing, University of Queensland)
Funding Source:	NHMRC Healthy Ageing Research Program

The aim of this study was to examine perceived adequacy of access to information and services, and perceived quality of health and community services, among older female carers across rural and urban areas throughout Australia. Primary data were collected as part of the Australian Longitudinal Study on Women's Health. Over 40,000 women were randomly selected from the Australian Medicare database in 1996, with intentional over-sampling in rural and remote areas. The design was a nested cross-sectional substudy of 306 older women (aged 78-83 years), who indicated they were providing care for someone with a long term illness, disability or frailty. In contrast to previous studies, there were few reported differences between urban and rural older carers in their access to health and community services for the

people they cared for. Further research is needed to develop a more complete picture of the resources drawn on by caregivers who do not have access to appropriate services or who choose not to use those which are available.

One paper has been published and another is currently under revision to address reviewer's comments.

Project:	Psychological adjustment after breast cancer diagnosis and treatment
PhD Candidate:	Ms Lisa Hallsworth (School of Psychology, Flinders University)
Supervisors:	Associate Professor Tracey Wade (School of Psychology, Flinders University) and Professor Christina Lee (School of Psychology, University of Queensland)
Funding Source:	Australian Postgraduate Award, and the FMC Foundation Lyn Wrigley Award
Expected Completion:	March 2009

Objectives: The overall aim of the project is to identify factors (using data from the Australian Longitudinal Study on Women's Health) that impact women's adjustment to breast cancer (BC) diagnosis or treatment in order to develop an intervention workbook that addresses these issues.

The project plans:

1. To explore group differences in quality of life, as measured by the eight SF-36 domains, between women who developed breast cancer at each survey and those who did not.
2. To determine if perceived stress mediates the relationship between initial life events and change in quality of life over time, using a subsample of women who did not have breast cancer at Survey 1, but who subsequently developed breast cancer at either Survey 2 or 3.

The results from Study 1 influence the direction taken in subsequent studies (which do not use ALSWH data).

Study design/setting: All data analysis has been completed. This study involved examining three waves of ALSWH data from the Mid-aged women. Four non-overlapping groups of women were derived, with a final sample size of 10,543 women.

Results: First, No-BC participants included women who reported never having had breast cancer at all time points (97.2%). Second, BC-T1 consisted of women who reported having breast cancer at T1 (1.5%). BC-T2 consisted of women who developed breast cancer between T1 and T2 (0.5%), and BC-T3 were women who developed breast cancer between T2 and T3 (0.9%).

The four groups of women were statistically compared over time for the eight quality of life outcomes using a multivariate analysis of variance (MANOVA). Significant interactions were found for bodily pain, general health, role physical, physical functioning and social functioning, suggesting that changes in functioning over time differ between groups. Further examination suggested that each BC group experienced significantly worse QOL functioning at the respective time points they had been diagnosed with BC compared with women who had never been diagnosed. The only exception to this was physical functioning, for which no differences were found.

In order to prospectively test the hypothesis that perceived stress mediates the relationship between initial life events and change in QOL over time, the two groups of women who did not have breast cancer in Survey 1 but developed breast cancer subsequently by Surveys 2 and 3 (BC-T2 and BC-T3) were combined for prospective analyses (n=140). Longitudinal modelling was then used to test the relationship between life events, stress and change over time in the eight SF-36 QOL domains. Initial life events and perceived stress predicted change in four QOL domains. There was prospective evidence for the predicted mediational relationship for the domains of role emotional and social functioning. Pre-BC life events and, particularly, stress have therefore been identified as important predictive factors for poorer outcomes in certain areas of functioning following diagnosis of BC. Future research can build upon current findings by implementing and systematically evaluating a stress-management intervention for women at risk of poorer outcomes.

We submitted the findings of this study for publication and received reviewers' comments. Modifications to the manuscript have been made accordingly and the manuscript has recently been re-submitted. From this research, we have developed an intervention workbook to assist women in dealing with these (and other psychological) issues following BC diagnosis and treatment.

Project:	An investigation into the psychological, physical and behavioural factors associated with sleep problems in victims/survivors of sexual violence
ALSWH Investigator:	Dr Deborah Loxton
Collaborative Investigators:	Professor Jill Astbury, Dr Gerard Kennedy and Professor Dot Bruck (School of Psychology, Victoria University)
Funding Source:	Victoria University Collaborative Research Grant

This report focuses on the main findings from two separate analyses of data from the Younger Cohort of women, who completed the Australian Longitudinal Study on Women's Health (ALSWH) Survey 3 (2003).

Socioeconomic status and sleep problems

It has been proposed that the impact of lower socioeconomic status (SES) on a range of health outcomes may be partially mediated by sleep problems, such as poor sleep quality and shorter sleep duration (Van Cauter & Spiegel, 1999). The findings of

research by Moore, Adler, Williams and Jackson (2002) offer some support for this proposition. They found that sleep problems mediated the relationship between SES and health outcomes. In particular, sleep quality but not sleep quantity was identified as the significant variable that mediated the effects of income on mental and physical health variables. However, evidence on the relationship between sleep difficulties and a range of socioeconomic variables remains sparse.

We sought to investigate whether and how subjective sleep complaints were related to key SES variables in a representative sample of Young women (N = 9061) who completed the ALSWH Survey 3 for young women (2003).

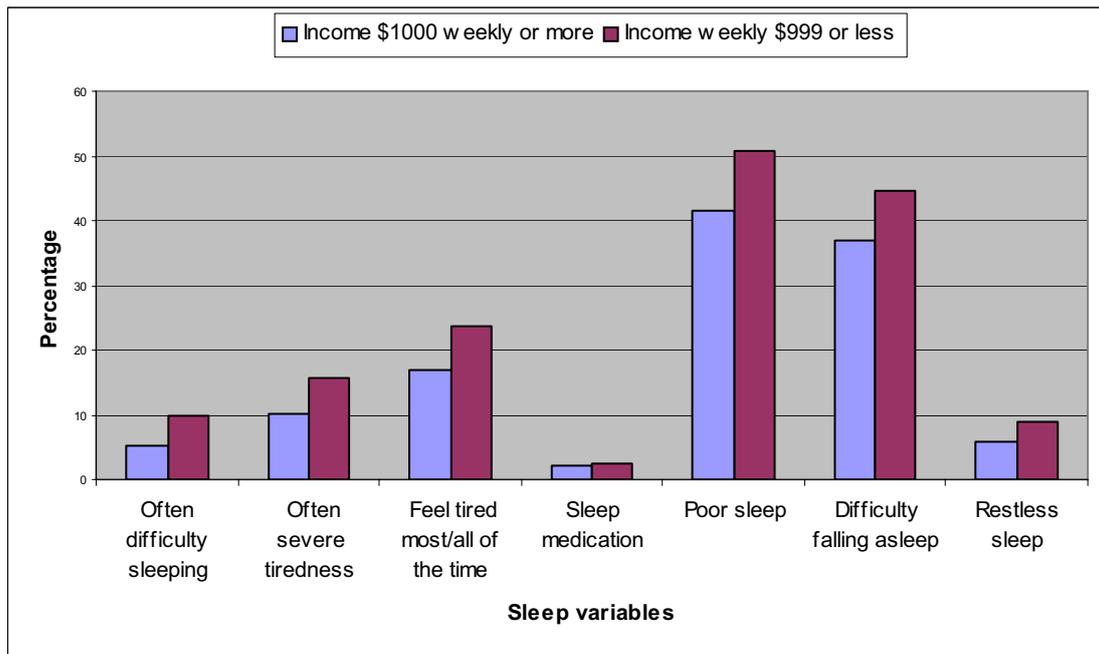
The socio-demographic variables included in our analyses were area of residence, aboriginality, level of income, occupation and education, marital status, and number of children while the sleep variables included difficulty sleeping in the last 12 months, severe tiredness in the last 12 months, feelings of tiredness in the last month, use of prescription medication for sleep in the last month, difficulty falling asleep in the past month, sleeping poorly in the past month and restless sleep in the past week. Analyses were conducted by creating dichotomous variables from all sleep and socio-demographic variables.

Significant associations were found between the following socioeconomic variables - area of residence, aboriginality, level of education, occupation and income and marital status and all the sleep variables included in the analysis.

One example, between income and sleep difficulties is shown here to illustrate the typical pattern of relationship between SES variables and sleep problems.

Income and sleep

When women in the top two income brackets (those who earned \$1000 a week or more) were compared with women with less income (\$999 a week or less), women on lower incomes were also more likely to report "often" having severe tiredness and difficulty sleeping in the past twelve months, feeling tired most or all of the time in the past four weeks, and having poor sleep and difficulty falling asleep in the past month.



The preliminary analyses of the links between socioeconomic and sleep variables in this data set on young Australian women, clearly indicate that there is a strong, consistent relationship between various indicators of socioeconomic adversity and multiple difficulties associated with the type and quality of sleep being reported in this cohort.

Sexual violence and sleep difficulties

This study investigated the relationship between subjective sleep complaints and several forms of violence, utilizing a representative sample of young women (N=14947) who completed the ALSWH Young Survey 3 (2003).

Our primary hypothesis was that a history of violence in the three years prior to data collection would be related to sleep disturbances at a greater prevalence than among women with no history of abuse. Relative risk analyses were conducted by creating dichotomous variables from all sleep and violence variables, in order to determine the risk of experiencing sleep problems among women who reported different combinations of violence occurring in the three years prior to data collection.

The results of relative risk analyses showed that women who had experienced any kind of violence (sexual, emotional, and physical including severe physical violence and sexual harassment or any combination of these) were at greater risk of experiencing a number of sleep disturbances. In particular, the risk of using prescription medication for sleep in the past month was greatly increased among women reporting sexual abuse in isolation (RR = 9.98, CI = 7.18 - 13.86) and among women reporting all five forms of abuse (RR = 4.52, CI = 3.19 - 6.42) when compared with women who reported no abuse in the last three years. Overall, the results demonstrated that women with a history of abuse were at greater risk of experiencing sleep disturbances than women who reported no abuse.

Significant differences in the odds of having sleep problems emerged between women who had experienced non sexual violence and those who reported sexual violence

alone. This analysis revealed that sexual violence was associated with a higher likelihood of – often having difficulty sleeping (OR =2.28, CI= 1.55-3.35); using prescription medication for sleep (OR=3.89, CI=2.29-6.60); often having severe tiredness (OR=1.53, CI+1.07-2.19) and having difficulty falling asleep (OR=1.79, CI=1.30-2.65).

These results indicate that women who report any kind of violence or abuse compared with their non abused counterparts are at significantly increased risk of experiencing a variety of sleep problems and of using prescribed sleep medication. Moreover, the sub group analysis comparing survivors of sexual violence with survivors of other forms of violence, identified that sexual violence is an especially powerful determinant of sleep problems. Victim/survivors of sexual violence were at an even greater risk of reporting sleep problems than victims of other forms of gender based violence and abuse.

Project:	Termination of pregnancy and Australia: a descriptive analysis of trends over time and association in the Younger cohort
ALSWH Investigator:	Dr Deborah Loxton
Collaborative Investigators:	Dr Angela Taft and Ms Lyndsey Watson (La Trobe University)
Funding Source:	La Trobe University

Objective: We planned to use the data from the 1996 and 2000 surveys of the Younger cohort to:

- Provide descriptive summary statistics of the population of young women who had one or more terminations, including their socio-demographic characteristics, area of residence/location and use of contraception, comparing them within age strata with:
 - i) women who have not had a termination and
 - ii) women who have not had any pregnancy.
- Examine the proportions of women reporting terminations at baseline in 1996 and then in the later 2000 Survey, and assess the association with other pregnancy outcomes (miscarriage, full-term births, pre-term births (36 weeks or less)) at each survey point, for the entire Young cohort.
- Compare the reported rate of terminations in these surveys with age-specific rates from 1996 to 2000 collected through the mandatory reporting systems in South Australia and the Northern Territory, both of which produce annual reports.
- Compare the pattern of reported pregnancies (miscarriages, terminations, pre- and full-term births) and their associations in the Younger women’s cohort with associated data on young women in the same age groups in the three Victorian Surveys of Recent Mothers (1989, 1994, 2000).

Study design/setting: Using multiple logistic regression, we have separately analysed cross-sectional data from 14,779 women who responded to the Younger cohort Survey 1 in 1996 and 9683 who responded Survey 2 in 2000. Data were then linked for respondents who answered both surveys in a subsequent analysis, in which we were able to generate odds ratios for associations between sociodemographic factors, contraceptive use and reproductive outcomes separately for those young women who reported terminations as teenagers (under 20) in 1996 from those who reported their first termination in 2000. Some of these data were included in the first publication. We have undertaken a subsequent analysis examining interactions between violence, termination and depressive symptoms as measured by the CESD from linked data in the two surveys. This project is ongoing.

Results: The proportion of women having pregnancies or terminations increases with age, however, the ratio of women who report terminations compared with those who have been pregnant decreases (56% of women under 20, 46% of those aged 20 to 23 and 30% of those aged 22 to 27 years old). Women reporting teenage terminations were more likely to be in a de-facto relationship (OR=1.94, 95% CI 1.17-3.21), less well educated (OR=2.32, 95% CI 1.44-3.74), have no private health insurance, and be a victim of partner violence (OR=3.11, 95% CI 1.76-5.49). Women reporting later terminations were also more likely to be abused by a partner (OR=3.52, 95% CI 2.14-5.81). The relationship with violence held for the other reproductive events.

Conclusion: Partner abuse/violence is the strongest predictive factor for young women reporting termination of pregnancy. However, health insurance status, level of education and area of residence also demonstrate that socio-economic disadvantage plays a role in whether a young woman seeks to terminate an unwanted pregnancy. Clinicians need to be mindful that when a young woman presents seeking a termination that they ask about partner abuse.

A paper on termination, depression and violence has now been published in BMC Public Health. Results were presented to the International Conference on Women and Mental Health.

Project:	Partner violence and gynaecological health of mid-aged women
ALSWH Investigator:	Dr Deborah Loxton
Collaborative Investigators:	Ms Jennifer Powers (Research Centre for Gender and Health, University of Newcastle), Associate Professor Margot Schofield (School of Public Health, La Trobe University) and Dr Rafat Hussain (School of Health, University of New England)

This analysis aimed to investigate associations between partner violence and inadequate cervical and breast cancer screening, using the data collected from the Mid-age cohort. Self reported pap testing, mammography, clinical and self breast examinations were assessed using responses from 13,716 women aged 45-50 years in 1996 and 10,813 of the same women in 2004. Findings indicated that women who had experienced partner violence, compared with those who had not, were more likely

to report inadequate screening. Odds ratios were adjusted for known barriers to preventive screening (education, difficulty managing on income, marital status, number of general practitioner visits, chronic physical conditions and depression). Partner violence was associated with inadequate Pap tests (OR 1.31, 95% CI 1.16, 1.47), mammography (OR 1.34, 95% CI 1.16, 1.53) and clinical breast examinations (OR 1.15, 95% CI 1.02, 1.29). Partner violence was not significantly associated with breast self examinations in the adjusted analysis. Women who have experienced partner violence were less likely to be adequately screened for cervical and breast cancer even after adjustment for known barriers to screening.

Project:	Investigating methods of analysing longitudinal qualitative data collected via free-text comments
ALSWH Investigator:	Dr Deborah Loxton and Professor Wendy Brown
Collaborative Investigators:	Mrs Lyn Adamson (Research Centre for Gender and Health, University of Newcastle)

The quantitative findings for the Australian Longitudinal Study on Women’s Health (ALSWH) report, Women’s Weight – Findings from the ALSWH were illustrated with case studies that were drawn from the qualitative ALSWH data. The development of the protocols for analysing longitudinal qualitative data, merging thematic findings with selected quantitative data and creating case studies is ongoing. A paper describing this process is currently being drafted. Elements of this research will be incorporated into further research being undertaken on the longitudinal comments of the Older women.

Project:	The impacts of caesarean section in Australian women
ALSWH Investigators:	Dr Deborah Loxton and Professor Julie Byles
Collaborative Investigators:	Associate Professor Pauline Chiarelli, Mr Michael K Drew (School of Health Sciences, University of Newcastle) and Dr David Sibbritt (Centre for Clinical Epidemiology and Biostatistics, University of Newcastle)
Funding Source:	None

This study aimed to examine whether mid-age women who have had a caesarean section (CS) are at a higher risk of developing back problems over the longer term. In view of the fact that delivery by CS has steadily increased to 29.4% in 2004 with higher rates among older, privately insured mothers it seems reasonable to explore the impacts of such deliveries on health issues over the longer term.

The pelvic floor muscles and diaphragm have dual roles involving postural and respiratory functions. During situations where demand for one of these functions is increased the muscle activity is altered. These alterations in muscle activity have been proposed to precipitate lower back pain (LBP). With similar rationale, we

hypothesized that trauma to the abdominal wall (such as occurs during caesarean section) might predispose women to LBP over the longer term. Such injury may precipitate LBP through biomechanical dysfunction arising from reduced muscle force capabilities with secondary deconditioning from pain inhibition during the postoperative period.

The study showed that while parity may be associated with onset of LBP in younger women, it does not appear to be associated with back pain over the longer term and neither is CS.

The fact that LBP is associated with urinary incontinence and breathing disorders is supported by this study. Women's place of residence, education, menopause, arthritis, asthma, osteoporosis, stiff and painful joints, breathing disorders, urinary incontinence and smoking status all had a statistically significant association with back pain, however delivery by caesarean section did not increase the likelihood of self-reported back pain over the longer term in mid-aged women.

A paper has been submitted to a journal.

Project:	Alcohol consumption during pregnancy
ALSWH Investigator:	Dr Deborah Loxton
Collaborative Investigators:	Ms Jennifer Powers (Research Centre for Gender and Health, University of Newcastle)
Funding Source:	2007/2008 NSW Health Drug and Alcohol Research Grants Program

NHMRC alcohol guidelines for pregnant women were revised from total abstinence in 1992 to a low level of alcohol consumption (less than seven drinks per week) in 2001. Data from the Younger cohort are being used to investigate whether changing the guidelines has an impact on drinking during pregnancy and what factors are associated with alcohol consumption during pregnancy. Early results suggest that the level of abstinence was similar among women who were pregnant prior to 2001 and those who were first pregnant after the introduction of the revised guidelines.

Project:	Australian women's use of the emergency contraceptive pill: a descriptive study
ALSWH Investigators:	Dr Deborah Loxton
Collaborative Investigators:	Dr Angela Taft, Ms Melissa Hobbs, Dr Lisa Amir (La Trobe University)
Funding Source:	None

Aims: To analyse secondary data from the 2006 Survey 4 of the Young cohort from the Australian Longitudinal Study on Women's Health in order to:

- describe the proportions and characteristics of women who have used the emergency contraceptive pill since 2004 and

- their ease of access by area of residence and any other relevant factor e.g. socio-economic status in order to assess the current patterns of use of this form of contraception by women

We hypothesize that use of the emergency contraceptive pill may be under-utilised and that access to it is more difficult for poorer women and those living in rural and remote areas compared with women in urban areas.

Study design: We will be using chi square, univariable and multivariable logistic regression to describe the use of ECP by Australian women and the women's characteristics.

Ethics: We have secured ethical clearance from La Trobe University for this secondary analysis.

Preliminary analysis: We have undertaken preliminary cross tabulations and chi square analyses of these data. This seems to confirm trends previously found in the Sex in Australia study that users are better educated/higher socioeconomic status. It also suggests higher proportions of ever users among those who use condoms, who use other forms of contraception and among urban women. The majority that used it, found it easy to get in the past four years, but there are important differences between those who have and have not found it easy/difficult. There are simple significant differences warranting further analysis between those with violent partners and who have experienced forced sex and those who have not.

Project:	Iodine-related food intake among pregnant, breast-feeding and other women
ALSWH Investigator:	Dr Deborah Loxton
Collaborative Investigators:	Ms Jennifer Powers, Ms Xenia Dolja-Gore (Research Centre for Gender, Health and Ageing, University of Newcastle), Graham Giles (Cancer Council Victoria), Dr Dorothy Mackerras and Sue Cassidy (Food Standards Australia and New Zealand)
Funding Source:	None

Iodine deficiency adversely affects the mental development of young children and is re-emerging in Australia. Data from the Younger cohort in the Australian Longitudinal Study on Women's Health and in the Cancer Council Victoria are being used to investigate whether pregnant and breastfeeding women consume more or less bread, dairy products and fish than their non-pregnant counterparts. Another aim is to estimate the impact of mandatory fortification of bread with iodine in pregnant and non-pregnant women. Preliminary results indicate that pregnant and post-partum women eat more bread than non-pregnant women and iodine intakes are well below dietary recommendations. The impact of the proposed fortification of bread would be greater among pregnant and breastfeeding women than among non-pregnant women.

Project:	Patterns of alcohol, tobacco and illicit drug use before, during and after pregnancy
ALSWH Investigator:	Dr Deborah Loxton
Collaborative Investigators:	Ms Jennifer Powers, Ms Catherine Chojenta (Research Centre for Gender, Health and Ageing, University of Newcastle) and Liane McDermott (School of Population Health, University of Queensland)
Funding Source:	None

The aims of this study are to describe the prevalence of use of tobacco, alcohol and illicit drugs before and during pregnancy and to investigate whether such use changes from pre-pregnancy to pregnancy. Additionally we will investigate the factors associated with use before pregnancy and with any change in use. Preliminary examination of variables has started.

Project:	Comparisons of the associations between socioeconomic position and hysterectomy among mid-age and older Australian and British Women
ALSWH Investigator:	Professor Annette Dobson
Collaborative Investigators:	Dr Jayne Lucke (School of Population Health, University of Queensland), Mr Paul Chang (School of Human Movement Studies, University of Queensland), Professor Debbie Lawlor (Department of Social Medicine, University of Bristol), Associate Professor Gita Mishra (University College London) and Professor Diana Kuh (Medical Research Council and University College London)
Funding Source:	None

The objective was to examine the associations between indicators of socioeconomic position (SEP) and hysterectomy in two Australian and two British cohorts. The study population was women participating in the Australian Longitudinal Study on Women's Health (ALSWH), born 1921-1926 and 1946-1951, and two cohorts of British women, the British Women's Heart and Health Study and the MRC National Survey of Health and Development, born at similar times (1919 to 1940 and 1946, respectively) and surveyed at similar ages to the ALSWH cohorts.

Relative indices of inequality were derived for own and head of household occupational class, educational level attained and age at leaving school. Logistic regression was used to test the associations between these indicators of SEP and self-reported hysterectomy and/or oophorectomy. Inverse associations between indicators of SEP and hysterectomy in both the Australian and British cohorts of women born in the 1940s were found. There was also evidence of inverse associations between education and hysterectomy in the Older Australian cohort. However, the

associations in this Older cohort were weaker than those found in the Mid-age Australian cohort. In the Older British cohort, born in the 1920s and 1930s, little evidence of association between SEP in adulthood and hysterectomy was found. These results suggest that inverse associations between indicators of SEP and hysterectomy are stronger in Younger compared to Older cohorts in both Australia and the UK. They provide further evidence of the dynamic nature of the association between indicators of SEP and hysterectomy.

A paper from this project has been accepted for publication. This project is now complete.

Project:	Young women's changes in use of contraception after reproductive life events
ALSWH Investigator:	Dr Jayne Lucke
Collaborative Investigators:	Ms Melanie Spallek, Ms Melanie Watson and Ms Danielle Herbert (School of Population Health, University of Queensland)
Funding Source:	None

This ongoing project examines changes in young women's contraceptive use over ten years in relation to a range of reproductive life events using longitudinal data from the Australian Longitudinal Study on Women's Health (ALSWH).

Little previous research has examined changes in young women's contraceptive use after significant reproductive or health life events. Some research has examined the reasons that women might discontinue contraceptive use in general and there has been some work investigating contraceptive use after the birth of a child and after the termination of a pregnancy. However other events may also cause a woman to re-evaluate her contraception, for example, the diagnosis of a sexually-transmitted infection, or having an abnormal pap test.

The analysis includes 8910 women who completed a self-report survey in 1996 when they were aged 18-23, and again in 2000, 2003 and 2006. Multinomial analysis has been used to explore patterns of contraceptive use before and after events related to pregnancy and birth (pregnancy, live birth, miscarriage and termination of pregnancy) and health (diagnosis with a sexually-transmitted infection and abnormal Pap test) and the factors associated with changes in contraceptive use.

The results show that the majority of women change their contraceptive method at least once and that reproductive events are important triggers for contraceptive change. The ALSWH provides an exciting opportunity to examine patterns of contraceptive use over time among women of reproductive age.

Extensive recoding has been performed in order to increase the consistency of responses about reproductive events over time. The consistency of the data has been improved in relation to whether or not a woman reported a particular reproductive event, and also in relation to the number of events reported over time. This work was reported at Section 3.5 in Technical Report #29 December 2007.

A final multinomial model is currently in progress to examine patterns of contraceptive use before and after reproductive events. As a result of this work, further examination of patterns of contraceptive use across Young Survey 1 to 4 is underway in order to describe trends and examine factors associated with patterns of use over time. A journal article is in progress.

Project:	A comparison of the performance of the Goldberg Anxiety and Depression Scale in both mid-aged and older women
ALSWH Investigator:	Associate Professor Nancy Pachana and Professor Annette Dobson
Collaborative Investigators:	Dr Natasha Koloski (School of Psychology, University of Queensland) and Ms Melanie Watson (School of Population Health, University of Queensland)

One paper has been published from this study, using only the older cohort so far.

Background: Measures to assess anxiety and depression separately often incur difficulties due to overlap of these constructs, especially in older individuals. Using the Goldberg Anxiety and Depression Scale (GADS) we aimed to confirm the factor structure of the instrument in a large cohort of Older Australian women, to validate the instrument against other self-report information, and to assess its association with a variety of health-related outcomes.

Study design/setting: Participants were 7264 women (aged 75-82 years) enrolled in the Australian Longitudinal Study on Women's Health. Measures of anxiety and depression included the GADS, the mental health items of the Medical Outcomes Study SF-36, and self reported information on mental health diagnoses, symptoms and medications. The factor structure of the scale was examined using latent trait analysis, while receiver operating characteristic curves were used to explore the performance of the scale against other criteria.

Results: Latent trait analyses replicated prior findings demonstrating high correlations between anxiety and depression as measured by the GADS and suggesting a third factor related to sleeping problems. Receiver operating characteristic curves showed that a simple score formed by summing responses to GADS items had high sensitivity and specificity in relation to other measures of anxiety and depression.

Conclusions: This large study provides support for the hypothesis that anxiety and depression are not readily distinguishable entities in older women and that the GADS is a useful tool for measuring the composite construct for epidemiological studies.

Project:	A comparison of the Duke Social Support Index in older Australian men and women
ALSWH Investigator:	Associate Professor Nancy Pachana and Professor Annette Dobson
Collaborative Investigators:	Dr Deirdre McLaughlin and Dr Dimitrios Vagenas (School of Population Health, University of Queensland)

Objective: An abbreviated form of the Duke Social Support Index (DSSI) as used in a large longitudinal study of older Australian women was examined with respect to factors that might be expected to affect social support for older women over time.

Study design/setting: In this large cohort study two sub-scales of the DSSI, one describing the size and structure of the social network (four items) and the other perceived satisfaction with social support (six items), were analysed in relation to outcome and exploratory variables.

Results: Over a three year period the network score increased among women whose life circumstances meant that they were likely to receive more support (e.g., recent widowhood). Likewise those women at risk of becoming more socially isolated (e.g., those with sensory loss) became less satisfied with their social support. Changes in both measures were tempered by women’s mental health and optimism.

Conclusions: Although the sub-scales of the DSSI may not fully reflect the complexity of social support paradigms, they are responsive to changes in the lives of older women and can be useful in community-based epidemiological studies.

These results have been published.

Project:	Mid-age women's use of counselling services
ALSWH Investigator:	Professor Margot Schofield
Collaborative Investigator:	Dr Asad Khan (Centre for Social Research, University of Queensland)
Funding Source:	None

Despite high rates of psychological distress in the Australian community, particularly among mid-aged women, use of counselling and psychological services is relatively low.

This study examined self-reported use of counselling in the past year among a population-based sample of 11,201 Australian women aged 50-55, and describes the profile of women who seek counselling.

Using multivariate analyses to control confounding, women who had consulted a Counsellor/Psychologist/Social Worker in the last year (6.9%) were found to have an increased odds of higher stress, life satisfaction and perceived control, and lower optimism. They also had higher odds of experiencing more life events over the past 12 months, changed health status compared with a year ago, taking more prescribed

medications, living in urban versus rural areas, having university versus no formal education, living alone or with others rather than spouse/partner, and having ancillary versus full private health insurance. This multivariate profile is discussed in relation to the delivery, marketing and accessibility of counselling services in the Australian community. The implications for counsellor training and the future development of the profession are also discussed.

These results have been published. Three other papers are being prepared for publication.

Project:	Use of medication amongst mid-age women: Correlates of use and predicting change
ALSWH Investigator:	Professor Margot Schofield
Collaborative Investigator:	Dr Asad Khan (Centre for Social Research, University of Queensland)
Funding Source:	None

Increasing rates of prescription and use of medication have been noted in the Australian community. This series of analyses aims to examine mid-aged women's use of medication, particularly use of medication for anxiety, depression and stress.

The analyses also aim to determine factors associated with the use of these medications. It will map the demographic profiles and the mental health and physical health of women who do and do not use medications, and examine their use of health services. Analyses are currently underway and two papers are being drafted.

Analysis is underway on this project.

Project:	Young and Mid data on alcohol intake and transitions
ALSWH Investigator:	Dr Anne Young
Collaborative Investigator:	Ms Jennifer Powers (Research Centre for Gender and Health, University of Newcastle), Ms Sharon Matthews and Ms Susan Clemens (Turning Point Alcohol and Drug Centre, Melbourne)
Funding Source:	The Alcohol Education and Rehabilitation Foundation

A considerable amount of work has been conducted on alcohol intake and transitions in each of the cohorts. Results from the Mid-aged cohort have been reported in previous Technical Reports. This update includes only the Younger cohort.

In Survey 3 of the Younger cohort, a quantity-frequency method (QF) and a food-frequency questionnaire (FFQ) were used to collect data on alcohol consumption. Comparisons were made between these two methods on the ability to classify women consuming alcohol at risky levels (more than 14 standard drinks per week) and very

high risk levels (more than 28 standard drinks per week). The ranking of women was consistent across methods. However, concordance in identifying risky and high risk drinkers varied depending on the methods used to calculate drinking volume using the FFQ. For further information see the recently published paper by Clemens and Matthews in *Alcohol and Alcoholism*.

Project:	Alcohol consumption and poor mental health among mid-age Australian women
ALSWH Investigator:	Dr Anne Young
Collaborative Investigator:	Ms Jennifer Powers (Research Centre for Gender and Health, University of Newcastle).
Funding Source:	Australian Brewers Foundation

Data from the first four surveys of the Mid-age cohort were used to assess the prospective association between alcohol consumption and self-rated health. Longitudinal models of consistent alcohol intake showed that the general health of moderate drinkers (up to 14 drinks a week) was better than that of non-drinkers, occasional and heavy drinkers. Among moderate drinkers, a decrease or variation in alcohol consumption was associated with a decline in general health.

This study is now exploring the relationship between alcohol consumption and mental health. Although a considerable amount of work has been done, a decision was made to wait for Mid-age Survey 5 to be conducted so that the analysis could include data for the eleven year period 1996 to 2007. Questions about lifetime consumption of alcohol were asked at the fifth Survey of the Mid-age cohort to address a potential shortcoming in the data collected to date. The inclusion of the responses to these questions in the analyses will allow the distinction to be made between life-time and more recent abstainers and will help in determining which comes first: heavy alcohol consumption or poor mental health.

Project:	Characteristics of Complementary and Alternative Medicine (CAM) users
ALSWH Investigator:	Dr Anne Young
Collaborative Investigators:	Dr Jon Adams (School of Population Health, University of Queensland) and Dr David Sibbritt (School of Medicine and Public Health, University of Newcastle)
Funding Source:	None

Two grant applications were submitted in 2007 following the NHMRC Special Call to apply for funds to investigate the use and effectiveness of Complementary and Alternative Medicines (CAM). In March 2008 one of the projects: “CAM use amongst mid-age women: a national mixed-methods study across the urban-rural divide” was awarded \$450,771 over three years to conduct the proposed research. The CAM call was a highly competitive process that resulted in only the top 9.4% of applications being funded.

The second project proposal titled “Complementary and Alternative Medicine (CAM) use for pregnancy and birthing: a national multi-method study” has been submitted in the NHMRC Project Grants 2008 funding round.

Recent research on CAM use conducted under this EoI included a project to determine the factors associated with complementary and alternative medicine (CAM) use among older Australian women over time. The percentage of older women in the Australian Longitudinal Study on Women's Health who consulted a CAM practitioner in the years 1996, 1999, 2002 and 2005 were 14.6%, 12.1%, 10.9% and 9.9% respectively. Use of CAM increased as the number of reported symptoms increased, as physical health decreased, and for non-urban residents compared with urban residents. Use of CAM amongst the older cohort appears to be strongly influenced by poor physical health. There is also a suggestion that lack of access to conventional health care providers increases CAM use and there is an overall decline in the use of CAM among older women as they age. A paper describing the results has been submitted to a peer-reviewed journal.

Project:	Health care for women with diabetes living in rural areas: a longitudinal study of access to care and health outcomes
ALSWH Investigators:	Dr Anne Young and Professor Julie Byles
Collaborative Investigator:	Dr Julia Lowe (School of Medicine and Public Health, University of Newcastle) and Ms Xenia Dolja-Gore (Research Centre for Gender, Health & Ageing, University of Newcastle)
Funding Source:	Diabetes Australia Research Trust

In Australia the care of diabetes is predominantly carried out by GPs, often under ‘shared care’ arrangements with local Diabetes Centres and/or private endocrinologists. Outside major cities, the population base may be insufficient to support specialist diabetes teams and the GP may not have local access to specialist referral and support. In the 2001-2002 budget the federal government provided funding for a national diabetes integrated program that provided incentives for GPs for early diagnosis & effective management of people with diabetes. The Australian Longitudinal Study on Women's Health (ALSWH) provides an opportunity to examine the health services provided to women with diabetes in Australia, as well as monitoring changes in their health and well being, and the impact of new initiatives in diabetes care. For this study, consenting women’s survey data was linked to Medicare (MBS) and Pharmaceutical Benefits Scheme (PBS) databases for the years 2002 to 2005. This allowed women to be classified according to their use of specific Medicare items for haemoglobin A1C (HbA1c) analysis and Diabetes Annual Cycle of Care (ACC).

The characteristics at Survey 2 (1999 and prior to the introduction of ACC) of women with diabetes who subsequently had an ACC and women who had HbA1c with no ACC were compared. MBS and PBS costs for each year 2002-2005 and SF-36 subscales scores for each Survey were then compared for the groups of women with prevalent and incident diabetes. Costs for women with no diabetes, heart disease, cancer or asthma/bronchitis were also included for comparison. A manuscript

detailing the results of these analyses and discussing the implication for diabetes care among older women is being prepared.

Project:	What drives private health insurance purchases among mid-age women? Using dynamic discrete choice analysis
ALSWH Investigators:	Dr Anne Young
Collaborative Investigator:	Professor Denzil Fiebig, Associate Professor Denise Doiron, Ms Simone Cheung (School of Economics, University of New South Wales), Associate Professor Elizabeth Savage, Ms Stephanie Knox and Professor Thomas Buchmueller (Centre for Health Economics Research and Evaluation, University of Technology Sydney)
Funding Source:	NHMRC project grant

Hypothesis: The purchase of hospital insurance in mid-age Australian women will be strongly determined by health status, income and inertia in choice.

We have done some preliminary data analysis in order to familiarize ourselves with the data and to get some notion of differences in this cohort with the Young cohort that we have previously used. A review of relevant literature has also been completed.

1.2.2. Student projects in progress

Project:	Adjusting for death in longitudinal studies
PhD Candidate:	Mr Steven Bowe (Centre for Clinical Epidemiology and Biostatistics, University of Newcastle)
Supervisors:	Dr David Sibbritt (University of Newcastle) and Dr Anne Young (University of Newcastle)
Funding Source:	None
Expected Completion:	July 2009

Objectives:

1. To investigate the statistical methods used to account for death in longitudinal studies.
2. To apply the current statistical methods to Australian Longitudinal Study on Women's Health (ALSWH) data for the Older cohort and evaluate the advantages and disadvantages of the methods.
3. To determine whether there is a need to improve current statistical methods and apply and assess new strategies if applicable.

4. To examine the impact of diabetes on quality of life among older women - adjusting for deaths by applying the methods developed.

A literature review was conducted to examine the statistical methods that are currently used to account for dropout due to death. A method proposed by Diehr and colleagues has been applied to ALSWH data and results were published in 2006. The paper has been cited in recent publications (an internal white paper with recommendations for the Medicare Health Outcomes Survey).

The impact of imputing values for PCS that are missing for reasons other than death has also been examined. Imputation methods are currently being applied to produce complete datasets from which to estimate the true change in HR-QOL over time and the missing data assumptions of Missing at Random (MAR) and Not Missing at Random (NMAR) are being considered.

We have found that:

1. Observed longitudinal changes in physical health for women with diabetes may be poorly estimated due to loss of data through deaths and other reasons.
2. Analysis of changes in physical health, after including scores for participants who die, indicate poorer and worsening physical health for women with diabetes.
3. Longitudinal analysis including values for death, as well as imputing value missing for other reasons, may provide better estimates.
4. After including deaths and imputed scores, the mean probability of being healthy (in three years) for women who reported having diabetes was lower than when deaths and missing data were ignored.

A paper describing the methods and results has recently been submitted.

Project:	Physical activity and perceived cognitive decline in older women
PHD Candidate:	Ms Siobhan O'Dwyer (School of Human Movement Studies, University of Queensland)
Supervisor:	Professor Wendy Brown (School of Human Movement Studies, University of Queensland)
Funding Source:	APA postgraduate award
Expected Completion:	August 2008

Objectives: To explore the relationship between physical activity and perceived cognitive decline in the Older cohort and to identify the variables which may mediate that relationship.

Results: Women from the Older cohort who did not have complete responses to the physical activity and memory items at Surveys 3 and 4 were excluded from the sample. Women who reported diagnoses of Alzheimer's disease/dementia or stroke were also excluded.

A univariate analysis of the association between MAC-Q scores and physical activity levels at Survey 3 was conducted. There was a statistically significant result, but differences in MACQ scores across categories of physical activity were not substantial. A univariate analysis of the association between physical activity levels and responses on the Poor Memory Item at Survey 3 was also conducted. There was a statistically significant result, but the differences across physical activity categories were not substantially different.

Due to these findings, no prospective analyses were conducted.

Conclusion: Although cross-sectional analyses support an association between physical activity and perceived cognitive decline, there were no meaningful trends in the data. This may be a result of a lack of sensitivity and specificity in the measures of self-reported memory decline.

A manuscript is being revised and a thesis chapter is in preparation.

Project:	A functional model of fall risk
Doctorate candidate:	Afsoon Hassani Mehraban (School of Health sciences, Occupational Therapy, University of Newcastle)
Supervisors:	Professor Julie Byles (Centre for Research and Education in Ageing, University of Newcastle), Dr Lynette Mackenzie (Occupational Therapy, University of Newcastle) and Associate Professor Catherine D'Este (Centre for Clinical Epidemiology and Biostatistics, University of Newcastle)
Funding source:	None
Expected completion:	December 2008

This project explored and applied the newly developed International Classification of Functioning developed by the World Health Organisation to data collected as part of a sub-study of the Australian Longitudinal Study on Women's Health (ALSWH). At Survey 4, 20% of the sub-sample reported that they had experienced a fall in the previous six months. In logistic regression models, these falls were predicted by a large number of factors that had been measured in previous ALSWH surveys. Using a step-wise approach, the ICF framework was applied to identify those factors that were predictive of falls in multivariate models. This approach revealed that some factors from all domains of the ICF framework were associated with falls (including general health, body function, personal factors, activity and participation and environmental factors).

This analysis is the first to assess and demonstrate the appropriateness of the ICF as a model for understanding falls risk.

Project:	The impact of trauma on young women's health behaviours
Masters of Health Psychology Candidate:	Ms Toni Lindsay (School of Behavioural Sciences, University of Newcastle)
Supervisors:	Dr Jenny Bowman (School of Behavioural Sciences, University of Newcastle) and Dr Deborah Loxton (Research Centre for Gender and Health, University of Newcastle)
Funding source:	None
Expected completion:	June 2008

Objectives: This project aims to examine the impact of traumatic life events on young women and their health behaviours including alcohol use, smoking, illicit drug use, as well as sexual practices. In order to examine this, the data from the first three Younger cohort surveys are being utilised.

The research questions for the current project include the following:

1. Do women who experience trauma show an increase in the number of negative health behaviours they undertake compared with women who do not experience trauma?
2. Do women who were engaging in positive health behaviours prior to a trauma decrease these behaviours following the onset of trauma?
3. Do women who were already participating in negative health behaviours increase these behaviours following the onset of trauma?

Results: Preliminary data analysis indicates that there is a link between the onset of trauma and an increase in negative health behaviours, especially smoking. Further longitudinal analysis is currently being conducted to further examine the impact of trauma on health behaviours.

Final analyses are being completed on this project. The current findings suggest that women are more likely to develop negative health behaviours following a traumatic event or a series of life events. This project will be completed in June 2008.

Project:	When life's a pain: The relationship between stress and modifiable psychosocial factors in arthritis
PhD Candidate:	Ms Melissa Harris (Health Behaviour Sciences, School of Medicine and Public Health, University of Newcastle)
Supervisors:	Dr Deborah Loxton (Research Centre for Gender, Health and Ageing, University of Newcastle); Dr David Sibbritt (Centre for Clinical Epidemiology and Biostatistics, University of Newcastle); and Professor Julie Byles (Centre for Research and Education in Ageing, University of Newcastle)
Funding Source:	None
Expected Completion:	December 2011

Binary and multinomial logistic regression analyses pertaining to the sequential cross-sectional studies were conducted and confirmed the preliminary analyses indicating that mid-age women experiencing joint pain or possessing self-reported arthritis have marked deficits in psychosocial functioning in comparison to women who reported not experiencing either joint pain or arthritis. The most significant findings indicated that women with self-reported arthritis were on average 1.8 times more likely to experience depressive symptomatology than non-arthritic women. These results were supported for joint pain with women experiencing intermittent and persistent joint pain being on average 1.7 and 3.8 times more likely to experience depressive symptoms. Further, mid-age women with arthritis experienced a greater number of emotional life events with these women 1.6-1.7 times more likely to have experienced 4 or more significant events in the past year. These findings were paralleled for women experiencing joint pain. More notably, these same women experienced significantly greater amounts of perceived stress with arthritic women 2.9 times more likely to experience moderate to high levels of stress while women experiencing persistent joint pain were up to 10 times more likely to report moderate to high stress levels. Additionally, women with joint pain or arthritis consistently perceived their own health across a number of domains, including bodily pain, physical and social functioning, mental health and vitality and general health as significantly worse than women without arthritic symptoms or conditions. Longitudinal analyses will be conducted in order to clarify changes in psychosocial functioning over time.

Project:	“In their own words” healthy ageing in late modernity: an analysis of the “free-text” comments from the older cohort of the Australian Longitudinal Study of Women’s Health
MPhil in Sociology and Anthropology candidate:	Mrs Lyn Adamson (Research Centre for Gender, Health and Ageing, University of Newcastle)
Supervisors:	Associate Professor John Germov, Dr Deborah Loxton and Professor Julie Byles (Research Centre for Gender, Health and Ageing, University of Newcastle)
Funding Source:	RCGHA
Expected Completion:	2011

It is intended to analyse the longitudinal qualitative data from the Older cohort of the Australian Longitudinal Study on Women’s Health to provide insights into the social experiences of ageing among women who have experienced and survived tremendous social and cultural change across the lifecourse. In addition the validation of a method of analysing free-text comments sourced from longitudinal self-response data will allow the voices of self selected group of older women from the Australian Longitudinal Study on Women’s Health to challenge the current stereotypical images of ageing and anti-ageing that dominate society. Preliminary compilation of the “free-text” comments from the Older cohort has begun. The comments from participants who completed the section “is there anything else you would like to tell us” at each of the four survey time points have been compiled into an appropriate database that allows the viewing of all the comments in an individual longitudinal manner. Work is underway to merge this information into an appropriate qualitative analytical software package for in-depth content and thematic analysis.

Project:	Prevalence, antecedents and efficacy of treatments of postnatal depression in Australia
PhD Candidate:	Mrs Catherine Chojenta (School of Medicine and Public Health, University of Newcastle)
Supervisors:	Dr Deborah Loxton (Research Centre for Gender, Health and Ageing, University of Newcastle) and Dr Jayne Lucke (School of Population Health, University of Queensland)
Funding source:	None
Expected completion:	December 2012

Introduction: Depressive episodes are the most common form of morbidity after childbirth. The reported prevalence of postnatal depression (PND) among Australian mothers is placed somewhere between 10-20%. The consequences of PND to the mother include neglect of the child, relationship breakdown, increased risk of suicidal ideation and self harm. Both psychosocial and childbirth experiences have been found to precede the onset of PND, however many of the past studies into PND have

not been able to incorporate a wide spectrum of risk factors in one analysis. The ALSWH provides a unique opportunity to examine the patterns of prevalence of PND over an 11 year period and the longitudinal antecedents of PND among young Australian women.

Methods: An examination of data collected from the first 4 waves of the Younger cohort surveys conducted by the Australian Longitudinal Study on Women’s Health is currently underway.

Results: At Survey 4 in 2006, 37% of participants who had completed all four surveys had given birth to a child in the four years preceding the Survey. 9.8% of these women reported being diagnosed or treated for postnatal depression in the last three years. A range of antecedents of PND were investigated such as socioeconomic factors, life events, social support and previous diagnoses of depression and anxiety. Of note, women who were diagnosed or treated for depression at Survey 2 or 3 were three times more likely than other women to report being diagnosed or treated for PND at Survey 4, and women who reported experiencing 5 or more life events at Survey 4 were also more than 3.5 times more likely to experience PND.

Discussion: Findings indicate a complex range of life events, and other mental health diagnoses precede a diagnosis of PND.

Project:	An examination of trends in young women’s sexual and reproductive health over ten years
PhD Candidate:	Ms Danielle Herbert (School of Population Health, University of Queensland)
Supervisors:	Professor Annette Dobson and Dr Jayne Lucke (School of Population Health, University of Queensland)
Funding source:	University of Queensland mid-Year Scholarship
Expected completion:	July 2010

Objectives: The purpose of this project is to systematically examine trends in young women’s sexual and reproductive health (SRH) over ten years, spanning the first four surveys of the Younger cohort of the Australian Longitudinal Study of Women’s Health (ALSWH). The main focus is the analysis of SRH as predictors of fertility and subfertility. This project is currently in Phase 1 of the research plan.

Phase 1: Description of trends from Survey 1 (1996) to 4 (2006).

Little research has examined total pregnancy loss in a general population. Data from the Younger cohort (Surveys 1, 2, 3 and 4) has provided the opportunity to quantify pregnancy loss otherwise unobtainable at a national level. Women were categorised by pregnancy outcomes (birth, miscarriage/stillbirth, termination/ectopic) and reproductive trajectories (birth, loss). Associations between trajectories and age were analysed by logistic regression.

Progress: A paper titled: Pregnancy losses in young Australian women, has been submitted. An abstract has been accepted for presentation at the Population Health Congress to be held in Brisbane in July 2008.

The second part of Phase 1 analysis is focussed on miscarriage or termination of pregnancy. The most common types of pregnancy loss are miscarriages and terminations. The objective of the study is to combine and compare miscarriage against termination as a measure of fertility/infertility; based on reproductive and gynaecological variables. The main focus is the Young cohort and the comparison group is the Mid-age cohort to allow analysis of generational differences.

Progress: Preliminary analysis has started; awaiting access to Survey 5 data (2007) from the Mid-age cohort (due April 2008).

Phase 2: How does early sexual and reproductive health influence later reproductive health outcomes?

The trends identified from the ALSWH surveys (Phase 1) will be compared with the sexual and reproductive histories of women presenting to infertility specialists with primary or secondary infertility. The ability to conceive and/or respond to assisted reproduction technology (ART) treatments may be determined by individual sexual and reproductive histories.

Progress: An application for ethical clearance has been submitted to UQ Medical Research Ethics Committee for approval to survey women seeking fertility treatment.

Project:	Socioeconomic inequalities in women's use of health care services in Australia
PhD Candidate:	Ms Rosemary Korda (National Centre for Epidemiology and Population Health, The Australian National University)
Supervisors:	Supervisors: Professor Jim Butler (Australian Centre for Economic Research on Health, The Australian National University); Dr Mark Clements, and Dr Emily Banks (National Centre for Epidemiology and Population Health, The Australian National University) Advisor: Dr Jane Dixon (National Centre for Epidemiology and Population Health, The Australian National University). ALSWH Collaborator: Dr Anne Young (University of Newcastle)
Funding Source:	Australian Postgraduate Award (APA) and NCEPH supplementary scholarship
Expected Completion:	Early 2008

This project forms part of a PhD thesis on socioeconomic inequality in the use of health care in Australia, and the impact on health outcomes. The purpose of this research is to investigate whether or not there are inequalities in health care based on a

person's socioeconomic status (SES, as measured by income, occupational and educational status, as well as area-level measures of SES).

The results from this project (described in the December 2007 report) were included in the PhD thesis which was submitted in March 2008 and papers are currently being drafted for submission to peer reviewed journals.

Project:	Diet quality in young Australian women according to pregnancy status
PhD Candidate:	Ms Alexis Hure (School of Health Sciences, University of Newcastle)
Supervisors:	Dr Clare Collins (School of Health Sciences, University of Newcastle), Dr Anne Young (ALSWH, University of Newcastle) and Professor Roger Smith (Mothers and Babies Research Centre, University of Newcastle)
Funding Source:	None
Expected Completion:	December 2008

Objective: To investigate and report the diet quality of young Australian women by pregnancy status.

Study design/setting: In 2003, 8965 Australian women aged 25 to 30 years completed Survey 3 of the Australian Longitudinal Study on Women's Health and provided data for this study. Of particular interest is dietary intake which was assessed by the Cancer Council of Victoria's Dietary Questionnaire for Epidemiological Studies (DQES) Version 2. Pregnancy status was defined as: pregnant; pregnant and had a baby within the previous 12 months; had a baby within the previous 12 months and trying to conceive; trying to conceive; had a baby in the last 12 months; and other. Diet quality was assessed using the Australian Recommended Food Score (ARFS) methodology. Dietary intakes were compared with Nutrient Reference Values. An investigation into the component food group scores for the ARFS was undertaken to detect where, if any, specific dietary differences between pregnancy groups exist.

Results: Pregnancy status was predictive of diet quality, after adjusting for confounders ($p < 0.001$). Despite statistical significance, the absolute differences between pregnant and non-pregnant groups were small. Pregnant women and those who had given birth in the previous 12 months had slightly higher ARFSs (mean (SE) 29.7 (0.4) and 29.7 (0.3) respectively) than 'other' women (28.4 (0.1)). Across all groups there were important nutrients that did not meet the current nationally recommended levels of intake, including dietary folate.

Progress: Women appear to consume a different diet when they are pregnant and the effect continues for the following 12 months. However, the absolute difference is surprisingly small. Despite the alterations in diet at the time of pregnancy, many women fail to meet key nutrient targets that are recommended nationally. A manuscript with full details of the methodology and results is currently under review.

2. CONDUCT OF SURVEYS

2.1 Mid Survey 5 – Completion of data collection

Survey 5 of the Mid-age cohort was carried out in 2007 when the women were aged 56 to 61 years. The development, piloting, mailout and data collection were described in the Technical Reports 26 to 29. Table 2-1 outlines the current response rates to Survey 5 of the Mid-age cohort. A few surveys are still being received and will continue to be incorporated into the data set until the cut off date of 31st August 2008.

Table 2-1 Response rates for Survey 5 of the Mid-age cohort (at 15 April 2008)

	N	%
Completed surveys	10,630	85.4
Deceased	14	0.1
Withdrawn	241	1.9
Not this time	265	2.1
No response	1,301	10.4
Total mailed	12,451	100

2.2 Older Survey 5 – Mailout and data collection

Following the process of development and piloting described in Technical Reports 28 and 29, Survey 5 for the Older cohort was finalized in late December 2007. The University of Newcastle and University of Queensland Human Research Ethics Committees approved the survey, which was mailed out by Datatime Services Pty Ltd according to the timetable in Table 2-2. Survey 5 of the Older cohort, the Targeted Reminder leaflet and the Thank You leaflet are included in Appendix 3. Table 2-3 gives the current response rates for Survey 5 of the Older cohort. Table 2-4 lists all items included in Survey 5 of the older cohort, showing their source and their relationship with previous surveys of the Older cohort. Table 2-5 illustrates the item deletions from Survey 4 to 5 of the Older group.

Table 2-2 Timetable for Survey 5 of the Older cohort (at 15 April 2008).

Date	Mailout	Items	Number
17 March 2008	Mailout 1	Package mailed including survey, reply-paid envelope, letter of invitation and change of details card	6,998 mailed
24 April 2008	Mailout 2	Reminder leaflet mailed to all in Mailout 1, except recent withdrawals, those not wishing to participate in this survey and respondents	As required
23 May 2008	Mailout 3	Reminder leaflet as for Mailout 2	As required
May - December 2008	Mailout 4	Thank you leaflet to all respondents	As required
May - October 2008	Extra mailouts	Packages will be mailed (as for Mailout 1) to: those previously not sent surveys because of no current contact details, who have since given new contact details; those who elected to have telephone interviews; those who rang to say they received a reminder but did not receive the first survey; those who have been tracked following return-to-sender	As required
June – August 2008	Phone reminder	Reminder phone calls to all non-respondents will be carried out	As required

Table 2-3 Response rates from Survey 5 of the Older cohort (at 15 April 2008).

	N	%
Completed surveys	1,618	23.1
Deceased	19	0.3
Withdrawn	28	0.4
Not this time	14	0.2
No response	5,319	76.0
Total mailed	6,998	100

Table 2-4 Sources of Items, Additions & Changes in Survey 5 of the Older Cohort

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main			Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	Is it an additional item? Why?	
1	Conditions	Came from NHS, piloted and evolved through OLD 1,2,3,4	O1 O2 O3 O4*	Yes, rheumatoid arthritis and other arthritis were removed. Glaucoma, macular degeneration and Parkinson's were added.			no
2	Operations and procedures	WHA, then revised from National Estimates in Aust. Health Care Study Database 1995	O1* O2 O3 O4	Heart surgery (heart bypass, angioplasty, angiography) was deleted hysterectomy, repair of prolapsed vagina bladder or bowel were added Question stem was changed to "have you had any of the following operations or procedures?" With response option being "in the last 3 years". Other eye surgery and cataract were combined Hip surgery was split into two options, 'hip surgery for hip replacement' and 'hip surgery for broken hip'			Knee surgery or arthroscopy was deleted for the pilot but added back in for the main survey. Response option of "more than three years ago" was a second option in the pilot but was deleted for the main survey leaving only the response "in the last three years" "Please write on line" was deleted for the option of other surgery
3	Dr Visits	Modified from ABS 1989-90 National Health Survey	O1 O2 O3 O4				No

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main		Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	
4	Hospital admissions	Modified from Australian Bureau of Statistics (1991) 1989-1990 National health survey users' guide. Canberra: ABS. Cat No. 4363.0 Then revised from WHA survey 1 data for further differentiation.	O1 O2* O3* O4	yes instructions changed from 'mark one only' to 'mark all that apply' response of 'yes day only' was changed to 'yes but I did not spend the night' 'I' was added to yes (i) spent at least one night.		No
5	Other HCP visits	Modified from ABS 1989-90 National Health Survey	O1* O2* O3* O4*	A hospital doctor, a specialist doctor, optician and dentist were deleted. Occupational therapist was added	Yes but is comprised of a modified version of Q4 from Old 3	An alternative health practitioner e.g. herbalist, chiropractor, naturopath and acupuncturist etc. Was deleted from the old 5 pilot but put back in for the main survey.
6	Insurance coverage	Modified from Australian Bureau of Statistics (1991) 1989-1990 National health survey users' guide. Canberra: ABS. Cat No. 4363.0 Then revised from WHA survey 1 data for further differentiation.	O1* O2* O3* O4	No		No
7-17	SF-36	Ware, J.E., & Sherbourne, C.D. (1992) The MOS 36-Item Short-Form Health Survey (SF-36): 1. Conceptual framework and item selection, Medical Care, 30(6): 473-483.	O1 O2 O3 O4	No		No

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main			Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	Is it an additional item? Why?	
18	Height		O1* O2* O3* O4*	No			No
19	Weight		O1 O2 O3 O4	Three boxes are given for participants to write pounds in instead of the two that were given in Old 4			Yes an additional box was made available for pounds.
20	Sleep	Baum, F.E. & Cooke, R.D. (1989). Community-health needs assessment: use of the Nottingham health profile in an Australian study. The Medical Journal of Australia, Vol. 150, pp 581-590.	O2 O3 O4				
21	Disability item	Charlton, J.R.H, Patrick, D.L., & Peach, H. (1983). Use of multivariate measures of disability in health surveys. Journal of Epidemiology and Community Health, 37, 296-304. (Part m to p, modified slightly).	O2 O3*		This is an additional item which replaces the eyesight, hearing and hearing aid questions from old 4 with an item used previously and approved by HREC in 99 (q17) the replacement was made to incorporate all items into one question		No
22	DOB		O1 O2 O3 O4				

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main		Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it an additional item? Why?	
23	Symptoms	WHA	O1 O2* O3 O4	<p>Deletions:</p> <ul style="list-style-type: none"> • allergies, hay fever, sinusitis • skin problems • headaches/ migraines • severe tiredness • haemorrhoids (piles) • other bowel problems • clumsiness • tremor/shakes • rushing to the toilet to pass urine 		
24	Medicine packaging	WHA	no		Yes- to assess activities of daily living	<p>Still in its original individual containers was changed to still in its original packaging.</p> <p>Packaged another way and the option of answering on a line was removed and replaced with I do not take medication</p> <p>E.g. Webster pack was added after the option already prepared in your daily doses.</p>

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main			Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	Is it an additional item? Why?	
25-28	Revised urinary incontinence scale	Sandvik H, Seim A, Vanvik A & Hunskaar S (2000) A severity index for epidemiological surveys of female urinary incontinence: Comparison with 48-hour pad-weighting tests. Neurology and urodynamics. Vol 19, pp. 137-145. Uebersax J, Wyman J, Shumaker S, McClish D, Fantl J and The Continence Program for women research group (1995) short forms to assess life quality and symptom distress for urinary incontinence in women: The Incontinence Impact Questionnaire and the Urogenital Inventory. Neurology and Urodynamics 14 pp131-139.	no				Yes, in the pilot the Revised urinary incontinence scale was used (Sansoni J, Marosszeky N, Sansoni E & Hawthorne G, 2006) Refining continence measurement tools. (draft report) Centre for Health Service Development, University of Wollongong and Department of Psychiatry, The University of Melbourne. However, this was only the draft version which had not been finalized by the main survey so we reverted to the original RUIS as outlined in Sandvik (2004) and Uebersax (1995)
29	Faecal incontinence scale	Jorge JMN & Wexner SD (1993) Etiology and management of faecal incontinence. Dis Colon Rectum, Vol. 36, pp. 77-97	no				Yes the entire scale was used instead of only 2 questions from the scale used in the pilot as it did not take up any extra space due to formatting changes and would offer larger levels of data.

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main			Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	Is it an additional item? Why?	
30	Memory	Crook III, T. M., Feher, E. P., & Larrabee, G. J. (1992). Assessment of memory complaint in age-associated memory impairment: The MAC-Q. International Psychogeriatrics, 4(2), 165-176. (Revised by WHA for Australian sample)	O3 O4	no			no
31	Falls and injury	Lynnette MacKenzie – Modified from DVA trial 1997	O2 O3 O4	no			no
32	Life events	Revised and extended from Modified Norbeck, J.S. (1984). Modification of live event questionnaires for use with female respondents. Research in Nursing and Health, 7, 61-71.	O1* O2* O3 O4	Death of child was moved to below death of spouse or partner			Line spacing was increased between options
33-34	Physical activity	Active Australia Armstrong, T, Bauman A, Davies J. (2000) Physical activity patterns of Australian adults: results of the 1999 National Physical Activity Survey. AIHW Canberra	O1* O2 O3 O4				
35-36	Vegetables/fruit	WHA	O4				
37	Fluids	WHA	O4				

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main		Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it an additional item? Why?	
38	Service use	Modified from Jorm, A. F., Henderson, S., Scott, R., Mackinnon, A. J., Korten, A. E. and Christensen, H. (1993). The disabled elderly living in the community: Care received from family and formal services. Medical Journal of Australia, 158, 383-388. Modified using DVA data	O2 O3 O4			
39	Transport	WHA	O3 O4			
40	Mobility	WHA	no		Yes Limitations to mobility can have a serious impact on quality of life. This item was added to gauge women's mobility and the types of aids they are using to assist with mobility	Walking frame was changed to walking or wheeled frame. Walking stick/podstick/pylon was changed to walking or quad stick Four point stick/quad stick Crutch or crutches Other please write on line were deleted A n/a column was added as a response option.
41	Difficulty with transport	WHA	O4			A N/A column was added as a response option
42	Need for care	Modified from Australian Bureau of Statistics (1993) Disability, Aging and Carers Australia. Canberra: ABS. Cat. No. 4432.0	O1 O2 O3 O4			

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main			Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	Is it an additional item? Why?	
43	Difficulty with daily tasks (ADL/IADL)	Leigh Tooth adapted– Gill scale – Gill, McGloin, Gahbauer, Shepard, Bianco (2001) Two recruitment strategies for a clinical trial of physically frail community-living older persons. JAGS 49: 1039-1045	O4				
44	Help with daily tasks (ADL/IADL)	Leigh Tooth adapted– Gill scale – Gill, McGloin, Gahbauer, Shepard, Bianco (2001) Two recruitment strategies for a clinical trial of physically frail community-living older persons. JAGS 49: 1039-1045	O4				
45	PCODE		O1 O2 O3 O4				
46	Housing	WHA modified ABS (1993) 1996 Census of population and housing: Nature and content of the census. Canberra: ABS. Cat No. 2008.0.	O1* O2 O3 O4				
47	Who lives with you	Modified from ABS (1994) Australian Housing Survey: User Guide. Canberra: ABS. Cat No. 4180.0	O1 O2 O3 O4				
48	Volunteer	WHA	O2 O3 O4				

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main			Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	Is it an additional item? Why?	
49	Manage on income	WHA	O1 O2 O3 O4				
50	Marital status	Modified from ABS (1993) 1996 Census of population and housing: Nature and content of the census. Canberra: ABS. Cat No. 2008.0.	O1 O2 O3 O4				
51	Bereavement date	WHA	O3* O4	Yes in Old 4 the question was 'if you have been widowed in the last three years, please write the date of bereavement on this line. In Old5 the question changed to 'in the past three years have you been widowed' with response options yes and no			no
52	Providing care	Modified from Australian Bureau of Statistics (1993) Disability, Aging and Carers Australia. Canberra: ABS. Cat. No. 4432.0	O1 O2 O3 O4				
53	Care for children	WHA	O2 O3 O4				

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main		Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	
54	Expressive and instrumental support	Adapted from items used in the MacArthur studies of successful aging – Gurung et al (2003) Accounting for changes in social support among married older adults. Psych & Aging, 18, 487-496.	O4 but similar issues were covered in old1,2 & 3			
55	Discrimination	Ageism survey developed by Palmore (2001)	no			Yes, discrimination is not uncommon in the community and has been an issue raised in the national strategy for an ageing Australia. The Department of Health and Ageing recommended that discrimination be measured and assessed for its significance in long term health outcomes.

O5 Item No	Topic	Source	Was item in previous old surveys?	O4 Main to O5 Main		Has the item changed from O5 Pilot to O5 Main? Why?
				Has the item changed? Why?	Is it replacing an item? Why?	
56	Elder abuse	Hwalek, M.A., & Sengstock, M.C. (1986). Assessing the probability of abuse of the elderly: Toward development of a clinical screening instrument. <i>Journal of Applied Gerontology</i> , 5(2), 153-173.	O1 O2* O3*		Yes, the use of elder abuse increased with age and is a key area that has been the subject of limited research. The VASS elder abuse scale was included in old 3 but not in old4. For the fifth survey, six of the VASS items were included that measure dejection which is predictive of mental health vulnerability.	no
57-58	Leisure	Widows survey	O4	Computer/internet was added.		Yes/ no options were removed and a line only was left for participants to write their response to 'other'

O5 Item No	Topic	Source	Was item in previous old surveys?	Has the item changed? Why?	O4 Main to O5 Main		Has the item changed from O5 Pilot to O5 Main? Why?
					Is it replacing an item? Why?	Is it an additional item? Why?	
59-60	Proxy		O3* O4*	Yes, the three questions which comprised the proxy questions in O4 were deleted and the direction of the new questions were changed so it asked the participant if anyone helped them as opposed to Old4 where the person who helped them fill in the survey was asked. So the new questions became 'did someone help you fill in this survey' and 'what was the main reason for you needing help to fill in this survey'			

Table 2-5 Deletions from Survey 4 to Survey 5 of the Older Cohort

O4 Item No	Topic
5, 6	Access to specialists
8	Vaccinations
9	Dentists
28	Eyesight
29	Oral health
30	Hearing aids
31	Hearing
34	Anxiety and depression (GADS) scale
36, 37a, 37b	Arthritis/stiffness/pain.
45	Public transport
47	Travel
55	Source of income
59	Husband's gold card
60-63	Social support network subscale
69	Medications

2.3 Younger Survey 5 – Planning and development

Preparation for the Survey 5 of the Younger cohort, which is scheduled to be mailed in March 2009, began in March 2008. The younger women will be aged between 31 and 36 years. A meeting of the research team, stakeholders and interested parties was held on 11th March 2008 to make decisions about possible changes to Survey 5 of the Younger cohort. Restrictions on modification include the necessity of maintaining consistency for longitudinal analysis; a perception that a very long survey might be unacceptable to many respondents; and additional costs for printing and postage of a longer survey. At the same time, it appeared clear that there was a need to make some modifications to acknowledge the changing personal circumstances of women in the cohort.

The Survey will, as usual, be submitted to Human Research Ethics Committees for approval and piloted with the Younger Pilot cohort in the second half of 2008.

Drafting and final decision-making on content for the pilot Survey 5 of the Younger cohort is currently in progress, and the process will be described in detail in the December 2008 Technical Report.

3. METHODOLOGICAL ISSUES

3.1 Missing scripts in the Pharmaceutical Benefits Scheme data

Authors: Janneke Berecki, Richard Hockey and Annette Dobson

3.1.1 Introduction

The main purpose of the Pharmaceutical Benefits Scheme (PBS) is to provide the Australian community with reliable, timely access to appropriate and affordable prescription medications at the lowest cost to the Government and consumers. Currently, the Government subsidises the cost of approximately 4900 products that are available to the Australian public through the PBS (Department of Health and Ageing, 2008). Medications not covered by the PBS include those that are purchased over the counter, provided in hospital, or purchased without subsidy (including herbal, vitamin and minerals and other alternative-type medications).

For all drugs dispensed via the PBS, the available data include the substance and number prescribed, number of repeats, date of prescription, date each script was filled the provider specialty and additional information such as safety net status.

3.1.1.1 Definitions

‘Prescription’ refers to the directions for the preparation and use of a medicine, written by the physician to the pharmacist. If a prescription contains repeats, the same medication can be obtained a number of times from that prescription. We refer to this as ‘script filling’. Up to six scripts can be filled per prescription, depending on the directions of the doctor. Each new prescription appeared in the data as ‘number previously (numprev) = 0’. With each repeat filled from a prescription, the ‘number previously’ went up by one. With each new prescription the ‘number previously’ was reset to zero.

Missing scripts

We define missing scripts as scripts which we presume were filled but failed to appear in the data. If a prescription had 5 repeats and after 3 scripts the prescription was discarded, the unused scripts are not considered as missing, because they were never filled. By this definition, missing entries may appear in the data as gaps in script filling, i.e. the sequence might run [01245] where the fourth script is missing, or [12] where the first script is missing. In the latter example, the fourth, or even the fourth and fifth scripts may also be missing; it cannot be confirmed if this is the case. Single scripts which are missing cannot be confirmed. Missing scripts may be due to administrative error, for example if the pharmacist fails to submit a claim, or if the claim was not entered into the PBS database.

Missing scripts due to the safety net

Missing scripts within a prescription with multiple repeats could also be due to patients’ getting off the safety net at the start of a new year. For general patients, when the safety net is reached (at a total of \$708.40 spent on script filling by a family within the calendar year), the threshold for a benefit is lowered from \$23.10 to \$3.70 per script. Thresholds change annually; those presented here are from 2003. An example of how this results in gaps in the PBS data is as follows: in December a general patient in the safety net is prescribed a medication, full cost \$15, with 5 repeats. The patient fills it twice before the end of the year and receives a benefit. In

January the patient goes off the safety net and fills the next two scripts without a benefit, therefore this does not appear in the PBS data. If by the fifth script the patient is back on the safety net, the last two scripts appear in the PBS data, resulting in 'number previously' = [0145]. This type of gap only appears if (1) the full price of the medication is below general patients' own contribution; (2) the prescription spans two calendar years and (3) the patient is on-off-on the safety net.

3.1.1.2 Aim of this analysis

The purpose of the present analysis is to find the percentage of scripts missing due to administrative error. Assuming this type of error to be independent of price, we analysed only medications of more than \$30, which excludes gaps due to transitions in safety net status.

3.1.2 Methods

3.1.2.1 Data

PBS claims entries were collected of all women who consented to data linkage, in 2002, 2003, 2004 and 2005. Therefore all medications with a PBS claim, filled at an Australian pharmacy by 4376 women in the Younger cohort, 7318 in the Mid-aged cohort and 5752 in the Older cohort appeared in the PBS data set. All PBS data with a full price of \$30 dollars or more were selected. Analyses were run per year in which the medications were prescribed (this predates script filling).

3.1.2.2 Model

An example of missing scripts is given in Table 3-1. In the actual PBS data the 'data with scripts missing' is the equivalent of 'number previously' (numprev). For analysis purposes, counting starts at 1 rather than 0. Transition in shading indicates a new prescription 'i'.

Table 3-1 Example of missing scripts

Full data	Data with scripts missing	Number of scripts appearing for prescription i (n _i)	Maximum repeat appearing for i (m _i)	Missing end scripts for i (not appearing in data) (e _i)
1	1			
2	2			
3	3			
4	4			
5		4	4	1
1	1	1	1	0
1	1			
2	2			
3				
4	4			
5	5			
6	6	5	6	0
1	1			
2				
3	3	2	3	0
1	1			
2	2			
3	3			
4		3	3	1
1	1	1	1	0
1				1
1	1			
2	2			
3	3			
4		3	3	1

For each prescription i where n_i is number of entries counted, m_i is the highest recorded entry and e_i is the missing end of prescription, i.e. the number of entries in the original data located at the end of the sequence, which did not appear in the final data set. The proportion of data missing, x, can be estimated using the following equations. For i=1 to the last prescription K,

$$x = \frac{\sum e_i + \sum (m_i - n_i)}{\sum e_i + \sum m_i}$$

where for script number j=1 to ∞

$$e_i = \sum x^j$$

The equation can be simplified by substituting the limit for a geometric series

$$e_i = \frac{x}{1-x}$$

and substituting for prescription i=1 to K,

$$N = \sum n_i \text{ and } M = \sum m_i$$

Resulting in $x = \frac{N - M}{K - M}$

3.1.3 Results

Selecting drugs with full price of \$30 or more, analysis of the entire PBS database resulted in Table 3-2. For each year of prescription, the number of scripts is shown, and the number of scripts as a percentage of all scripts filled by the women who consented to data linkage. The estimated percentage of missing scripts is also shown. For prescriptions issued in 2001, approximately half the scripts are missing. This is because the data starts with scripts filled in 2002; all prescriptions issued in 2001 are therefore carried into 2002. Of prescriptions issued in 2005, the estimated percentage of scripts missing is greater than in 2002, 2003 and 2004 (percentage of scripts missing in 2005 vs. 2004 is 3.19% vs. 2.03%, resp., difference 1.2% [95% CI 1.1 to 1.2]). This is because scripts filling data collection ends at the end of 2005; this artificial cut-off results in an overestimation of missing data for 2005 (toward the end of the year, the number of repeats filled becomes disproportionately short).

Table 3-2 Number of scripts and percentage missing per year

Year of prescription	Number (% of all prescriptions)	Estimated percentage missing
2001	59843 (4.7)	55
2002	304606 (24)	2.24
2003	323679 (25)	2.05
2004	335118 (26)	2.03
2005	257851 (20)	3.19

3.1.4 Conclusions for data users

Missing data key points

Start and end of the PBS data base

1. The PBS data from 2002, 2003, 2004 and 2005 are script filling data. Some of these will be repeats of a prescription from 2001. To select only new prescriptions, select [year(date_presc)>2001].
2. Script filling data ends in 2005. This means that the number of repeats filled per prescription appears to be smaller in 2005 because data collection ends.

Medication cost and safety net

3. Medications costing less than the patient contribution appear when a patient is on safety net and disappear when they are off it (at the start of each new year, safety net status is reset).

Seemingly random missing data

4. Around 2.0 to 2.2% of PBS claims data is missing, apparently in random fashion, presumably due to administrative error.
5. Gaps in repeat sequences ('number previously') can be corrected by imputation.
6. The length of repeat sequences as well as the number of single scripts is underestimated due to missing data; this cannot be imputed.

For more information on safety net:

<http://www.pbs.gov.au/html/healthpro/browseby/explanatory-notes?ref=section1-safetynet>

For current and previous schedules of pharmaceutical benefits:

<http://www.pbs.gov.au/html/healthpro/publication/archive>

3.2 Data dictionary: activities of daily living

Age Cohorts	Older
Surveys	Surveys 1, 2, 3, 4
Definition	Generic help with activities of daily living
Statistical form	Categorical variable

Age cohorts	Older
Surveys	Old 4
Definition	Difficulty with activities of daily living
Statistical form	Categorical variable
Definition	Need help with specific activities of daily living
Statistical form	Categorical variable
Prepared by	Leigh Tooth

3.2.1 Background

The ability to perform activities of daily living such as washing, dressing, toileting, walking and getting on and off chairs/beds, are key factors for maintaining independent community living for older people¹. The development of disability in activities of daily living in older people has been linked with increased need for services, admission to residential care facilities and higher risk of mortality².

The ALSWH has used a generic item of overall ability in activities of daily living in all surveys. To capture the evolution of difficulty in performing activities of daily living as the Older women enter their 80s and 90s, more in-depth questions of ADL ability are being asked.

3.2.2 Source items

3.2.2.1 Generic help with activities of daily living

The generic question used in all Older surveys is “Do you regularly NEED help with daily tasks because of long-term illness, disability or frailty (*eg. personal care, getting around, preparing meals etc.*)? Responses: Yes, No.

This question is sourced from the Australian Bureau of Statistics 1993 Survey on Disability, Ageing and Carers.

3.2.2.2 Need help with specific activities of daily living

The more specific questions used in the Older Surveys 4 and 5 are designed to measure two constructs, difficulty and dependence. The two questions ask respondents about eight basic (or personal) activities of daily living (grooming, eating, bathing, dressing upper body, dressing lower body, getting up from chair, walking, toileting) and eight extended (or instrumental) activities of daily living (shopping, light housework, heavy housework, managing money, preparing meals, medications, telephone, leisure). In the first question, respondents are asked the degree of

¹Gill T, Robison J, Tinetti M. Difficulty and dependence: Two components of the disability continuum among community-living older persons. *Ann Int Med* 1998;128(2):96-101.

²Gill T, Kurland B. The burden and patterns of disability in activities of daily living among community-living older persons. *J Gerontology* 2003;58A(1):70-75.

‘difficulty’ associated with performing the activities. This question is designed to identify difficulty as opposed to dependence, i.e. a woman may have difficulty doing a task but not be dependent upon another person for assistance. The second question assesses dependence (or help required from another person) to perform the tasks. Together, the two constructs paint a fuller picture of the continuum of disability³. The questions and response options were informed by Gill et al¹.

The presence of ‘difficulty with’ but not ‘dependence in’ task performance may identify a pre-clinical, intermediate phase of disablement, which may predict future disablement⁴, death and increased use of health services¹.

Difficulty question “In the last month HAVE YOU HAD ANY DIFFICULTY (for example, needing to take extra time, changing the activity or using a device to help you) in completing any of these activities?”

Grooming (eg brushing hair, applying make-up)

Eating (eg cutting meat, lifting glass or cup, opening milk carton)

Bathing or taking a shower

Dressing your upper body

Dressing your lower body

Getting up from a chair

Walking inside the house

Using the toilet

Shopping for personal items or groceries

Doing light housework (eg cleaning, washing-up)

Doing heavy housework (eg vacuuming, yard work)

Managing money (eg writing cheques or keeping accounts)

Preparing meals

Taking medications

Using the telephone

Doing leisure activities or hobbies

Responses: No difficulty, Some difficulty, Unable to do

³ Gill T, Robison J, Tinetti M. Difficulty and dependence: Two components of the disability continuum among community-living older persons. *Ann Int Med* 1998;128(2):96-101

⁴ Fried L, Bandeen-Roche K, Chaves P, Johnson B. Preclinical disability predicts incident mobility disability in older women. *J Gerontol* 2000;55A(1):M43-M52.

Dependence Question “In the last month have you needed HELP FROM ANOTHER PERSON to carry out any of these activities?” Responses: Yes, No

3.2.2.3 Scoring

Scores are created for each activity by assigning

- 0 no difficulty
- 1 for difficulty but no help required
- 2 help required

Summary ADL scores for the eight basic ADLs range from 0 – 16.

Summary IADL scores for the eight extended IADLs range from 0 – 16.

3.3 Composite Abuse Scale

Author: David Fitzgerald

This report examines the responses to questions relating to partner abuse, as used in the fourth Survey for the Younger cohort in ALSWH. The data were investigated using factor analysis to see whether they agreed with the subscales that had been assigned to the items. The outline of this report is as follows:

- Background and description of question items and their source
- Summary of the data
- Factor Analysis of data using various methods
- Concluding remarks.

3.3.1 Background

The fourth Survey for Younger women included a full-page question on partner abuse, asked for the first time in the Survey. This derived from work from Hegarty, Bush, and Sheehan (2005) on a Composite Abuse Scale. Hegarty et al produced a 30-Item Scale with 4 sub-scales. The ALSWH questionnaire used this Scale with 3 of the items collapsed into a single item. The scale thus had 28 items. The 3 collapsed items were all in the Severe sub-scale. Our data were analysed for a comparison with the Hegarty’s scales with a view to validate Hegarty’s work, achieve data reduction, and to review the continued use of these questions in the ALSWH survey.

The women in the ALWSH fourth Survey for Younger women were aged from 28 to 32 years. They were only asked about partner abuse if they had reported having had a partner within the last 12 months. Of the 9145 responses 7872 had had a partner in the last 12 months and were eligible to answer.

The 3 items from Hegarty and colleagues scales that were collapsed into one item in the ALSWH survey were: Put foreign objects in my vagina; Raped me; Tried to rape me. The item replacing these was ‘Partner forced me to take part in unwanted sexual activity’. The 3 items from Hegarty et al were all part of the Severe Abuse subscale.

3.3.2 Item responses

The distribution of responses to the 28 items is shown in Table 3.3. ‘Never’ was the highest category in all the items by a very large margin. It was consistently near 90% or higher. The items in the Severe and Harassment subscale had ‘Never’ at close to 100%. ‘Once’ and ‘Several times’ were reported in the low single-digit percents for

the items in the Emotional Abuse subscale. The other sub-scales had very few items with any frequencies above 1%.

The percent missing was close to 1% for all items. Ninety seven percent of the women responded to all questions. The table was sorted by Hegarty's et al subscales. The first column of Table 3-3 shows the letter order used in the ALSWH Survey.

Table 3-3 Distribution (S) and mean/SD of responses and percent missing for 28 Composite Abuse Scale of Young Survey 4 (n= 7872)

item	Question	Subscale	Never	Once only	Several times	Once/ month	Once/ week	Daily	Mean	SD	Percent missing (%)
a	Partner told me I wasn't good enough	Emotional	90.40	3.21	5.01	0.45	0.67	0.26	0.19	0.64	1.13
d	Partner turned family/friend/children against me	Emotional	97.30	0.95	1.39	0.13	0.10	0.13	0.05	0.35	1.14
h	Partner told me that I was ugly	Emotional	96.71	1.41	1.47	0.13	0.17	0.12	0.06	0.37	1.17
i	Partner tried to keep me from seeing or talking to family	Emotional	97.53	0.76	1.45	0.04	0.10	0.12	0.05	0.33	1.12
l	Partner blamed me for causing their violent behaviour	Emotional	94.62	1.77	2.94	0.22	0.21	0.24	0.10	0.49	1.13
r	Partner became upset if dinner/housework not done	Emotional	88.78	3.31	6.23	0.78	0.62	0.28	0.22	0.69	1.05
s	Partner told me that I was crazy	Emotional	89.21	3.67	5.68	0.68	0.42	0.33	0.20	0.66	1.09
t	Partner told no one would ever want me	Emotional	96.57	1.09	1.77	0.18	0.15	0.23	0.07	0.42	1.18
w	Partner did not want me to socialise with female friends	Emotional	93.43	1.94	3.84	0.28	0.24	0.26	0.13	0.53	1.16

item	Question	Subscale	Never	Once only	Several times	Once/month	Once/week	Daily	Mean	SD	Percent missing (%)
z	Partner tried to convince friends/family/children I was crazy	Emotional	98.50	0.51	0.68	0.10	0.10	0.10	0.03	0.29	1.07
aa	Partner told me I was stupid	Emotional	91.43	2.47	4.89	0.51	0.42	0.27	0.17	0.61	1.08
			97.98	0.73	0.98	0.09	0.09	0.13			
c	Partner followed me	Harassment	98.68	0.53	0.68	0.03	0.04	0.05	0.04	0.32	1.18
k	Partner hung around outside my house	Harassment	96.01	0.85	2.36	0.21	0.31	0.27	0.02	0.23	1.16
m	Partner harassed me over the telephone	Harassment	98.47	0.51	0.80	0.06	0.09	0.06	0.09	0.48	1.05
o	Partner harassed me at work	Harassment	97.30	1.58	0.98	0.06	0.05	0.03	0.03	0.27	1.09
			98.13	1.16	0.59	0.05	0.04	0.04			
f	Partner slapped me	Physical	97.51	1.40	0.96	0.06	0.04	0.03	0.04	0.27	1.17
j	Partner threw me	Physical	93.61	3.55	2.57	0.14	0.09	0.04	0.03	0.23	1.05
n	Partner shook me	Physical	97.55	1.31	1.02	0.06	0.04	0.03	0.04	0.26	1.11
p	Partner pushed/grabbed/shoved me	Physical	98.78	0.63	0.50	0.04	0.03	0.03	0.10	0.41	1.14

item	Question	Subscale	Never	Once only	Several times	Once/month	Once/week	Daily	Mean	SD	Percent missing (%)
v	Partner hit or tried to hit me with something	Physical	99.29	0.31	0.31	0.05	0.01	0.03	0.04	0.27	1.14
y	Partner kicked/bit/hit with a fist	Physical	99.64	0.21	0.09	0.04	0.03	.	0.02	0.20	1.12
bb	Partner beat me up	Physical	99.65	0.17	0.15	0.01	0.01	.	0.01	0.17	1.09
			98.48	0.71	0.68	0.04	0.06	0.03			
b	Partner kept me from medical care	Severe	99.77	0.09	0.12	0.01	0.01	.	0.01	0.12	1.07
e	Partner locked me in the bedroom	Severe	99.15	0.53	0.26	0.01	0.05	.	0.01	0.11	1.03
g	Partner forced me to take part in unwanted sexual activity	Severe	99.32	0.27	0.28	0.01	0.03	0.09	0.03	0.23	1.13
q	Partner used knife/gun/other weapon	Severe	97.30	0.95	1.39	0.13	0.10	0.13	0.00	0.10	1.05
u	Partner took my wallet and left me stranded	Severe	96.71	1.41	1.47	0.13	0.17	0.12	0.01	0.17	1.08
x	Partner refused to let me work outside the home	Severe	97.53	0.76	1.45	0.04	0.10	0.12	0.01	0.20	1.19

3.3.3 Scale reliability

All the correlations were positive and almost all were between 0.2 and 0.7. These correlations did not suggest redundancy. Only items *y* and *bb* correlated highly, 0.79. They both dealt with similar types of abuse – physical violence. The Physical abuse items showed a higher inter-correlation than the other items. The Emotional and Harassment items mostly showed high within-correlation. The Severe Abuse items did not correlate any higher with other Severe items than with non-Severe items. The numbers reporting any severe abuse were very low, as Table 3-3 shows.

The numbers reporting any Emotional Abuse were mostly well above 100, and all Emotional items were at least 100. Harassment and Physical Abuse were mostly around 100 or slightly higher. Only item *bb*, ‘Beat me up’ was well below 100, with 55 women reporting this. Very few women reported Severe Abuse. These low numbers made any analysis difficult. The low correlations for the Severe items were not necessarily very meaningful given the very low numbers of women reporting this type of abuse.

There was internal consistency in the 28 items (Cronbach’s alpha 0.91). Streiner and Norman (1995) suggested the alpha should exceed 0.7 and be no higher than 0.9. The internal consistency, Cronbach’s alpha, is higher than the ALSWH recommended minimum of 0.6 (Young, 2001).

High correlations with item totals were maintained when individual items were deleted for the Emotional and Physical Abuse. These both met the ALSWH criteria of at least 0.5 (Young, 2001), with the single exception of item *r* in the emotional subscale. The Harassment subscale did not meet the criteria for 2 out of 4 of its items, although item *k* at 0.49 only just failed to meet the criterion. These two items, *k* and *o*, had low frequencies of any reported abuse, 103 and 119 respectively. The Severe subscale had very low correlations. None of the items met the ALSWH criteria.

3.3.4 Factor analysis

Hegarty et al (2005) used factor analysis maximum likelihood with varimax rotation. The ALSWH recommendation (Young, 2001) is to use rotated factor pattern from factor analysis principal components analysis with varimax rotation.

3.3.4.1 Maximum likelihood with varimax rotation (first factor analysis)

A Factor analysis maximum likelihood with varimax rotation was performed on responses from 7872 eligible young women completing all 28 items. This was the type of factor analysis used by Hegarty and colleagues (2005). There were four factors with eigenvalues greater than one (Table 3-4) and they explained 73%, 16%, 8%, and 5% of the variance respectively.

Table 3-4 Results of maximum likelihood factor analysis

Preliminary Eigenvalues: Total = 29.6995287 Average = 1.06069745				
	Eigenvalue	Difference	Proportion	Cumulative
1	21.79	17.17	0.73	0.73
2	4.62	2.38	0.16	0.89
3	2.24	0.75	0.08	0.96
4	1.49	0.64	0.05	1.02
5	0.85	0.39	0.03	1.04
6	0.47	0.01	0.02	1.06

Note: Only the first 6 eigenvalues are shown.

The first factor was a Physical Abuse factor. It matched completely with Hegarty and colleagues' third factor (Physical) in terms of items. It also had similar loadings for these items. The second factor was almost the same as Hegarty and colleagues' second factor (Emotional) except item *d* – 'Partner turned family/friend/children against me' – which belonged more to the third factor. Also, item *z* equally loaded to the second and third factor. The loadings for factor 2 were considerably smaller than Hegarty and colleagues' data loadings. The third factor was very similar to the Harassment factor in Hegarty and colleagues (2005). The only differences were in items *d* and *z* mentioned above. The fourth factor did not have any items associated with it. Hegarty and colleagues' Severe factor did not come out from our data. The Severe items, from Hegarty and colleagues had loadings below 0.4, except *q*, and cannot be used in the factor analysis. These items were all very skewed towards the left. They had very few non-zero information.

Overall, excepting the Severe items, all the other items agreed with Hegarty and colleagues' factors except for item *d*.

Note that ALWSH criteria have 0.5 as the minimum loading. Hegarty and colleagues used 0.4 and 0.4 was also used in this analysis (2005).

3.3.4.2 Factor analysis with principal components analysis with varimax rotation. (second factor analysis)

This is the recommended ALSWH factor analysis. Four factors were identified. The eigenvalues greater than one are shown in Table 3-5

Table 3-5 Results of principal components factor analysis

Eigenvalues of the Correlation Matrix: Total = 28 Average = 1			
Eigenvalue	Difference	Proportion	Cumulative
10.0076590	7.60	0.3574	0.3574
2.3986985	0.75	0.0857	0.4431
1.6517024	0.40	0.0590	0.5021
1.2918198	0.28	0.0461	0.5482

Note: Only those eigenvalues clearly greater than one are shown

Table 3-6 Factor loadings from principal Ccomponents with varimax rotation

Item	Question	Subscale	Factor 1	Factor 2	Factor 3	Factor 4
a	Partner told me I wasn't good enough	Emotional		0.77		
d	Partner turned family/friend/children against me	Emotional			0.52	
h	Partner told me that I was ugly	Emotional		0.65		
i	Partner tried to keep me from seeing or talking to family	Emotional				0.47
l	Partner blamed me for causing their violent behaviour	Emotional	0.42	0.56		
r	Partner became upset if dinner/housework not done	Emotional		0.57		
s	Partner told me that I was crazy	Emotional		0.67		
t	Partner told no one would ever want me	Emotional		0.66		
w	Partner did not want me to socialise with female friends	Emotional		0.42		0.41
z	Partner tried to convince friends/family/children I was crazy	Emotional				0.58
aa	Partner told me I was stupid	Emotional		0.76		
c	Partner followed me	Harassment			0.70	
k	Partner hung around outside my house	Harassment			0.68	
m	Partner harassed me over the telephone	Harassment			0.72	
o	Partner harassed me at work	Harassment			0.72	
f	Partner slapped me	Physical	0.74			
j	Partner threw me	Physical	0.76			
n	Partner shook me	Physical	0.68			
p	Partner pushed/grabbed/shoved	Physical	0.59	0.51		

	me					
v	Partner hit or tried to hit me with something	Physical	0.75			
y	Partner kicked/bit/hit with a fist	Physical	0.80			
bb	Partner beat me up	Physical	0.80			
b	Partner kept me from medical care	Severe				0.44
e	Partner locked me in the bedroom	Severe	0.43			
g	Partner forced me to take part in unwanted sexual activity	Severe		0.35		
q	Partner used knife/gun/other weapon	Severe	0.62			
u	Partner took my wallet and left me stranded	Severe				0.43
x	Partner refused to let me work outside the home	Severe				0.74

The factor loadings less than 0.4 were blanked out. The first factor was a Physical Abuse factor. The items strongly loaded for this factor were all the Physical Abuse items identified by Hegarty and colleagues (2005). Also, 2 Severe items went with this factor; item *e* weakly correlated and item *q* correlated strongly with the Physical abuse items. The second factor was an Emotional Abuse factor. The items that strongly correlated with this factor all came from Hegarty and colleagues' Emotional Abuse items, however, three of Hegarty's Emotional items correlated with other factors. These are items *d*, *i*, and *z*. Also, item *w* only weakly correlated with this factor. The third factor was a Harassment factor. All of Hegarty's Harassment items correlated with this factor, as well as item *d*. The fourth factor can be seen as an isolation factor. The items deal with keeping the woman away from other people. It did not match any of Hegarty and colleagues factors.

3.3.4.3 Comparing the 2 factor analyses

This principal component factor analysis with varimax rotation was closer to Hegarty and colleagues 4 factors than the Maximum Likelihood analysis. The Severe items were the most different in each analysis.

3.3.4.4 Communalities

Communality (the amount of variance each item shares with all other items) was estimated using varimax rotation. The ALWSH criteria suggest any items with communality of less than 0.5 should be considered for deletion (Young, 2001). Table 3.7 shows that all the Harassment and Physical Abuse items had communality estimates exceeding 0.5. Within the Emotional Abuse subscale item *r* is well below 0.5, and 3 other items, *h*, *i*, and *w*, were just below 0.5. Five of the 7 severe items were below the 0.5 criterion.

Table 3-7 Final communality estimates: Total = 15.35

Emotional Abuse

a	d	h	i	l	r	s	t	w	z	aa
0.63	0.55	0.49	0.48	0.61	0.40	0.53	0.59	0.47	0.57	0.64

Harassment

c	k	m	o
0.59	0.58	0.70	0.60

Physical

f	j	n	p	v	y
0.69	0.69	0.62	0.64	0.69	0.71

Severe

bb	b	e	g	q	u	x
0.74	0.21	0.29	0.16	0.44	0.45	0.59

Table 3-8 Correlation of factor scores and mean scores

Correlation with varimax factor score	
Subscales Scores	
Physical	0.64
Emotional	0.95
Harassment	0.87
Severe	0.37

Table 3-8 shows the Emotional and Harassment subscales correlated highly with their equivalent factors. The Physical subscale correlated weakly, but the factor loadings from the factor analyses were strong. The severe subscale did not correlate well. Since the first 3 scores in Table 3.8 did correlate well and unweighted scores are more readily available and comparable, the use of unweighted score is recommended.

3.3.4.5 Recommendations, further work

Despite the low reporting of any abuse, the ALWSH data did group into factors similar to Hegarty and colleagues data, especially the non-severe items. This initial work does suggest that further work is desirable. Further work would involve the data being tested for face validity. Also, as noted the data were very skewed to 0 and there were very few non-zero responses. Further analysis could collapse the data into dichotomous variables – Yes and No for each item. The analysis can be done on this. Latent Trait analysis may be appropriate. This may suggest that for future questionnaires it may be appropriate to only ask about whether the abuse happened, and not how frequent it was.

3.3.5 References

Hegarty K, Bush R, Sheehan M. The composite abuse scale: further development and assessment of reliability and validity of a multidimensional partner abuse measure in clinical settings. *Violence and Victims* 2005; 20 (5):529-47.

Streiner DL, Norman GR. Health measurement scales: A practical guide to their development and use, 2nd Ed. Oxford (UK): Oxford University Press; 1995. Page 65

Young A. ALSWH Technical Report 16, Appendix 3.1 2001
<http://www.alswh.org.au/Reports/Technical/Report%2016%20ALSWH.pdf>

4. MAINTENANCE OF COHORTS

4.1 Maintenance strategies

Cohort maintenance and tracking of “return-to-sender” mail continues according to the strategies outlined in previous reports. The office team continues to track all women who responded to Survey 1 in 1996, and who are not known to have died or withdrawn from the project since then. This includes women who did not respond to Survey 2, 3, 4 or 5. Participants for whom we have no current contact details remain in the tracking system unless they are positively identified as deceased, withdrawn, permanently emigrated, or otherwise ineligible or unwilling to participate. Secondary contacts, electoral rolls, and electronic white pages continue to be the main sources of information. Increasingly we are finding email addresses and mobile telephone numbers to be useful, especially among the Younger women. While in previous years, email addresses seemed to be fairly short-lived and unstable, it now appears that individuals are likely to keep the same email address for some years.

4.2 National Death Index

The National Death Index (NDI) is used on an annual basis to identify women who are recorded as being deceased. This not only adds to information provided to us by family members, but also provides administrative data on causes of death. A list of 47,600 participants’ details, including unconfirmed deceased participants and participants who have withdrawn from the project (i.e. women who were no longer completing surveys), was sent to the Australian Institute of Health and Welfare (AIHW) in November 2007 for matching against the NDI. Where the maiden name for a participant has been provided a second record for the participant was included in the list substituting the surname with the maiden name. A list of 10,306 matches for 5,379 participants was returned by AIHW in January 2008 for clerical review.

The records were coded according to the closeness of the match of the ALSWH project date of birth with the NDI date of birth and the closeness of the match of the project surname, first name and middle name with those recorded on the NDI. Those with exactly matching dates of birth and all names were taken as deceased (375 records) while combinations of close date of birth matches and close name matches were selected for checking (2,721 records). From the records checked, a further 92 deceased matches were identified and in cases where there was any doubt that the deceased person was one of the ALSWH participants the match was rejected. Each match accepted was checked to see if she was a WHA known deceased participant or a new deceased participant. Of the 467 matches identified, ALSWH knew about 135 deaths, 177 were new notifications and 155 were notification of deaths of participants who had withdrawn. The summary of results is shown in Table 4-1.

Table 4-1 Summary of National Death Index matching results

Confirmed deceased	135
New deceased	177
Withdrawn deceased	155
Doubtful match	1804
Duplicate deceased record	450
Not checked	7585
TOTAL	10,306

The new deceased details were added to the table of deceased participants and the table recording the details of withdrawn and subsequently deceased participants in the ALSWH database. There were 2,946 deceased participants at the time of matching and 48 (1.6%) of these have never been confirmed with the NDI. This compares with last year's figures of a total number of 2,634 deceased participants and 48 (1.8%) deaths unconfirmed with the NDI. (See Figures 4-1, 4-2 and 4-3).

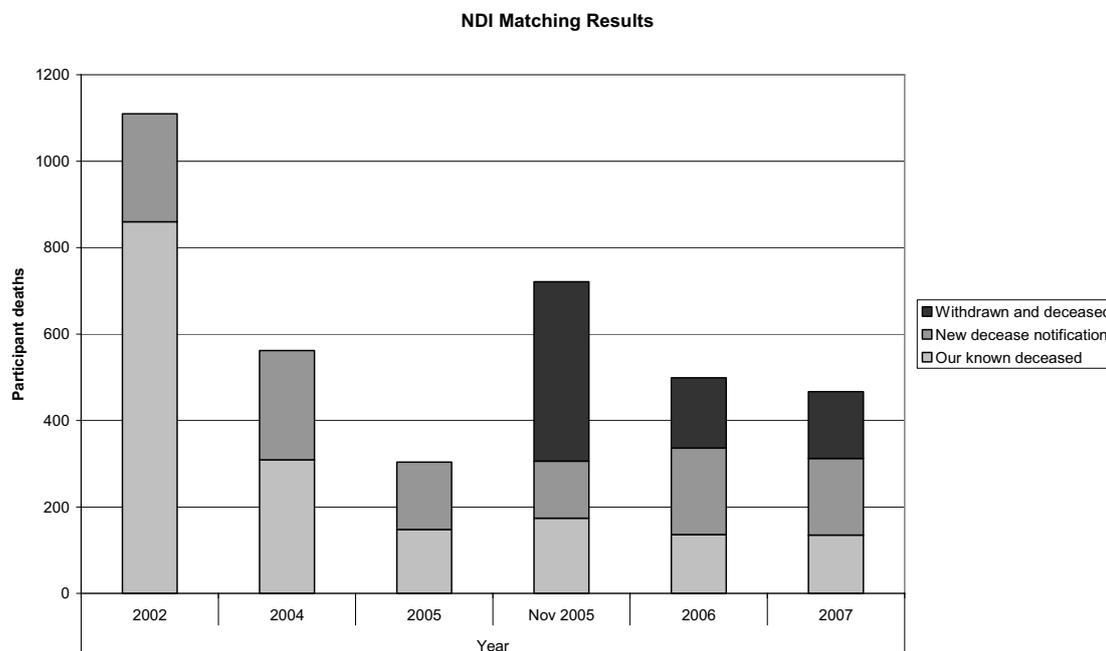


Figure 4-1 NDI matching results

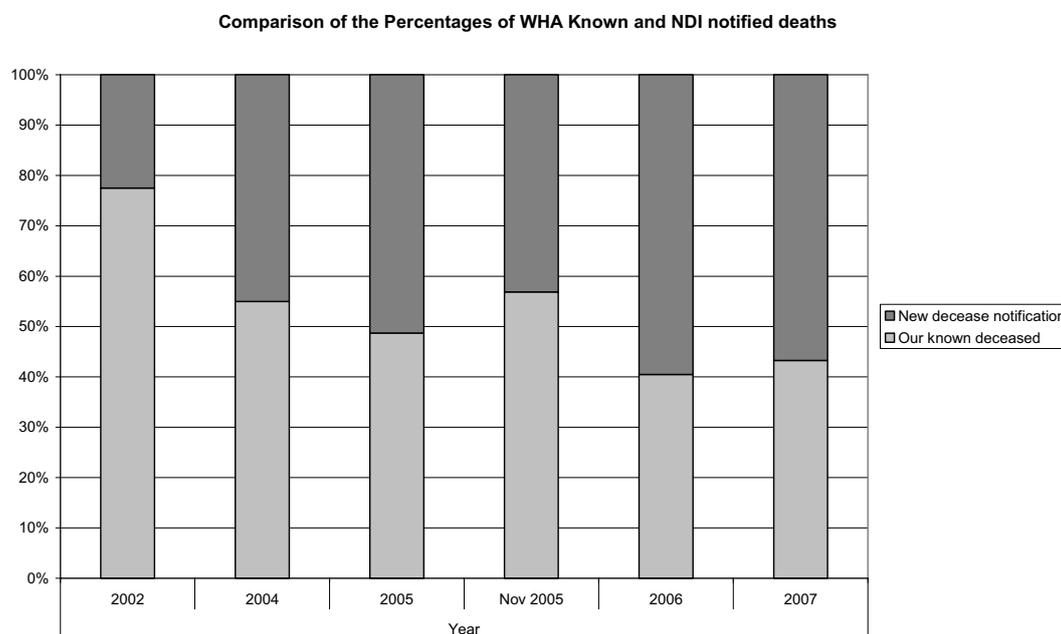


Figure 4-2 Comparison of the percentages of WHA known and NDI notified deaths

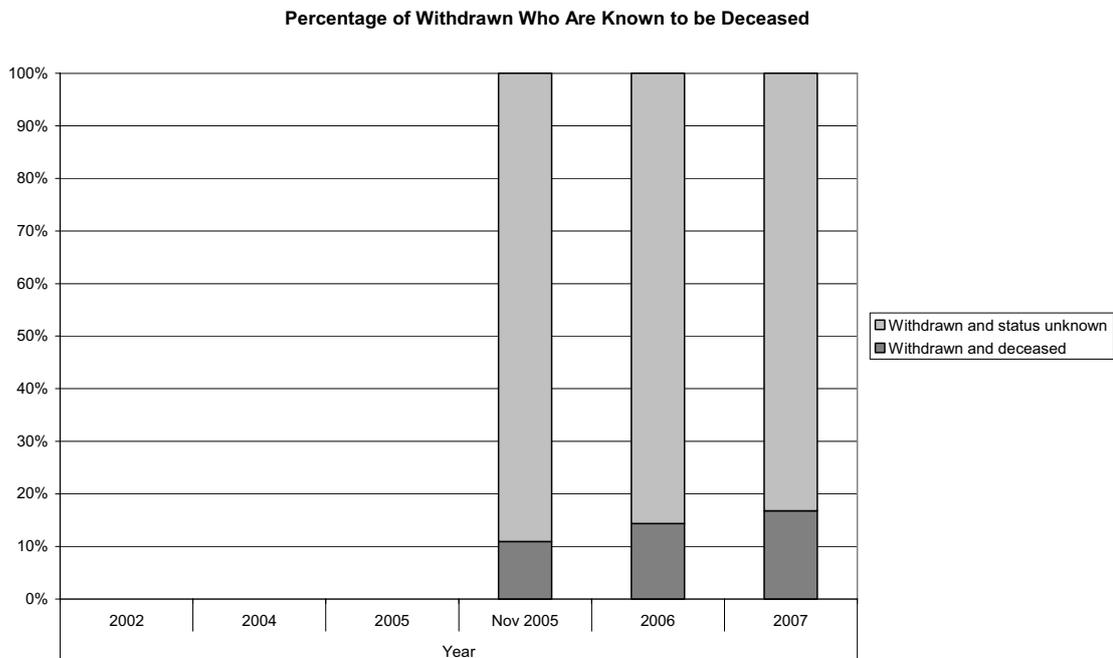


Figure 4-3 Percentage of withdrawn who are known to be deceased

The next round of matching of the women in our project to the NDI will commence in November 2008.

4.3 Cause of Death Codes

Of the 3,630 deaths confirmed with NDI (including participants who were no longer completing surveys) cause of death (COD) codes are available for 2,695. Of the 935 deaths for which we have no COD information, 915 deaths occurred in the last two years. COD codes for these 915 should become available within the next two years as the availability of COD codes lags behind the registration of deaths by up to 2 years. The list of matched deceased which have no cause of death codes was sent to AIHW in April 2008 to obtain updated COD codes.

Table 4-2 Confirmed deaths with and without COD codes by year of matching

	<i>Year of matching</i>			<i>Total</i>
	<i>Before 2006</i>	<i>2006</i>	<i>2007</i>	
No COD Code	20	455	460	935
COD Codes	2644	44	7	2695
Deceased	2664	498	467	3630

There can be up to 19 causes of death. The first cause of death is the underlying cause of death. All others are additional causes of death. Multiple cause of death coding was used from 1997 onwards.

The codes for causes of death depend on when the person died and when their record was placed on the NDI. Those deaths that were registered in or before 1996 are recorded in ICD-9, those registered in 1997 and 1998 are a combination of ICD-9 and ICD-10 and those registered in 1999 and onwards are recorded in ICD-10.

4.4 Update of sample and response rates

4.4.1 Survey 1, 1996

Information provided in early reports has been repeated and updated here for completeness. The numbers provided in the Tables are up to date as at May 2008.

More than 40,000 women responded to Survey 1 of the main cohorts in 1996. Because of uncertainties about the accuracy of the Medicare database (which was used as the sampling frame for the stratified random samples), response rates cannot be exactly specified. We have estimated that 41%-42%, 53-56%, and 37-40% of the Younger, Mid-age, and Older women, respectively, responded to the initial invitation to participate. Confidentiality restrictions meant that the names of the selected women were unknown to researchers. Usual methods of encouraging participation such as by telephone could not be used. The response rates were pleasing given that the invitation included a request for women to participate in the longitudinal study for up to 20 years.

In light of these response rates, it is important to assess any response bias so that the generalisability of the study findings can be determined. A comparison of the demographic characteristics of respondents and non-respondents was not possible because privacy guidelines prevented the researchers from having any information about women who were selected to receive an invitation but did not respond. We were able, however, to obtain aggregate data for non-respondents' use of health services (from the Australian Medicare database). These data suggest that there are small differences in use of health services among respondents and non-respondents, with non-respondents less likely, for example, to have visited a medical specialist in the last 2 years (Mid-age, 49% versus 54%; Older, 65% versus 72%). There was not a significant difference in health service use between respondents and non-respondents from the Younger cohort.

A proportion of this difference may be explained by the fact that some women who were selected may no longer be living in Australia or may have died, as the Medicare database is not routinely linked to emigration records or the National Death Index in Australia.

Although we were not able to ascertain reasons for non-response (because we were not allowed to know any details about the selected women), we were able, through comparison with the 1996 census data, to confirm that the participants in each of the cohorts are reasonably representative of the general population of women of the same age in Australia (see Table 4). There is some response bias in terms of overrepresentation of women with tertiary education and under-representation of some groups of immigrant women.

This information and Table 4-3 are taken from Brown, W. J., Dobson, A. J., Bryson, L., & Byles, J. E. Women's Health Australia: on the progress of the main cohort studies. *Journal of Women's Health & Gender-Based Medicine*, 1999; 8(5): 681-688.

4.4.2 Sample for the longitudinal study

4.4.2.1 Retention and representativeness of the sample

Some women only completed Survey 1 in 1996 and did not provide any contact details (532 younger women, 383 mid-age women and 508 older women). Hence, the

numbers of women actually enrolled in the ALSWH were 14,247 Younger women, 13,716 Mid-age women and 12,432 Older women.

Table 4-3 Socio-demographic characteristics of the Younger, Mid-age and Older respondents and for women of the same age in the general population (ABS Census, 1996).

	Young (18 - 23 years)		Mid-age (45 - 50 years)		Older (70-75 years)	
	WHA	ABS	WHA	ABS	WHA	ABS
	%	%	%	%	%	%
Number	14,762	759,680	14,072	734,155	12,804	377,152
Main current employment status						
Employed full-time	31.3	32.4	36.1	36.0	NA	
Employed part-time	19.2	26.4	30.1	28.5	NA	
Worked (without pay)/employed (other)	1.9	1.3	7.0	2.0	NA	
Unemployed	6.4	10.5	1.9	4.0	NA	
Total not in labour force	39.4	26.3	21.6	27.0	NA	
Not stated	1.8	2.7	3.3	2.5	NA	
Highest qualification completed						
No post school qualification	69.8	69.3	63.1	61.8	79.8	70.4
Trade/Apprenticeship	2.4	7.9	3.5	7.0	3.7	2.7
Certificate/Diploma	15.1	6.0	15.9	8.7	7.3	3.3
University degree	12.1	7.7	16.3	11.6	4.0	2.4
Other (not stated, inadequately described)	0.6	9.1	1.2	10.8	5.2	21.2
Aboriginal/Torres Strait Islander						
Non Indigenous	97.9	94.9	98.1	96.7	91.6	93.7
Aboriginal or TSI	1.6	2.7	0.8	1.1	0.3	0.4
Not stated	0.5	2.5	1.1	2.1	8.1	5.9
Country of birth						
Australia	88.6	77.8	69.0	62.6	68.5	66.4
Other English speaking	3.5	4.1	13.9	11.6	12.4	11.0
Other Europe	1.3	1.6	8.7	11.0	9.7	12.7
Asia	3.6	10.6	4.3	8.2	1.8	3.3
Other/not stated	3.0	6.0	4.2	6.5	7.6	6.5
Present marital status						
Married	8.2	9.0	75.1	73.0	54.7	48.9
Separated/divorced	0.0	1.1	13.2	18.7	6.3	6.8
Widowed	0.0	0.2	2.1	2.7	35.2	39.9
Never married	79.0	89.8	3.9	5.6	3.2	4.4
De Facto (not collected by ABS)	12.0	-	5.7	-	0.6	-
Present housing situation						
House	74.3	79.4	84.7	89.2	76.7	79.3
Flat/apartment/unit	20.0	14.0	7.1	6.5	19.4	12.9
Other	5.7	6.6	8.2	4.3	3.9	7.9

Among the younger women, 69% responded to Survey 2 in 2000, 65% to Survey 3 in 2003 and 67% have responded to Survey 4 in 2006 (see Table 4-4). This retention compares well with other surveys of this highly mobile age group. The major reason for non-response among the younger women was that the research team was unable to contact the women (21% of eligible women at Survey 2, 28% at Survey 3 and 21% at Survey 4), despite using all possible methods of maintaining contact. Women in their twenties are characterised by high levels of mobility, change of surnames on marriage, often not having telephone listings and not being registered to vote and making extended trips outside Australia for work, education or recreation.

Table 4-4 Participation and retention of the Younger women.

	Survey 1	Survey 2	Survey 3	Survey 4
Age in years	18-23	22-27	25-30	28-33
Eligible at previous survey		14247	14116	13886
Ineligible				
deceased between surveys		22	10	15
frailty (e.g. intellectual disability)		3	6	4
withdrawn before mailout survey date		106	213	311
Total ineligible		131	229	330
Eligible at current survey		14116	13887	13557
Non-respondents				
withdrawn from the project contacted but did not return survey		124	200	171
unable to contact participant		1332	654	1372
unable to contact participant		2972	3952	2869
Total non-respondents		4428	4806	4412
Respondents				
completed survey	14247	9688	9081	9145
Retention rate as % eligible		68.6%	65.4%	67.5%

Demographic characteristics (country of birth, marital status, education, employment and lone person household) of the Younger respondents at Surveys 1 (1996) and 2 (2000) were compared with those of women of the same age in the Australian population, using data from the 1996 and 2001 Censuses respectively. The comparisons revealed few differences however there was some under-representation of women from non-English language countries at both surveys, a not unexpected finding given that Medicare routinely excludes overseas students. The disparity in education increased between 1996 and 2001. Whereas at the 1996 Census almost 70% of young women had no post school qualifications (ALSWH and the general population), 31% and 49% had no post school qualifications in the ALSWH sample in 2000 and the 2001 Census respectively. Some of these differences will be due to overseas graduates returning home and Australian graduates working overseas. ALSWH women were less likely to be employed compared with women of the same age in the 1996 Census (52% versus 60%) but more likely to be employed than women of the same age in the 2001 Census (85% versus 67%).

Retention has been much higher among the Mid-age women; 91% responded to Survey 2 in 1998 and 84% responded to Survey 3 in 2001, Survey 4 in 2004 and Survey 5 in 2007 (see Table 4-5). The major reasons for non-response among mid-age women was that the research team was unable to contact the women (6%, 7%, 8% and 7% of eligible women at Surveys 2, 3, 4 and 5 respectively) and non-return of questionnaires by women who could be contacted (2%, 8%, 7% and 8% of eligible women at the second, third, fourth and fifth Surveys). Mid-age women typically lead busy lives often working, as well as caring for parents and their children. The women who could not be contacted were more likely to be separated, divorced or widowed.

Table 4-5 Participation and retention of 13716 Mid-age women who were 45-50 at Survey 1 in 1996.

	Survey 2	Survey 3	Survey 4	Survey 5
Age in years	47-52	50-55	53-58	56-61
Eligible at previous survey	13716	13606	13310	12979
Ineligible				
deceased between surveys	50	66	88	97
frailty (e.g. dementia, stroke)	7	14	14	19
withdrawn before mailout survey date	53	217	229	167
Total ineligible	110	297	331	283
Eligible at current survey	13606	13310	12979	12696
Non-respondents				
withdrawn from the project	156	155	136	217
contacted but did not return survey	254	999	886	998
unable to contact participant	858	930	1052	855
Total non-respondents	1268	2084	2074	2070
Respondents				
completed survey	12338	11226	10905	10626
Retention rate as % eligible	90.7%	84.3%	84.0%	83.7%

Data from the 1996 and 2001 Censuses were used to compare demographic characteristics (country of birth, marital status, education, employment and lone person household) of women of the same age in the Australian population with mid-age respondents at Surveys 1 (1996) and 3 (2001). There were few differences, however there was some under-representation of women from non-English language countries and women who were separated or divorced at both surveys.

Of the Older women, 91% responded to Survey 2 in 1999, 85% to Survey 3 in 2002 and 84% to Survey 4 in 2005 (see Table 4-6). Among older women the major reason for non-response was non-return of the questionnaire (4%, 8% and 7% of eligible women at Surveys 2, 3 and 4 respectively) although increasingly the participant can not be contacted (3% at Surveys 2 and 3 and 6% at Survey 4). Non-respondent women tended to report poorer self-rated health at Survey 1 than respondents.

Table 4-6 Participation and retention of the Older women.

	Survey 1	Survey 2	Survey 3	Survey 4
Age in years	70-75	73-78	76-81	79-84
Eligible at previous survey		12432	11535	10187
Ineligible				
deceased between surveys		529	569	769
frailty (e.g. dementia, stroke)		106	263	381
withdrawn before mailout survey date		262	516	507
Total ineligible		897	1348	1657
Eligible at current survey		11535	10187	8530
Non-respondents				
withdrawn from the project contacted but did not return survey		311	385	267
unable to contact participant		481	860	592
Total non-respondents		309	295	513
Total non-respondents		1101	1540	1372
Respondents				
completed survey	12432	10434	8647	7158
Retention rate as % eligible		90.5%	84.9%	83.9%

Demographic characteristics (country of birth, marital status, education and lone person household) of the Older respondents at Surveys 1 (1996) and 3 (2002) were compared with those of women of the same age in the Australian population, using data from the 1996 and 2001 Censuses respectively. Comparisons showed few differences. There was some under-representation of women from non-English speaking countries in the ALSHW sample at both surveys. Comparisons are difficult for marital status and educational qualifications due to the high level of missing data in the Census.

5. DATA LINKAGE

Data linkage progress was reported in Technical Report number 29 (December 2007). There is no further information available at present.

6. MAJOR REPORTS

6.1 Physical activity and health in mid-age and older women.

Authors: Wendy J Brown, Nicola W Burton & Kristiann C Heesch

Report prepared for The Office for Women Department of Families, Community Services and Indigenous Affairs September 2007

6.1.1 Introduction

The US Surgeon General's report was a landmark publication in the field of physical activity and health, but was constrained by a lack of evidence relating to women.

This report examines the links between physical activity and health in mid-age and older women. It includes four parts:

- recent evidence relating physical activity to the national public health priorities and reproductive health
- consideration of the amount of physical activity required to obtain health benefits
- new data from the Australian Longitudinal Study on Women's Health (ALSWH) on activity patterns, including relationships between changes in physical activity and life events, sociodemographic characteristics and health behaviours in mid-age and older Australian women
- new data from the ALSWH on the relationships between physical activity and menopausal symptoms, stiff or painful joints and arthritis, anxiety and depression, memory problems, falls and fractures, general physical and psychological well-being, and healthcare costs in mid-age and older Australian women.

6.1.2 Physical activity and health – updating the evidence for women

A literature search was conducted to identify prospective population-based studies published from 1997 to January 2006.

Measures of energy expenditure, derived from the frequency, intensity, and duration of physical activity, were more consistently associated with risk reduction than other self-report physical activity measures. Studies with comparatively large samples and a longer follow up period were more likely to demonstrate associations between physical activity and health.

Fourteen of seventeen studies of physical activity and indicators of cardiovascular disease (CVD) indicated risk reductions ranging from 28 to 58%.

Seven of eight studies of physical activity and type 2 diabetes indicated risk reductions ranging from 14 to 46%. Two studies on gestational diabetes (GDM) provided mixed evidence, with one reporting up to 76% risk reduction, and one reporting no association.

Ten studies of physical activity and breast cancer provided mixed results. Six studies reported significant risk reductions with risk reductions ranging from 11 to 67%, two found non significant trends, and two found no relationship. Three studies indicated

that the association between physical activity and breast cancer may be stronger for post-menopausal women.

Three studies of physical activity and colon cancer were identified. One showed a significant risk reduction of between 31 and 46%, one found no association, and one was equivocal.

Thirteen studies of physical activity and other cancers were identified. Physical activity provided a protective effect for bladder cancer (one study) and endometrial cancer (two studies). No association was found between physical activity and renal cell carcinoma (one study) or lung cancer (one study), and there were mixed results for pancreatic cancer (three studies), and all-cancer mortality (three studies). Two studies suggested a positive relationship between physical activity and increased risk of ovarian cancer.

Ten studies of physical activity and mental health problems were identified. Two studies of depression provided mixed results. Two studies of emotional well-being both found a positive association. Five of six studies demonstrated that physical activity protects against cognitive decline and dementia.

Five studies of physical activity and osteoarthritis were identified, with four finding no association. A fifth study suggested that active older people may be more at risk of osteoarthritis of the knee.

Seven studies of physical activity and injury were identified and provided mixed evidence. Two studies demonstrated that higher levels of physical activity provided a protective effect against hip and vertebral fractures, with risk reductions up to 55%. Two studies found that low physical activity levels and sedentary leisure increased the risk of fractures. There was no association between physical activity and injury mortality (one study) or between walking and risk of second hip fracture (one study).

Four studies of physical activity and reproductive health (menstrual and menopausal symptoms) were identified, and provided mixed results.

6.1.3 How much activity for health?

Australian guidelines recommend 30 minutes of moderate-intensity physical activity on most days of the week for health benefits, and suggest that more vigorous physical activity will confer greater health benefits. More physical activity is required for weight loss and preventing weight regain.

The evidence reviewed here suggests that mid-age and older women gain few additional health benefits from vigorous physical activity over and above those achieved from walking or moderate intensity physical activity. For older women, vigorous physical activity may increase risk of fractures.

Few studies have assessed the minimum duration and minimum frequency of physical activity required to obtain health benefits.

While 150+ minutes of moderate intensity/week (600+ MET. mins) is associated with a range of health benefits, there can be significant protective effects against cardiovascular disease, diabetes, and mental health disorders, from only 60 minutes of moderate intensity physical activity/week (240 MET. mins/week). Greater amounts of physical activity may be necessary to prevent some conditions, including breast and colon cancer.

6.1.4 How active are Australian mid-age and older Women?

Data are presented from the Mid-age (45-60 years in 1996-2006) and Older (70-85 years in 1996-2006) cohorts of the ALSWH.

The proportion of mid-age women meeting or exceeding the National Physical Activity Guidelines (i.e. active) increased from 2001 (45%) to 2004 (54%); this was primarily attributable to walking. Between 2001 and 2004, approximately one third were consistently active, 18% decreased their physical activity, and 26% increased their physical activity.

Mid-age women who maintained or increased their physical activity were more likely than those who were sedentary to have at least high school education, to work part time, have a higher level of income, and to be a carer for someone with an illness or disability. They were less likely to be current smokers and non-drinkers, to have chronic health problems, and to be overweight or obese.

Mid-age women who decreased their physical activity were more likely than those consistently active to have a lower level of education, to be a current smoker and non-drinker, to be obese, to have gained weight, and to have chronic health problems.

Life events associated with mid-age women increasing their physical activity included a major personal achievement, retirement, and death of a spouse. Partner infidelity was associated with not decreasing physical activity.

Mid-age women in part-time paid work (1–24 hours per week) and those in 'professional' occupations (eg teachers and nurses) tended to report higher levels of activity than women in full time work or in other occupation groups, respectively.

The proportion of active older women declined from 34 to 30% between 1999 (when they were 73-78 years old) and 2005 (when they were 79-84 years old). The proportion of those who were sedentary increased from 31 to 44%. During this same period, 26% decreased their activity, and 16% increased their physical activity.

Older women who maintained or increased their physical activity were more likely than those who were sedentary to have at least high school education, to have been born outside Australia, and to be single or widowed. They were less likely to be overweight or obese, and to be a current smoker, a non-drinker, a carer, or to have chronic health problems.

Older women who decreased their physical activity were more likely than those consistently active to be obese, a current smoker, a non-drinker, and to have chronic health problems.

Life events associated with older women decreasing their physical activity included having a major personal illness, injury or surgery. No specific life events were associated with older women increasing their physical activity, although there was a trend for women who reported death of a spouse not to decrease their physical activity.

6.1.5 Relationships between physical activity and selected health outcomes

Data are presented from the Mid-age (45-60 years in 1996-2006) and Older (70-85 years in 1996-2006) cohorts of the ALSWH.

Changes in physical activity were not related to menopausal symptoms in mid-age women.

Physical activity did not protect against the development of new arthritis symptoms or arthritis in mid-age women. Among the Older women, 75+ minutes of moderate-intensity physical activity/week was protective against the onset of stiff or painful joints over a three year period. Higher levels of physical activity (300+ min/week) were protective against the onset of arthritis over a three year period.

Among the Older women, very low, low, moderate and high levels of activity (75+ minutes per week) were associated with lower anxiety and depression scores. Women who reported the highest level of physical activity (300+ mins/week of moderate intensity physical activity) had the lowest anxiety and depression scores.

Memory complaints were slightly less likely among older women who reported high levels of activity (i.e. an hour a day or more of moderate intensity physical activity). Low levels of health-related hardiness and overall mental health were better predictors of memory problems.

High levels of physical activity were associated with reduced risk of falls, and of broken or fractured bones in older women who had not had a previous serious fall injury.

Overall physical and mental well-being scores were significantly higher in mid-age and older women who were consistently active than in those who were consistently sedentary. These scores were as high among women whose physical activity increased over time, as they were among women who were consistently active, indicating that it is never too late to increase physical activity in order to gain health benefit.

Physical activity was inversely associated with healthcare costs in both mid-age and older women, with the greatest differences being between sedentary women and those doing low levels of activity. For the Mid-age women, mean costs were 26.3% higher in those who were sedentary than in moderately active women. For older women mean costs were 23.5% higher in the sedentary women.

6.1.6 Conclusions

Physical activity is very beneficial for women's health at the population level. Physical activity has a significant role in the primary prevention of cardiovascular disease, some cancers, diabetes, mental health problems, and musculoskeletal problems in women. Physical activity has also been shown to reduce healthcare costs. Importantly, there are benefits for women who become active later in life, even if they have been sedentary for a long time.

There is a strong rationale for greater investment in the promotion of physical activity as a strategy for the primary prevention of a range of chronic health problems in women.

7. DISSEMINATION OF STUDY FINDINGS

7.1 Website

The ALSWH study web site, maintained at the University of Newcastle, can be viewed at www.alswh.org.au. Each month the website content is updated with current lists of collaborators, ongoing and completed analyses, reports, and abstracts of all accepted and published papers. The password protected sections of the website for ‘Collaborators’ and ‘Investigators and Staff’ are also routinely revised with minutes of meetings, project notes and other internal documents.

7.2 Publication

7.2.1 Papers published

Adams J, Sibbritt D & Young AF. Consultations with a naturopath or herbalist: the prevalence of use and profile of users amongst mid-aged women in Australia. *Public Health*. 2007; 121(12): 954-957.

No abstract available.

Anstey K, Butterworth P, Windsor T, Burns R, Sargent-Cox K, von Sanden C, Christensen H, Booth H, Simons L, Byles J, Gibson R, Luszcz M, Shaw J, Broe G, Browning C, Mitchell P, Cumming R & Kendig H. The value of comparing health outcomes in cohort studies: An example of self-rated health in seven studies including 79,653 participants. *Australasian Journal on Ageing*. 2007; 26(4): 194-200.

Objective: To demonstrate the value of comparing data from multiple cohort studies using the example of self-rated health (SRH).

Methods: Seven Australian cohort studies including comparable data on SRH were identified. Comparisons of the distributions of SRH were conducted, and logistic regression was used to evaluate age, sex and education effects within studies. A nationally representative survey was used as a statistical reference to determine how studies differed from the Australian population in frequencies of responses.

Results: Ratings of SRH declined with increasing age. Low education was associated with higher frequencies of fair/poor SRH even in young adulthood but there were no sex differences. Results for smaller studies did not necessarily differ from nationally representative studies.

Conclusion: Collaborative reanalysis of an Australian cohort permits analysis of health outcomes from a large numbers of participants. Health outcomes and their sociodemographic determinants may be more comprehensively evaluated through such collaborative projects.

Brown WJ, Hockey R & Dobson A. Physical activity, body mass index and health care costs in mid-age Australian women. *Australian and New Zealand Journal of Public Health*. 2008; 32(2): 150-155.

Objective: This study examined the relationships between combined categories of physical activity (PA) and Body Mass Index (BMI) with health care costs in women

and assessed the potential cost savings of improving PA and BMI in sedentary mid-age women.

Methods: Cross-sectional analysis of 2001 survey data linked to health service use data for the same year from 7,004 Mid-age women (50-55 years) participating in the Australian Longitudinal Study on Women's Health.

Results: The mean (median; interquartile range) annual cost of Medicare-subsidised services was \$542 (355; 156-693) per woman.

Costs were 17% higher in obese than in healthy-weight women and 26% higher in sedentary than in moderately active women. For sedentary obese women, mean costs were 43% higher than in healthy weight, moderately active women. After adjustment for potential confounders, the relative risk of 'high' claims (≥ 15 claims per year) for overweight women who reported 'moderate' or 'high' PA were lower than for women with healthy BMI who reported no PA.

Conclusions and Implications: Lower PA and higher BMI are both associated with higher health care costs, but costs are lower for overweight active women than for healthy-weight sedentary women. At the population level these data suggest that there would be significant cost savings if all sedentary mid-age women could achieve at least 'low' levels of PA (60-150 minutes a week).

Brown WJ, Hockey R & Dobson A. Rose revisited: A 'middle road' prevention strategy for reducing risk of non-communicable chronic disease. *Bulletin of the World Health Organization*. 2007; 85(11): 886-887.

No abstract available.

Bryson L, Warner-Smith P, Brown P & Fray L. Managing the work-life rollercoaster: Private stress or public health issues. *Social Science and Medicine*, 2007; 65(6): 1142-1153.

Although research has established the importance for health of a sense of personal control at work, the implications of this for women have not been adequately studied. Using quantitative data from the Australian Longitudinal Study on Women's Health and qualitative data from an associated study, here we examine women's health and sense of control in relation to family and employment commitments.

In line with other research, 'demand over-load' is found to be important for sense of control, but both 'over-load' and 'control' prove complex, as illustrated by the finding that good mental health is associated with satisfaction with, rather than actual, hours of employment. In the contemporary western context of longer working hours, increasing time strain, and gender relations shaped within a neo-liberal, individualised social environment, the findings suggest that as life speeds up, 'control' and the health effects of 'busyness', need to be understood not merely as personal matters, but rather as potentially important public health issues

Byles J. Fit and Well at 80: Defying the stereotypes of age and illness. *Annals of the New York Academy of Sciences*. 2007; 1114: 107-120.

While ageing is associated with physical decline and increased risk of illness, older age is not inevitably a time of ill-being. Data from the Australian Longitudinal Study on Women's Health challenge negative stereotypes of ageing and illness. While an accelerating decline in average physical health was observed over the first six years of

the study, an important and large proportion of the women experienced minimal change in their physical health in this period. Also, while chronic disease was a strong risk factor for declining health, many women aged well in spite of longstanding medical conditions. This paper presents trends in health and illness as women age and explores some of the many physical, social, and health care factors that mark out those women who remain “fit and well”.

Clemens S & Matthews S. Comparison of a food-frequency questionnaire method and a quantity-frequency method to classify risky alcohol consumption in women. *Alcohol & Alcoholism*. 2007; 43(2): 223-229.

Aims: Population surveys use a variety of methods to collect data on alcohol consumption. Comparability of results across methods is a prime consideration. Different methods have been demonstrated to be robust in terms of ranking individuals’ alcohol use, while results have been mixed regarding comparability in terms of volume of consumption. In Australia, evidence-based guidelines have been developed that identify critical thresholds of consumption that are associated with increased risk of alcohol related morbidity. This study investigated whether the identification of individuals consuming alcohol above these thresholds was consistent across two methods used to collect data on consumption.

Methods: The Australian Longitudinal Study of Women’s Health (ALSWH) incorporated both a quantity-frequency (QF) method and a food-frequency questionnaire (FFQ) to collect data on alcohol consumption. Comparisons were made between these two methods on the ability to classify women consuming alcohol as risky (between 176 and 350 ml of pure alcohol weekly) and at high risk (greater than 350 ml of pure alcohol weekly) levels.

Results: The ranking of individuals was robust across methods. However, concordance in identifying risky/high-risk drinkers varied considerably based on the assumptions underlying the different methods used to calculate drinking volume using the FFQ. Similarly, the sensitivity and specificity of the FFQ methods compared to QF in terms of identifying risky/high-risk consumers were high but variable.

Conclusions: This study indicated that the proportion of respondents exceeding consumption thresholds was sensitive to the instrument used to collect data on alcohol intake. Quantifying such differences is important when making comparisons between surveys that use different methodologies.

Everingham C, Warner-Smith P & Byles J. Transforming retirement: Re-thinking models of retirement to accommodate the experiences of women. *Women’s Studies International Forum*. 2007; 30(6): 512-522.

No abstract available.

Ford J, Spallek M & Dobson A. Self rated health and a healthy lifestyle are the most important predictors of survival in elderly women. *Age & Ageing*. 2008; 37(2): 194-200.

Objective: To test the hypothesis that morbidity and health related behavioural factors are stronger than social factors as predictors of death among older women.

Methods: We used data from 12,422 participants in the Australian Longitudinal Study on Women’s Health who were aged 70–75 in 1996. Proportional hazards

models of survival up to 31 October 2005 were fitted separately for the whole cohort and those women who were initially in 'good health'.

Results: Among the whole cohort, 18.7% died during the follow up period. The strongest predictor of death was 'poor' or 'fair' self-rated health (with 52.3% and 28.0%, respectively, of women in these categories dying). Among the women in 'good health' at baseline 11.5% died, with current cigarette smoking (hazard ratio HR = 2.19, 95% confidence interval (1.71, 2.81), physical inactivity (HR = 1.45 (1.17,1.81)), and age (HR = 1.10 (1.04, 1.16) per year) as statistically significant predictors of death.

Discussion: Among older women, current health and health related behaviours are stronger predictors than social factors of relatively early mortality. Adopting a healthier lifestyle, by doing more exercise and not smoking, is beneficial even in old age.

Heesch K, Byles J & Brown W. Prospective association between physical activity and falls in community-dwelling older women. *Journal of Epidemiology and Community Health*. 2008; 62(5): 421-426.

Objective: To explore associations between physical activity and risk of falls and fractured bones in community-dwelling older women.

Design, setting and participants: This was a prospective observational survey with 3- and 6-year follow-ups. The sample included 8188 healthy, community-dwelling women, aged 70-75 years in 1996, who completed surveys as participants in the Australian Longitudinal Study on Women's Health. Women who reported a recent serious injury from falling were excluded. Outcomes were reports of a fall to the ground, injury from a fall, and a fractured bone in 1999 and 2002. The main predictor variable was physical activity level in 1996, categorized based on weekly frequency as none/very low, low, moderate, high, and very high. Covariates were demographic and health-related variables. Logistic regression models were computed separately for each outcome in 1999 and 2002.

Main results: In multivariable models, very high physical activity was associated with decreased risk of reporting a fall in 1999 (odds ratio 0.67, 95% CI 0.47 to 0.95) and in 2002 (odds ratio 0.64, 95% CI 0.43 to 0.96). High/very high physical activity was associated with decreased risk of a fractured bone in 2002 (odds ratio 0.53, 95% CI 0.34 to 0.83). No significant association was found between physical activity and injury from a fall.

Conclusions: The results suggest that at least daily moderate- to vigorous-intensity physical activity is required for the primary prevention of falls to the ground and fractured bones in women aged 70-75 years.

Powers J & Young A. Longitudinal analysis of alcohol consumption and health of middle-aged women in Australia. *Addiction*. 2008; 103: 242-432.

Aims: To assess the prospective association between alcohol consumption and self-rated health: in particular whether there is a relationship between stable alcohol intake and health; whether health is affected by changes in alcohol consumption; whether having a chronic condition alters the relationships between stable and changing alcohol intake and health; and whether the health of longer-term abstainers is different from more recent and intermittent abstainers.

Design: Longitudinal analysis of a prospective, population-based study.

Setting: Australia.

Participants: A total of 13 585 randomly selected 45–50-year-old women surveyed in 1996, of whom 9396 (69%) were resurveyed in 1998, 2001 and 2004.

Measurements: Estimates for the General Health subscale of the SF-36 for different levels of alcohol intake adjusted for having a chronic condition, depression, smoking and other factors.

Findings: Longitudinal models of consistent alcohol intake showed mean scores for general health of moderate drinkers were significantly better than that of non-drinkers [mean difference = 4.3, standard error (SE) = 0.61], occasional drinkers (mean difference = 3.1, SE = 0.52) and heavy drinkers (mean difference = 2.1, SE = 1.00). Among moderate drinkers, a decrease or variation in alcohol consumption was associated with a significant decline of three to four points in general health. Similar results were obtained when women with an existing chronic condition were excluded from these models. The health of recent abstainers and intermittent drinkers was the same as longer-term abstainers.

Conclusions: Consistent moderate drinkers had the best health even after adjustment for having a chronic condition, depression and life-style factors. Poorer health was associated with decreased alcohol intake among occasional and moderate drinkers (SE=0.52), and heavy drinkers (mean difference=2.1 SE=1.00).

Among moderate drinkers, a decrease or variation in alcohol consumption was associated with a significant decline of three to four points in General Health. Similar results were obtained when women with an existing chronic condition were excluded from these models. The health of recent abstainers and intermittent drinkers was the same as longer-term abstainers.

Consistent moderate drinkers had the best health even after adjustment for having a chronic condition, depression and lifestyle factors. Poorer health was associated with decreased alcohol intake among occasional and moderate drinkers.

Schofield M & Khan A. Australian women who seek counselling: Psychosocial, health behaviour and demographic profile. *Counselling and Psychotherapy Research*. 2008; 8(1):12-20.

Despite high rates of psychological distress in the Australian community, particularly among mid-aged women, use of counselling and psychological services is relatively low. This study examined self-reported use of counselling in the past year among a population-based sample of 11,201 Australian women aged 50-55, and describes the profile of women who seek counselling. Using multivariate analyses to control confounding, women who had consulted a Counsellor/Psychologist/Social Worker in the last year (6.9%) were found to have an increased odds of higher stress, life satisfaction and perceived control, and lower optimism. They also had higher odds of experiencing more life events over the past 12 months, changed health status compared with a year ago, taking more prescribed medications, living in urban versus rural areas, having university vs. no formal education, living alone or with others rather than spouse/partner, and have ancillary versus full private health insurance. This multivariate profile is discussed in relation to the delivery, marketing and accessibility of counselling services in the Australian community. The implications

for counsellor training and the future development of the profession are also discussed.

Sibbritt D, Byles J & Cockrell D. Prevalence and characteristics of older Australian women who consult dentists. *Australian Journal of Rural Health*. 2007; 15(6): 387-388.

Poor oral health carries a high burden of illness, particularly among older people, but preventative and treatment dentistry can significantly reduce this burden. However, access to dental care might present a barrier for non-urban residents in obtaining dental care. A recent study of older Western Australians identified that visits to a dentist are lower for those residing in nonurban areas (44%) compared with urban areas (65%). Other factors influencing higher levels of dental service use among older adults are: higher levels of income and education, being female, married or defacto, having private health insurance, non-smokers and those with higher levels of physical activity. The aim of this research was to report the prevalence and characteristics of women from a nationally representative sample, the Older cohort of the Australian Longitudinal Study on Women's Health, who had consulted a dentist.

Taft A & Watson L. Depression and termination of pregnancy (induced abortion) in a national cohort of Young Australian women: The confounding effect of women's experience of violence. *BMC Public Health*. 2008; 8(1): 75.

Background: Termination of pregnancy is a common and safe medical procedure in countries where it is legal. One in four Australian women terminates a pregnancy, most often when young. There is inconclusive evidence about whether pregnancy termination affects women's rates of depression. There is evidence of a strong association between partner violence and depression.

Objective: To examine the associations with depression of women's experience of violence, pregnancy termination, births and socio-demographic characteristics, among a population-based sample of young Australian women.

Methods: The data from the younger cohort of the Australian Longitudinal Study on Women's Health comprised 14,776 women aged 18-23 in Survey 1 (1996) of whom 9683 aged 22-27 also responded to Survey 2 (2000). With linked data, we distinguished terminations, violence and depression reported before and after 1996. We used logistic regression to examine the association of depression (CES-D10) as both a dichotomous and linear measure in 2000 with pregnancy termination, numbers of births and with violence separately and then in mutually adjusted models with sociodemographic variables.

Results: 30% of young women were depressed. Eleven percent (n=1076) reported a termination by 2000. A first termination before 1996 and between 1996 and 2000 were both associated with depression in a univariable model (OR 1.37, 95%CI 1.12-1.66; OR 1.52, 95%CI 1.24-1.87). However, after adjustment for violence, numbers of births and sociodemographic variables (OR 1.22, 95%CI 0.99-1.51) this became only marginally significant, a similar association with having two or more births (1.26, 95%CI. 1.00-1.58). In contrast, any form of violence but especially that of partner violence in 1996 or 2000, was significantly associated with depression: in univariable (OR 2.31, 95%CI 1.97-2.70 or 2.45, 95% CI 1.99-3.04) and multivariable models (AOR 2.06, 95%CI 1.74-2.43 or 2.12, 95%CI 1.69-2.65). Linear regression showed a four fold greater effect of violence than termination or births.

Conclusions: Violence, especially partner violence, makes a significantly greater contribution to women's depression compared with pregnancy termination or births. Any strategy to reduce the burden of women's depression should include prevention or reduction of violence against women and strengthening women's sexual and reproductive health to ensure that pregnancies are planned and wanted.

Tooth L, Hockey R, Byles J & Dobson A. Weighted multi-morbidity indexes predict mortality, health service use and health-related quality of life in older women. *Journal of Clinical Epidemiology*. 2008; 61(2): 151-159.

Objective: To develop indexes of multi-morbidity, based on self-reported data, to predict mortality, health service use, help with activities of daily living (ADL) and health-related quality of life (HRQOL) in older women.

Study design and setting: Cross sectional survey of 10,434 women, aged from 73-78, in the Australian Longitudinal Study of Women's Health in 1999, with mortality follow-up to 2005. For analysis, the sample was equally split into a development and validation sample. Weighted and unweighted multi-morbidity indexes were developed and tested.

Results: Outcomes ranged from 14% for mortality to 47% for specialist doctor visits. Mortality was predicted by heart disease, stroke, low iron, diabetes, cancer (non-skin), bronchitis/emphysema and Alzheimer's disease. Different patterns of morbidities were associated with the other outcomes. Weighted and unweighted multi-morbidity index scores were linearly related to increasing risk of each outcome. For each outcome, the weighted scores fitted the data better and had a wider range of possible values.

Conclusion: These multi-morbidity indexes predict mortality, health service use, help with ADL, and HRQOL in older women. The indexes could be used as covariates in research with weighted scores having a better chance of discriminating between patient groups than unweighted scores.

Tooth L, Russell A, Lucke J, Byrne G, Lee C, Wilson A & Dobson A. Impact of cognitive and physical impairment on carer burden and quality of life. *Quality of Life Research*. 2008; 17(2): 267-273.

Background and purpose: How the cognitive and/or physical impairment experienced by care recipients impacts on their carers is not well understood. This study investigated the effect of type of impairment of care recipients on the level of burden and quality of life (QOL) of elderly Australian carers.

Methods: A nested cross-sectional substudy of 276 older women (aged 78-83 years) enrolled in the Australian Longitudinal Study on Women's Health, who indicated they were providing care for someone living with them.

Results: In this nationally representative sample of elderly women carers, 60% were looking after people (predominantly their husbands) who had both cognitive and physical impairments. Carers of people with both types of impairments had higher scores for objective burden of caring than those caring for people with either type of impairment alone. In contrast, scores for limitations on their own lives were higher among women caring for people with cognitive impairments (with or without physical impairments).

Conclusions: The majority of elderly women who are caring for someone else are likely to suffer multifaceted burdens of caring.

van Poppel M & Brown W. "It's my hormones doctor" – does physical activity help with menopausal symptoms? *Menopause - Journal of the North American Menopause Society*. 2008; 15(1): 78-85.

Background: Many women experience health problems when going through menopause, and these health problems may result in a substantial reduction in quality of life. There are some indications that physical activity may play a role in ameliorating menopausal symptoms, but there is conflicting evidence about this.

Objective: To assess the relationship between changes in physical activity and self-reported vasomotor, somatic and psychological symptoms.

Design: Data from the third (2001) and fourth (2004) Surveys of the Australian Longitudinal Study on Women's Health (ALSWH) were used. Data from 3,330 mid-age women were included in the analyses. In linear regression models, the relationship between changes in physical activity of at least moderate intensity and total menopausal symptoms, vasomotor, somatic and psychological symptoms was determined.

Results: Physical activity was not associated with total menopausal symptoms, nor with vasomotor or psychological symptoms. A weak association with somatic symptoms ($B = -0.003$; 95% CI: $-0.005 - -0.001$) was found. Weight gain was associated with increased total, vasomotor and somatic symptoms. Weight loss was associated with a reduction in total and vasomotor symptoms.

Conclusion: Changes in physical activity were not related to vasomotor or psychological symptoms, and only marginally to somatic symptoms. Changes in weight showed a stronger relationship with menopausal symptoms. Relationships between weight change and menopausal symptoms merit further exploration.

7.2.2 Papers accepted

Bell S & Lee C. Transitions in emerging adulthood and stress among young Australian women. *International Journal of Behavioural Medicine*

Background: Emerging adulthood involves major transitions in social roles and high levels of stress, which may affect later health.

Purpose: To examine cross-sectionally and longitudinally the relationships of stress to roles in four life domains - residential independence from family of origin, employment, relationships, and motherhood – among young adult women.

Method: 8,749 young women participating in the Australian Longitudinal Study on Women's Health provided data at Survey 1, aged 18-23, and Survey 2, aged 22-27.

Results: Contrary to expectation, major life transitions were associated with low and reducing levels of stress. Cross-sectionally, living independently, not being a student, being married, and being a mother were associated with the lowest stress. Normative transitions such as moving out of home, finding work, or motherhood, were associated with no change in stress, while marrying was associated with a decrease in stress. Three types of transition were associated with increases in stress: non-normative

transitions to more “adolescent” statuses, no transition; and transitions occurring earlier than normative.

Conclusion: High levels of stress at this age are associated, with unusual changes, delays in changing, or changing earlier than one’s peers. The normative transitions of young adulthood are not associated with high levels of stress.

Berecki J, Hockey R & Dobson A. Adherence to bisphosphonates by elderly women. *Menopause*

Objective: The aim of this study was to evaluate the relationship between adherence to bisphosphonates by postmenopausal women, and demographic, health and lifestyle factors prior to treatment, in a country with universal subsidies for pharmaceutical costs.

Design: Elderly women participating in the Australian Longitudinal Study on Women’s Health, who consented to linkage to Pharmaceutical Benefits Scheme claims data were included if they filled a bisphosphonates prescription between 2002 and 2005 after a medication free interval of 180 days (N=788). A Cox proportional hazards model was used to assess association of baseline variables with duration of adherence to bisphosphonates.

Results: The median time until bisphosphonate discontinuation was 170 days [95% confidence interval (CI) 154-186]. Accounting for socioeconomic status, the baseline variables that were associated with adherence failure were use of acid-related medications (hazard ratio (HR) =1.25, 95% confidence interval 1.01 to 1.55) and smoking (HR=1.82, 1.26 to 2.64); reporting high levels of physical activity was associated with better adherence (HR=0.69, 0.52 to 0.92).

Conclusion: Overall adherence to bisphosphonates among elderly Australian women with a fracture history was poor. Inquiring about acid-related disorders and health behaviour such as smoking and lack of physical activity could help the prescribing physician to identify women at risk for adherence failure.

Berecki J, Lucke J, Hockey R & Dobson A. Transitions into informal care and out of paid employment of women in their 50's: A study of cause and effect. *Social Science and Medicine*

Data from the Australian Longitudinal Study on Women’s Health were used to study the order of events leading to informal caregiving and changes in labour force participation in mid-aged women, taking into account health and socio-economic status. This analysis included women who responded to the third (2001) and fourth (2004) Surveys and providing data for the caring and employment variables used (n=9857). Caring was defined as providing care for an ill, frail or disabled person at least seven hours per week. Between 2001 and 2004, the proportion of women caring increased from 12% to 14% (difference 2.3 % [95% CI 1.6 to 3.1 %]). Paid employment participation decreased from 67% to 62% in 2004 (difference -5.2 % [95% CI -6.1 to -4.4 %]). Logistic regression model results showed that taking up caring between 2001 and 2004 was not statistically significantly associated with employment status in 2001. Among women who took up caring, however, hours spent in paid employment in 2001 was negatively associated with hours spent caring in 2004 (rs -0.10, p=0.004). Amongst women working in 2001, taking up caring between 2001 and 2004 was associated with reduced participation in paid employment (OR=1.63 [95% CI 1.34 to 1.98]).

In conclusion, among mid-aged women, transitions into caregiving were irrespective of time spent in paid employment, but were followed by a decrease in labour force participation. Policies could aim to support continuing labour force participation during caregiving by creating flexible working arrangements; re-employment programs could support women who quit work in getting back to paid employment after a period of caregiving.

Collins C, Young A & Hodge A. Diet quality is associated with higher nutrition intake and self-rated health in mid-aged women. *Journal of the American College of Nutrition*.

Objective: To develop a diet quality score reflecting adherence to national dietary recommendations for the Australian Longitudinal Study on Women's Health (ALSWH) and to compare this against energy standardized nutrient intakes and indices of health.

Design: Cross-sectional survey in a nationally representative sample of mid-aged women participating in a cohort study.

Subjects: Data from 9,895 women aged 50-55 who participated in the 2001 Survey and had four or less missing values on their food frequency questionnaires were used to calculate the Australian Recommended Food Score (ARFS) based on adherence to Australian Dietary Guidelines.

Measure of outcome: Correlates of ARFS were investigated including, mean nutrient intakes and indices of self-rated health and health service use. Associations were examined using ANOVA for continuous variables and Chi-squared tests for categorical variables. Area of residence and educational attainment were used as covariates in all modelling, to adjust for sampling frame and socioeconomic status.

Results: The maximum ARFS was 74, with a mean of 33.0 ± 9.0 and 21% achieving a score > 40 . Higher ARFS was associated with indicators of higher socio-economic status, better self-rated health and lower health service use, $p < 0.0001$, higher intakes of micronutrients and lower percentage of energy as total or saturated fat, $p < 0.0001$.

Conclusions: The Australian Recommended Food Score can be used to rank mid-aged women in terms of diet quality and nutrient intake and is associated with indices of self-rated health and health service use. The ARFS can be used to measure future associations with health outcomes and mortality.

Cooper R, Lucke J, Lawlor D, Mishra G, Chang J, Ebrahim S, Kuh D & Dobson A. Socioeconomic position and hysterectomy: A cross-cohort comparison of women in Australian and Great Britain. *Journal of Epidemiology and Community Health*

Objectives: To examine the associations between indicators of socioeconomic position (SEP) and hysterectomy in two Australian and two British cohorts.

Study population: Women participating in the Australian Longitudinal Study on Women's Health (ALSWH), born 1921-1926 and 1946-1951, and two cohorts of British women, the British Women's Heart and Health Study and the MRC National Survey of Health and Development, born at similar times (1920 to 1939 and 1946, respectively) and surveyed at similar ages to the ALSWH cohorts.

Methods: Relative indices of inequality were derived for own and head of household occupational class, educational level attained and age at leaving school. Logistic regression was used to test the associations between these indicators of SEP and self-reported hysterectomy and/or oophorectomy.

Results: Inverse associations between indicators of SEP and hysterectomy were found in both the Australian and British cohorts of women born in 1946 or later. There was also evidence of an inverse association between education and hysterectomy in the Older Australian cohort. However, the associations in this Older cohort were weaker than those found in the mid-aged Australian cohort. In the Older British cohort, born in the 1920s and 1930s, little evidence of association between SEP in adulthood and hysterectomy was found.

Conclusions: These results suggest that inverse associations between indicators of SEP and hysterectomy are stronger in younger than in Older cohorts in both Australia and the UK. They provide further evidence of the dynamic nature of the association between indicators of SEP and hysterectomy.

Furuya H, Young AF, Powers JR & Byles JE. Alcohol consumption and physical health-related quality of life in older women using the transformation of SF-36 to account for death. *Japanese Journal of Alcohol & Drug Dependence*

Moderate alcohol consumption has been associated with health benefits in several studies, but few studies investigating such association for elders have been done. So, we explored the relationship between alcohol intake and changes in physical health-related quality of life HRQoL. As analyses of longitudinal HRQoL data excluding diseased participants produced overestimated results, we compared the methods with and without incorporating death and estimated valid physical HRQoL and its decline over time.

Study subjects were women from the Australian Longitudinal Study on Women's Health, aged 70-75 years at Survey 1 in 1996 (n =12,432), and were followed-up at 3 yearly intervals for 6 years. The level of alcohol consumption was divided into seven categories to identify possible harmful alcohol level for older women. We measured Physical Component Score (PCS) of Medical Outcomes Study Short-Form (SF-36), and applied the transformed PCS incorporating death as a valid score to estimate HRQoL changes for each alcohol group with adjustment for potential confounders.

Significant declines of values were observed and the values of 'non-drinker' and 'rare drinker' were lower than the other groups during 6 years in both PCS and the transformed PCS. Analysis of the PCS showed significant Alcohol \times Time interaction effects for non-drinker and rare drinker groups, as the scores were overestimated towards higher values at Survey 2 due to loss to follow-up of women who died. In the transformed PCS, these interaction effects diminished, and a clearer dose-response relationship between alcohol and physical HRQoL was observed at the third survey.

We examined the influence of deaths on the study conclusions with using PCS and its transformed value which included deaths. Being a nondrinker of alcohol was associated with greater risk of mortality and poorer physical HRQoL. Moderate alcohol consumption was not harmful, and may carry some health benefits for older women.

Graham M, James EL, Keleher H & Byles J. Predictors of hysterectomy as a treatment for menstrual symptoms. *Women's Health Issues*.

Background: Hysterectomy is a common procedure in Australia with approximately one in five Australian women undergoing a hysterectomy by the age of 50 for indications such as fibroids, disorders of menstruation (including excessive or irregular menstrual bleeding) and endometriosis. However, little is known about the characteristics of women who have had the procedure, or the predictors of hysterectomy as a treatment for menstrual symptoms. This study of middle-aged Australian women suffering from menstrual symptoms, aimed to identify the health and demographic characteristics that predict hysterectomy for the treatment of these problems.

Methods: A cross-sectional and a prospective cohort study were undertaken as a sub-study of the Australian Longitudinal Study on Women's Health (Women's Health Australia). Women from the Mid-aged cohort of the Women's Health Australia study who identified having menstrual problems in the 1996 and 1998 surveys or who had undergone a hysterectomy during that time, were recruited. A self-administered instrument was mailed to the women in 2000. Data were analysed using Backwards Logistic Regression to predict hysterectomy as a treatment for menstrual symptoms.

Results: The predictors of hysterectomy as a treatment for menstrual symptoms were varied. They included the number of menstrual symptoms experienced or conditions diagnosed (such as fibroids or excessive menstrual bleeding), a perception that there was information available about menstrual symptoms, being influenced in the decision making process to elect a treatment option, and dissatisfaction with the other treatments tried prior to hysterectomy.

Conclusions: The lack of information about alternatives to hysterectomy is of concern. Alternatives are available and should be offered in the context of information provision about relief of menstrual symptoms, prior to definitive options such as hysterectomy. The lack of knowledge among health professionals about effective treatments for menstrual symptoms may contribute to their role in influencing women's decision-making process to elect hysterectomy as a treatment for menstrual symptoms.

Koloski N, Smith N, Pachana N & Dobson A. Performance of the Goldberg Anxiety and Depression Scale in older women. *Age & Ageing*

Background: Measures to assess anxiety and depression separately often incur difficulties due to overlap of these constructs, especially in older individuals. Using the Goldberg Anxiety and Depression Scale (GADS) we aimed to confirm the factor structure of the instrument in a large cohort of older Australian women, to validate the instrument against other self-report information, and to assess its association with a variety of health-related outcomes.

Methods: Participants were 7264 women (aged 75-82 years) enrolled in the Australian Longitudinal Study on Women's Health. Measures of anxiety and depression included the GADS, the mental health items of the Medical Outcomes Study SF-36, and self reported information on mental health diagnoses, symptoms and medications. The factor structure of the scale was examined using latent trait analysis, while receiver operating characteristic curves were used to explore the performance of the scale against other criteria.

Results: Latent trait analyses replicated prior findings demonstrating high correlations between anxiety and depression as measured by the GADS and suggesting a third factor related to sleeping problems. Receiver operating characteristic curves showed that a simple score formed by summing responses to GADS items had high sensitivity and specificity in relation to other measures of anxiety and depression.

Conclusions: This large study provides support for the hypothesis that anxiety and depression are not readily distinguishable entities in older women and that the GADS is a useful tool for measuring the composite construct for epidemiological studies.

Lee C, Ford J & Gramotnev H. The Life Control Scale: Validation with a Population Cohort of middle-Aged Australian Women. *International Journal of Behavioural Medicine*

Objective: The concept of perceived control is central to many theories of physical and emotional wellbeing. However, existing measures are lengthy and generally focus on job control. In epidemiological research, brief measures and those which can be applied across entire populations are needed. Among women in particular, a substantial minority have no paid work, while most also have major unpaid family commitments which may affect wellbeing through their effect on control. Thus, we evaluated the six-item Life Control Scale with a population-based sample of middle-aged women.

Methods: A population-based sample of 11,223 women aged 50 to 55, participating in the Australian Longitudinal Study on Women's Health, completed the Life Control Scale as part of an omnibus survey of health and psychosocial factors.

Main Results: The scale was demonstrated to be unifactorial and internally reliable, and to show the expected relationships with several measures of socioeconomic position, physical health, and mental health.

Conclusions: The Life Control Scale is brief, valid, and broadly applicable in epidemiological research.

Lowe J, Young A & Dolja-Gore X. Cost of medications for older women. *Australian and New Zealand Journal of Public Health*

With chronic diseases such as diabetes on the increase the uptake of medications are required for patients to maintain a quality of life, these costs are unfairly incurred by older women. The mean co-payment medication costs to older women increased by \$25.60 for women without diabetes and \$29.75 for women with diabetes giving an 18% increase between 2004 and 2005 compared to aged pensions which had a 3% CPI increase.

McDermott L, Dobson A & Owen N. Smoking reduction and cessation among young adult women: A seven-year prospective analysis. *Nicotine & Tobacco Research*

Aims: To examine prospectively, patterns of smoking behaviour and attributes associated with reductions in daily smoking and subsequent cessation over a seven-year period.

Design, setting and participants: Women aged 18-23 years in 1996 were randomly selected from the national health insurance database, which provides the most

complete listing of Australian residents. Mailed questionnaires were distributed in 1996 (Survey 1), 2000 (Survey 2) and 2003 (Survey 3). The analysis sample was the 972 women who were daily smokers with complete data on smoking at Survey 1, and who participated in all three surveys.

Measurements: The main outcome variable was transitions in smoking behaviour between Surveys 1, 2 and 3, which included changes in the number of cigarettes smoked, changes to non-smoking and changes to non-daily smoking. Explanatory variables included prior smoking history, sociodemographic, lifestyle, psychosocial and health characteristics.

Findings: A change from daily to non-daily smoking at Survey 2 was the strongest predictor of cessation at Survey 3. Baseline smoking level was not a significant predictor of smoking cessation. Becoming married increased the odds of cessation. Over the seven-year period, one-quarter of daily smokers reduced and maintained a lower level of smoking. Reducers were most likely to have been heavy smokers and to have used illicit drugs, compared to those who stopped smoking.

Conclusions: Reducing from daily to non-daily smoking appears to be a more effective quitting strategy than reducing the number of cigarettes smoked daily. This observation warrants verification in other populations and in experimental studies.

Pachana NA, Smith N, Watson M, McLaughlin D & Dobson A. Responsiveness of the Duke Social Support Sub-scales in older women. *Age and Ageing*

An abbreviated form of the Duke Social Support Index as used in a large longitudinal study of older Australian women was examined with respect to factors that might be expected to affect social support for older women over time. Two sub-scales were used: one describing the size and structure of the social network (four items) and the other perceived satisfaction with social support (six items). Over a three year period the network score increased among women whose life circumstances meant that they were likely to receive more support (e.g., recent widowhood). Likewise those women at risk of becoming more socially isolated (e.g., those with sensory loss) became less satisfied with their social support. Changes in both measures were tempered by women's mental health and optimism. Thus, although these sub-scales do not fully reflect the complexity of social support, they are responsive to changes in the lives of older women and can be recommended for use in community-based epidemiological studies.

7.2.3 Conference presentations

Berecki J. Hysterectomy and weight gain. 13th National Conference on Health Outcomes Canberra, ACT, 01 May 2008.

Byles J. The impact of women's weight on health outcomes: A problem for now and the future. 13th National Conference on Health Outcomes, Canberra, ACT, 01 May 2008.

Byles J. Living with urinary incontinence: A longitudinal study of older women. 13th National Conference on Health Outcomes Canberra, ACT, 01 May 2008.

Byles J, Millar C, Sibbritt D & Chiarelli P. Living with urinary incontinence: A longitudinal study of older women. 8th Asia/Oceania Regional Congress of Gerontology and Geriatrics, Beijing, China, 22 - 25 October 2007.

Byles J. How can we better manage the health of older women? Australian Federation of University Women, Central Coast, NSW, 25 September 2007.

Byles J. Health Ageing and Chronic Disease: Are the two mutually exclusive? New Zealand Association of Gerontology Annual Conference, Hamilton, New Zealand, 14 - 16 November 2007.

Chojenta C, Loxton D & Lucke J. Prevalence and antecedents of postnatal depression in Australia. 3rd International Congress on Women's Mental Health, Melbourne, Victoria, 17-20 March 2008.

Heesch K & Brown W. Dose response relationship between both physical activity and walking and 6 year incidence of arthritis in a national cohort of Older women. 2nd International Conference on Physical Activity and Public Health, Amsterdam, The Netherlands, April 2008.

Hobbs M, Taft A & Amir L. The emergency contraceptive pill (ECP) rescheduled: exploring women's knowledge, attitudes and experiences. Population Health Congress 2008, Brisbane, Queensland, 6 - 9 July 2008.

Johnstone M & Lee C. What is going on in the minds and lives of young Australian women? Australasian Society for Behavioural Health and Medicine 5th Annual Scientific Conference, Sydney, NSW, 31 January – 2 February 2008.

Loxton D, Powers J, Mooney R & Hoskings S. Sole motherhood, mental health and the role of social support. 3rd International Congress on Women's Mental Health, Melbourne, Victoria, 17-20 March 2008.

Parkinson L, Byles J, Gibson R & Robinson I. Women and arthritis: The burden of suffering for older Australian Women. 3rd International Congress on Women's Mental Health, Melbourne, Victoria, 17-20 March 2008.

Powers J & Young A. Mental health: what is the effect of heavy drinking? The Joint Scientific Meeting of the AEA and the IEA Western Pacific Region, Hobart, Tasmania, 27 - 29 August 2007.

Taft A. Depression and termination of pregnancy (induced abortion) in a national cohort of Young Australian women: the confounding effect of women's experience of violence. 3rd International Congress on Women's Mental Health, Melbourne, VIC, 16 - 20 March 2008.

Tooth L, Lucke J, Russell A, Byrne G, Lee C, Wilson A & Dobson A. The impact of caring roles on women's mental health. 3rd International Congress on Women's Mental Health, Melbourne, Victoria, 17-20 March 2008.

van Uffelen J, Watson M, Dobson A & Brown W. Convergent validity of self-reported sitting time with time-use questions. 2nd International Congress on Physical Activity and Health, Amsterdam, Netherlands, 14 April 2008.

van Uffelen J, Watson M, Dobson A & Brown W. Does sitting time cause weight gain? Results of the ALSWH. 2nd International Congress on Physical Activity and Health, Amsterdam, Netherlands, 14 April 2008.

7.3 Media

7.3.1 Press

Date	Media	Title	ALSWH Collaborator
14/12/07	West Australian	Two tipples a day help older women live longer	Professor Julie Byles
14/12/07	Daily Telegraph	Women age better with wine	Professor Julie Byles
14/12/07	Cairns Post	Tipple or two keeps the doctor away	Professor Julie Byles
14/12/07	Border Mail	Tipple leads to longer life for women	Professor Julie Byles
14/12/07	Courier Mail	Daily tipple or two tip to keep older women alive	Professor Julie Byles
14/12/07	Sydney Morning Herald	Elderly women should keep tipping study finds	Professor Julie Byles
14/12/07	Newcastle Herald	Cheers for daily wine	Professor Julie Byles
14/12/07	Canberra Times	Alcohol preserves elderly women	Professor Julie Byles
14/12/07	Maitland Mercury	Alcohol helps you live longer	Professor Julie Byles
14/12/07	Townsville Bulletin	Alcohol extends life	Professor Julie Byles
14/12/07	Launceston Examiner	A tipple aids women's lives	Professor Julie Byles
14/12/07	Hobart Mercury	A sip or two doesn't hurt	Professor Julie Byles
18/03/08	AAP Newswire – feeds news directly into the news systems journalists access	One in ten suffers depression post pregnancy	Catherine Chojenta
19/03/08	News Mail	One in 10 mums affected by post-natal depression	Catherine Chojenta
19/03/08	Fraser Coast Chronicle	One in 10 mums affected by post-natal depression	Catherine Chojenta
19/03/08	Bendigo Advertiser	One in 10 mothers affected	Catherine Chojenta
19/03/08	Toowoomba Chronicle	One in 10 mums affected by post-natal depression	Catherine Chojenta
19/03/08	Daily Mercury	One in 10 mums affected by post-natal depression	Catherine Chojenta
19/03/08	Herald Sun	One in 10 mums affected by post-natal depression	Catherine Chojenta

19/03/08	Launceston Examiner	Depression for 1 in 10	Catherine Chojenta
19/03/08	Sunraysia Daily	One in 10 mums affected by post-natal depression	Catherine Chojenta
19/03/08	Border Mail	older mums hard hit by baby blues	Catherine Chojenta
19/03/08	Northern Star	One in 10 mums affected by post-natal depression	Catherine Chojenta
19/03/08	Newcastle Herald	older mums susceptible	Catherine Chojenta
19/03/08	Maitland Mercury	Mums hard hit by depression	Catherine Chojenta
19/03/08	Daily Advertiser	Post-natal blues harder on older mums	Catherine Chojenta
19/03/08	West Australian	One in 10 mothers gets blues after birth	Catherine Chojenta
19/03/08	Daily Liberal	One in 10 suffer baby blues	Catherine Chojenta

7.3.2 Television and radio

Date	Media	Title	ALSWH Collaborator
18/12/07	2NUR + 40 community stations	13:00 Retirement	Professor Julie Byles
18/03/08	ABC Brisbane	16:26 Post-natal depression	Catherine Chojenta
18/03/08	6PR Perth	15:03 Post-natal depression`	Catherine Chojenta
19/03/08	Sunrise	08:08 Post-natal depression	Catherine Chojenta

8. ARCHIVING

The project team has a policy of archiving with the Australian Social Sciences Data Archive (ASSDA) at the Australian National University on an annual basis. Each year we archive the most recently completed data set and any new data sets that have been created, and may re-archive earlier data sets if there have been changes to these.

There have been no updates to archiving since Technical Report 29 (December 2007).

9. PROJECT STAFF: JANUARY – JUNE 2008

Research Centre for Gender, Health and Ageing, University of Newcastle

Co-Director ALSWH/RCGHA Director	Professor Julie Byles
Project Manager	Dr Deborah Loxton
Statistician	Ms Jenny Powers
Data Manager Cohorts	Mrs Anna Graves
Communication & Research Officer	Mrs Catherine Chojenta
Research Assistant	Ms Jenny Helman
Executive Assistant	Mrs Lyn Adamson
Administrative Officer	Ms Melanie Moonen
Casual Project Assistants	Ms Amy Sales Ms Monica O'Neill Ms Hannah Brooke Ms Penne Cappas Ms Liz Kent Ms Claire Rooney

School of Population Health, University of Queensland

Project Director	Professor Annette Dobson
Senior Research Fellows/Project Coordinators	Dr Jayne Lucke Dr Leigh Tooth
Research Fellow	Dr Janneke Berecki
Data Manager-Surveys	Mr David Fitzgerald
Research Project Officer/Administration	Ms Bree Waters
Administrative Assistant	Ms Leonie Gemmell
Research Assistants/ Statisticians	Mr Sam Brilleman Ms Danielle Herbert Mr Richard Hockey Ms Melissa Johnstone Ms Irene Moyer Ms Melanie Spallek Ms Melanie Watson

10. APPENDICES

Appendix 1. Steering Committee minutes



MINUTES

Steering Committee meeting

University of Queensland

Wednesday 16 January 2008

9.00 am QLD time, 10.00am NSW time

Chair: Prof Annette Dobson

Minutes: Leonie Gemmell

1. Welcome and apologies

- Present: Annette Dobson, Jayne Lucke, Julie Byles, Christina Lee, Wendy Brown, Anne Young and Leonie Gemmell.
- Apologies received from Deb Loxton and Leigh Tooth

2. Minutes and matters arising

2.1 Actions from previous meeting

- AD advised members that Amanda Neill is unable to commit to a part-time research fellowship appointment with ALSWH at present.
- DL: has circulated a document to members listing people from various sections within the Department of Health and Ageing who expressed an interest in commissioning research at the Department Open Day last November.
- JL: advised that LT has corresponded with the organisers of the Population Health Congress to find out whether it will be possible to submit a proposal for an ALSWH symposium but has not yet received a response. AD advised that she has been asked to give an address at the Congress.
 - *ACTION*: AD will follow up with the organisers regarding the request as they will be in contact with her about arrangements for her presentation.

3. Strategic Issues

3.1 Membership of the SC

- *ACTION*: JB to discuss with DL the decision to invite John Germov to become more involved with ALSWH during 2008 with a view to inviting him to join the committee as a full member in 2009 prior to discussing with John.

3.2 Medicare and other data linkage

3.3 Project Advisory Committee meeting, February 2008

- *ACTION*: JL to prepare a document for Tessa outlining areas where more analysis can be carried out.
- *ACTION*: JL to follow up with LT, DL and NP regarding their availability to attend the PAC meeting.

3.4 Men, Women and Ageing project

- *ACTION*: AD and JB to take up with MWA investigators the issue of how best to handle overlapping EoIs.

3.5 Defining ‘Investigators’ and ‘Collaborators’ for Annual Report and Project Website

- *ACTION*: JL to prepare a WHA investigator “job description”.

3.6 Strategy for ALSWH representation at Population Health Congress, Brisbane, 6-9 July 2008

- *ACTION*: AD to follow up

4. Reports and Deliverables

4.1 Annual Report (draft due for completion end November 2007; final due 28 February 2008)

- *ACTION*: JL to work with DL to prepare financial summary for the Annual Report.

4.2 Technical Report #29 December 2007 (due 20 December 2007)

4.3 Young 4 Data Book (due 20 December 2007)

4.4 Major Report C (draft due April 2008)

4.5 Newsletter

5. Publications

5.1 Book launch (Monday 10th March, Newcastle)

5.2 Other publications

6. Operational Issues

6.1 Surveys

6.1.1 Old 5 Survey

6.1.2 Mid 5 Survey

6.2 Staffing

6.2.1 UQ

6.2.2 UN

7. For information

7.1 Budget Reports

7.2 PSA Report

8. AOB

8.1 Trademark process: Women’s Health Australia

8.2 Family and Domestic Violence Strategy and Data Sources Inventory

9. Next Meeting

Next Steering committee teleconference 13 February 2008 at 9am (QLD time) / 10am (NSW time).



MINUTES
Steering Committee meeting
University of Queensland
Wednesday 13 February 2008
9.00 am QLD time, 10.00am NSW time
Chair: Prof Julie Byles
Minutes: Leonie Gemmell

1. Welcome and apologies

- Present: Julie Byles, Deb Loxton, Jayne Lucke, Leigh Tooth, Wendy Brown, and Leonie Gemmell.
- Apologies received from Annette Dobson, Nancy Pachana, Christina Lee and Anne Young.

2. Minutes and matters arising

2.1 Actions from previous meeting

- AD: is yet to speak with the organisers of the Population Health Congress to enquire if it will be possible to submit a proposal for an ALSWH symposium at the Congress. Members agreed that individual abstracts should be submitted.
- JB: has invited John Germov to become an Associate Member of the Steering Committee and has also invited him to attend the planning day. John was very happy to accept and is looking forward to having more involvement with the study. Further discussion regarding membership to be carried forward to the face to face meeting on 10 March.
- JL: has submitted a document to Tessa outlining areas where more analysis can be carried out. This will be added to the agenda for the PAC meeting scheduled for 25 February.
- Arrangements for those attending the PAC meeting on 25 February have been finalised. Attendees include AD, JB, DL, JL, LT, WB.
- AD and JB: have been in consultation with MWA investigators regarding the issue of how best to handle overlapping EoIs. This will be managed case by case when both groups are involved and an overlap is identified.
- JL: has prepared a draft WHA investigator "job description". This will be circulated with the next agenda for discussion at the face to face steering committee meeting scheduled for 10 March.
- JL and DL: have prepared a financial summary for the Annual Report. This has been submitted to DoHA and is awaiting approval before being included in the Annual Report.

3. Strategic Issues

3.1 Membership of the SC

3.2 Medicare and other data linkage

3.3 Project Advisory Committee meeting, February 2008

3.4 Agendas for next Steering Committee (face to face) and Young 5 planning meeting

- *ACTION: Members to submit additional agenda items for face-to-face Steering Committee to JL.*
- *ACTION: LG to add Young 5 Pilot to March SC agenda*

3.5 Men, Women and Ageing project

3.6 Defining ‘Investigators’ and ‘Collaborators’ for Annual Report and Project Website

3.7 Strategy for ALSWH representation at Population Health Congress, Brisbane, 6-9 July 2008

3.8 Pamphlet

4. Reports and Deliverables

4.1 Annual Report (draft due for completion end November 2007; final due 28 February 2008)

4.2 Major Report C (draft due April 2008)

5. Publications

5.1 Book launch (Monday 10th March, Newcastle)

- *ACTION: JB to arrange media release for the book and make enquiries about a book review for ANZJPH*

5.2 Other publications

6. Operational Issues

6.1 Surveys

6.1.1 Old 5 Survey

6.1.2 Mid 5 Survey

6.2 Staffing

6.2.1 UQ

6.2.2 UN

7. For information

7.1 Budget Reports

7.2 PSA Report

7.3 Notes from operational planning meeting 23 January 2008

8. AOB

8.1 Trademark process: Women’s Health Australia

8.2 Change to Privacy Policy timeframe

9. Next Meeting

Steering committee face-to-face meeting, University of Newcastle, 10 March 2008 at 1pm (NSW time).



Minutes

Steering Committee face-to-face meeting

University of Newcastle

Monday 10 March 2008

1pm NSW time

Chair: Prof Annette Dobson

Minutes: Leonie Gemmell

1. Welcome and apologies

- Present: Annette Dobson, Julie Byles, Deb Loxton, Jayne Lucke, Leigh Tooth, Wendy Brown, Christina Lee, Anne Young, Nancy Pachana and Leonie Gemmell.

2. Minutes and matters arising

2.1 Actions from previous meeting

- JB: prepared a media release for the book, however, the UN media section is not keen to release it as they are not confident that it will attract a lot of interest. Australian Research Online will be producing a book review. A submission will also be made to ANZJPH for a book review.
It was suggested that other, more academic opportunities of promoting the book be pursued. DL advised that order forms have been circulated to 111 libraries. Another suggestion was to take some order forms to the Population Health Congress in July. AD suggested sending some order forms to DoHA.

3. Strategic Issues

3.1 Accommodation for UN team

3.2 Matters arising from the Project Advisory Committee meeting, February 2008

3.2.1 Contract renewal

3.2.2 New Young cohort

3.2.3 Priorities for government

- *ACTION: AD to follow up with TP regarding ALSWH response to government priorities.*

3.3 Medicare and other data linkage

3.3.1 Implications for ethics clearance

3.3.2 Implications for PSA

- *ACTION: LT to review PSA documents to account for linkage applications.*

3.4 Communication within ALSWH

3.4.1 What is appropriate for PSA

- *ACTION: LT to circulate a document listing the numbers of EoIs individuals are responsible for. Members to review their involvement in each EoI.*

3.4.2 Scope of EOIs

- *ACTION: LT to implement EoI list, check sheet and contact with liaison people for updates.*

3.4.3 Adding collaborators and other workers to EOIs

- *ACTION: DL to contact the Ethic Officer at UN to clear the amendment to the MoU.*

3.5 Other PSA Issues

- *ACTION: LT to circulate a couple of example EOIs including a substudy example to members for comment on.*

3.6 Pamphlet

- *ACTION: DL to send a variety of photos around for members to vote on for the front of the pamphlet.*

3.7 Substudy data for archiving

- *ACTION: AD to contact Terry Bell of UQ regarding IP for students.*
- *ACTION: Members to look over the list of substudies and forward amendments to DL.*
- *ACTION: Refer the issues of a substudy database and data storage to DMG.*

3.8 Tracing lost participants through Medicare

- *ACTION: LG to put this item back on the agenda after June.*

3.9 Policy regarding sponsorship for analysis

3.10 Trademark process: Women's Health Australia

3.11 Membership of the SC

3.11.1 Defining 'Investigators' and 'Collaborators'

- *ACTION: Both UN (DL) and UQ (JL and LG) to compile a preliminary list of potential primary investigators / Associate investigators to compare and present for discussion at the next Steering Committee meeting.*

4. Reports and Deliverables

4.1 Annual Report (draft due for completion end November 2007; final due 28 February 2008)

4.2 Major Report C (Medications, draft due March 2008)

- *ACTION: JL to discuss re-formatting of graphs with DF, RH and JG.*
- *ACTION: JB to circulate chapters as outlined below.*
 - *Section 2 (Medication Use) to WB*
 - *Section 3 (Depression) to CL*
 - *Section 4 (Common conditions) to AY*
 - *Section 5 (Long term use) to NP*
 - *Section 6 (Health care item uptake) to AD*
 - *Section 7 (CAM) to LT*

4.3 Major Report D (Reproductive Health, draft due March 2009)

4.4 Major Report E (Ageing, draft due March 2010)

4.5 Technical Report #30 (due 1 June 2008)

5. Publications

5.1 Other publications

6. Operational Issues

6.1 Surveys

6.1.1 Young 5 Pilot

6.1.2 Old 5 Survey

6.1.3 Mid 5 Survey

6.2 Staffing

6.2.1 UQ

6.2.2 UN

7. For information

7.4 Budget Reports

7.5 PSA Report

9. Next Meeting

Next Steering committee teleconference 16 April 2008 at 9am



Minutes
Steering Committee meeting
University of Queensland
Wednesday 16 April 2008
9.00 am QLD time
Chair: Prof Annette Dobson
Minutes: Leonie Gemmell

1. Welcome and apologies

- Present: Annette Dobson, Christina Lee, Anne Young, Julie Byles, Jayne Lucke and Leonie Gemmell.
- Apologies received from Wendy Brown, Deb Loxton, Nancy Pachana and Leigh Tooth.

2. Minutes and matters arising

2.1 Actions from previous meeting

- LT is waiting on clarification from DoHA on linkage applications and DoHA ethics approval to complete changes to PSA documents.
- LT has circulated a document listing the EoIs for which individuals are responsible.
- LT has implemented a template for EoI progress reports and BW has circulated these to liaison people for updates. AD asked members to give feedback on using the template and members advised that they generally find them straight forward and easy to use. One issue raised was the inability to amend the datasets being used.
- LT has amended PSA documents and the approval letter to outline the responsibilities of the first named collaborator.
- DL to contact the Ethics Officer at UN to clear the amendment to the MoU.
 - *ACTION: This item is to be held over until the next SC meeting.*
- LT has circulated a couple of example EoIs to members for comment.
 - *ACTION: LT to circulate a substudy example and this item is to be held over until the next SC meeting.*
- DL sent a variety of photos around for members to vote on for inclusion on the front of the pamphlet. Response at 3.5.
- AD has been in contact with Terry Bell of UQ regarding IP for students, however, she has not obtained a response. AD will continue to pursue the query.
- Members will examine the list of substudies and forward amendments to DL. JB advised that some data have been found as a result of the exercise. AY advised that funding for substudy W061 has now been granted.
- Issues relating to data security will be discussed at DMG this afternoon.

3. Strategic Issues

3.1 Contract

3.2 Accommodation for UN team

3.3 Medicare and other data linkage

- *ACTION: JL and AD to resubmit ethics application to DoHA ethics committee.*

3.4 PSA Issues

3.5 Pamphlet -

3.6 Substudy data for archiving

- *ACTION: DL to prepare a list of substudy data for archiving for discussion at the next Steering Committee meeting.*
- *ACTION: Members to forward any further information about substudies to DL.*

3.7 Trademark process: Women's Health Australia

- *ACTION: JB to obtain information from DL and LA regarding the status of the Trademarking process.*

3.8 Defining 'Investigators' and 'Collaborators'

- *ACTION: JL to prepare a list of potential candidates for discussion at the next SC meeting.*

4. Reports and Deliverables

4.1 Major Report C (Medications, due 1 June 2008)
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4.2 Major Report D (Reproductive Health, draft due March 2009)

4.3 Major Report E (Ageing, draft due March 2010)
--

4.4 Technical Report #30 (due 1 June 2008)

5. Publications

5.1 Other publications

6. Operational Issues

6.1 Surveys

6.1.1 Young 5 Pilot

6.1.2 Old 5 Survey

6.1.3 Mid 5 Survey

6.2 Staffing

6.2.1 UQ

6.2.2 UN

7. For information

7.6 Budget Reports

7.7 PSA Report

9. Next Meeting

Next Steering committee teleconference 14 May 2008 at 9am.

Appendix 2. Monthly newsletters



Monthly Progress Notes for Research Team, Associates and Colleagues November/December 2007

Here's the latest from Women's Health Australia.

Strategic Issues

Data Linkage

Detailed negotiations are underway with various sections in DoHA to prepare an application to the DoHA Ethics Committee in February 2008 for linkage (without explicit consent) of ALSWH data and data from various Australian Government sources including the Medical Benefits Scheme, Pharmaceutical Benefits Scheme and various Aged Care schemes.

Reports and Deliverables

The Databook for the fourth Survey of the Young women has been sent to DoHA. It is available on the ALSWH website <http://www.alswh.org.au/surveys.html#surveytable>

Technical Report No. 29 has been sent to DoHA. Our grateful thanks to everybody who supplied information for the report, and helped with its completion. The report featured the major project activities between June and November 2007: the administration of Survey 5 for the Mid-aged women, the final responses for Survey 4 of the Young women and the Old 5 Pilot Survey. The report also described some of the latest analytic work on methods and measurement of longitudinal data. This included work on prevalence of chronic conditions, checking the quality of the scanning of the Young 4 Surveys and assessment of agreement between self-reported medication use and PBS data in the Old women. Other areas of activity included analysis of the patterns of missing data in young women's responses to questions about their reproductive history and rules for dealing with inconsistencies in responses from the same woman in subsequent surveys. In addition to these, the report also had the regular updates on collaborative research activities (including scientific meetings, teleconferences, projects completed and in progress by ALSWH investigators and collaborators), data linkage, publications, conference presentations and media reports.

It is available on the ALSWH website:

http://www.alswh.org.au/Reports/technical_reports.html

The **Annual Report** is currently being finalised.

Project News

Surveys

Older 5 Pilot Survey: Of 186 surveys sent out 144 were returned (77%). Data from the Older 5 Pilot are now available and are currently being reviewed by the ALSWH team.

Mid 5 Survey: Around 83% of the surveys have been returned and another 330 targeted reminders have been sent out. Checking of missing pages is complete with 4.8% of surveys having missing pages.

Publications

Staff and researchers from ALSWH were invited to contribute a volume in “The International Journal of Multiple Research Approaches”. The volume is titled “*Conducting longitudinal research: Practical lessons from the Australian Longitudinal Study on Women’s Health*” and was edited by Deb, Julie, Annette and Wendy. The volume can be purchased online at:

http://www.ebooks.com/ebooks/book_display.asp?IID=319979

The hard copy of the journal edition will be available in early 2008 (Vol 1/2). A launch will be held in Newcastle in March 2008. The papers in the volume are:

Byles J, Dobson A, Bryson L and Brown W	Getting started: “Preparing the ground” and “planting the vines” for longitudinal research
Warner-Smith P, Loxton D and Brown W	Human resources for longitudinal studies: Matching people to skills and tasks
Chojenta C, Mooney R and Warner-Smith P	Accessing and disseminating longitudinal data: Protocols and policies
Loxton D and Young A	Longitudinal survey development and design
Adamson L Young A and Byles J	Recruiting for a longitudinal study: Who to choose, how to choose and how to enhance participation
Adamson L and Chojenta C	Developing relationships and retaining participants in a longitudinal study
Adamson L and Graves A	Cohort management: Developing and maintaining participant databases in longitudinal studies
Graves A, Ball J and Fraser E	Data management: The building blocks of clean and accurate longitudinal datasets
Young A, Powers J and Wheway V	Working with longitudinal data: Attrition and retention, data quality, measures of change and other analytical issues
Helman J, Loxton D, Adamson L Graves A and Powers J	Conducting substudies in a longitudinal research project
Chojenta C, Byles J, Loxton D	Communication and dissemination of

Important dates for 2008

At the University of Newcastle

Face to face Steering Committee

10th March 2008

Book launch

10th March 2008 (evening)

Younger 5 Planning meeting

11th March 2008

At the University of Queensland

Face to face Steering Committee

10th July 2008

Brisbane - Public Health Congress

6 - 9th July 2008

Melbourne – Women’s Mental Health
Conference

17-20th March 2008

Other Activities

Conferences

ALSWH was represented at the Australian Association of Gerontology Conference in Adelaide (21-23 November).



That’s all for this month! The investigators and staff at ALSWH wish everyone a safe and happy festive season. We look forward to continuing the great work with all our collaborators, students and friends in 2008.

And remember, please keep us posted as to the latest WHA news and activities. Our best contact is sph-wha@sph.uq.edu.au.

Drs Jayne Lucke & Leigh Tooth,
Senior Research Fellows
www.alswh.org.au



Monthly Progress Notes for Research Team, Associates and Colleagues January 2008

A happy New Year to everyone. Hope you all had a relaxing and refreshing break. Here's the first newsletter for 2008 from Women's Health Australia.

Strategic Issues

ALSWH Open Days at the Department of Health and Ageing

The Department of Health and Ageing (DoHA) hosted two ALSWH Open Days on 12th and 13th November 2007. The agenda included seminars by project staff and investigators outlining the findings of *Major Report B: Women's Weight*, and a session that described how ALSWH data can be accessed and used by government departments. A number of useful contacts were made and conversations took place regarding the interests of department staff and the potential for ALSWH to conduct commissioned analyses.

Project Advisory Committee

The next Project Advisory Committee meeting will be held in Canberra on the 25th February 2008. Items on the agenda include the next major reports, planning for the Young 5 Survey, data linkage, and research themes for the next funding agreement which is due to commence in July 2008.

Data Linkage

Last year we reported on an application in preparation to the DoHA Ethics Committee for linkage (without explicit consent) of ALSWH data and data from various Australian Government sources including the Medical Benefits Scheme, Pharmaceutical Benefits Scheme and various Aged Care schemes. The application is now complete and hopefully will be considered at the March 2008 meeting of the Ethics Committee.

Reports and Deliverables

The latest ALSWH Achievements Report has been presented in the form of a desk calendar, with each month of the calendar devoted to ALSWH findings on a particular topic. Each topic presented on the desk calendar will be featured on the ALSWH web site as well. Copies of the calendar have been widely distributed to our mailing list of stakeholders as well as to the Office for Women mailing list. Please visit www.alswh.org.au/calendar for more information, and to view the monthly feature.

Major Report C: Medication Use

A team led by Professor Julie Byles is currently working on this major report with a draft due to DoHA towards the end of March. The report overviews medication and other health care use among women in Australia. In particular, it examines medications for chronic disease and their long-term use, and also explores the uptake and impact of new health care items.

Project News

Surveys

Older 5 Pilot Survey: Data collection is now complete. Of 186 surveys sent out, 144 were returned (77%). Seven participants withdrew and two did not wish to participate. The new opt-in consent process worked well with 128 consenting to data linkage, only two women did not consent and fourteen did not tick either 'yes' or 'no'.

Mid 5 Survey: Around 84.9% of the surveys have been returned (10,579 of the 12,449 that were mailed) and another 100 surveys have been sent out.

Dataset updates:

A number of updates have been made to datasets. By the 6th of February 2008, there will be a number of additions and changes to the data.

The additions are:

- Heights, weights, BMI. These were previously on separate data sets.
- The Age variable is now accurate to 1 decimal point. This age is still the woman's age when the survey was returned.
- The woman's Year of Birth is added. This is called, for example, m1YearBirth. This is distinct from Age since it is independent of when the survey was returned.
- For the Young data Reproductive Events are added. These are a clean up of existing survey data. Y1Misc is number of miscarriages, y1Term is number of terminations, and y1birth is number of births.
- For Young 2, 3, 4, and all Mid data, Labour Force variables have been added. These are, for example, y2labf, labour force participation, y2paid, payment for work, y2hrswork, hours worked
- Geocoded Variables: There are some changes to RRMA included for Old 3, Old4, Young 3, including previous missing values getting a valid value. Seifa variables have been added to data from Phase 2 onwards. These are: Index Urban, Index Rural, Index Disadvantage, Index Economic Resources, Index Education / Occupation, Seifa Disadvantage, Seifa Advantage / Disadvantage, Seifa Economic / Resource, Seifa Education / Occupation

The Changes to the data are:

- All Dates of Birth of Children are fixed to the 15th the month. This is to avoid the possibility of participant identification.
- For Phase 1 data all records that were not longitudinally valid (we had no way to contact them after Survey 1) are now deleted from the data.

This information will be recorded in the Data Dictionary, and the format and labels files that accompany the data.

More information is available from David Fitzgerald at d.fitzgerald@sph.uq.edu.au.

Important Reminder: Please make sure you have password protection on all ALSWH data, including any that are held on CD, DVD, USB or portable hard drives, and that data are not accessible to anyone who has not signed a confidentiality statement. This is necessary in order to comply with our ethics committee approval and the study Privacy Protocol.

Other Activities

People, meetings and visitors

Face-to-face operational planning meetings were held at the University of Queensland on 23rd January. Dr Deborah Loxton (Project Manager, UN), Dr Jayne Lucke & Dr Leigh Tooth (Project Co-ordinators, UQ) met together and with Professor Annette Dobson and David Fitzgerald (Data Manager, UQ) to examine ways of working more effectively. Leonie Gemmell (Administrative Officer, UQ) and Cath Chojenta (Research and Communications Officer, UN) also met for the day to discuss more effective office and database procedures.

The University of Newcastle hosted an orientation visit for Leonie Gemmell (Administration Officer, UQ), Dr Dimitrios Vagenas (Statistician, Men, Women & Ageing Project, UQ) and Russell Evans (Research Assistant, School of Population Health, UQ) who met the UN team and learnt about the survey processing procedures.

In December the team at UN said farewell to Jackie Sales who has moved to Canberra to take up a graduate position with the Attorney General's Department. Jackie had worked as a Project Assistant with Women's Health Australia for four years. Jackie was recently awarded a University of Newcastle Leadership Award of \$3000 for her efforts in community based leadership both locally and overseas. Jackie is a mentor for African Refugees, a founding member Hunteract (Rotary Youth Club), and has assisted in the establishment of a project for young girls in the city of Sapa in Vietnam. Last year Jackie travelled to Aceh in Indonesia to work with the International Development Law Organisation on a project looking at the effect of the 2004 Boxing Day tsunami on orphans and empowering women with their legal rights under Indonesian law. Jackie has managed to complete her law degree at the same time as working with us and undertaking all this voluntary work! We would like to take this opportunity to thank Jackie for the work she has done with us and congratulate her on her wonderful work within the community. We wish Jackie well for the future.

Liane McDermott graduated with her Doctorate in December 2007. Her PhD research focused on factors associated with continuity and change in tobacco use among young adult women. Using ALSWH data from the 1996, 2000 and 2003 Surveys, Liane's thesis examined prospectively, patterns, trends and transitions in smoking behaviour over a seven-year period; and examined factors associated with transitions in smoking behaviour, separately for occasional smokers and daily smokers. A large qualitative study of 80 young women from the ALSWH explored in more depth the possible influences on young women's smoking behaviour as they experienced different life-stage transitions. She was supervised by Professors Neville Owen and Annette Dobson.

Since completing her PhD, Liane has taken up a new position within the School of Population at UQ as a Lecturer in Health Behaviour, located in the Cancer Prevention Research Centre.

That's all for this month! Please keep us posted as to the latest WHA news and activities. Our best contact is sph-wha@sph.uq.edu.au.

Drs Jayne Lucke & Leigh Tooth, Senior Research Fellows
www.alswh.org.au



Monthly Progress Notes for Research Team, Associates and Colleagues February 2008

Here's the latest news from Women's Health Australia.

Strategic Issues

Project Advisory Committee

The Project Advisory Committee meeting was held in Canberra on the 25th February 2008. Items on the agenda included:

1. *Progress on data linkage*: Positive steps continue to be taken towards data linkage at national and state levels but there is no further news at this time. The DoHA Ethics Committee will now consider the ALSWH application for data linkage at its April meeting.
2. *Major Reports*: Members noted the progress of Major Report C (Medications), provided some suggestions for the content of Major Report D (Reproductive Health) and discussed ideas for Major Report E (Ageing).
3. *Younger 5 Survey*: Members discussed possible inclusions in the Young 5 pilot Survey in advance of the survey planning day to be held by ALSWH on 11th March.
4. *Research themes for the next funding agreement*: A number of possible research themes were discussed with particular emphasis on issues that are important for the new government including rural and remote issues (including population drift), social cohesion, workforce participation, and the economic impact of chronic disease and a particular focus on preventive and primary services.
5. *New cohort*: Also discussed was the recruitment of a new cohort of 18-23 year Olds. Further development work is required over the next two years in order to pilot test a new Survey in 2010.
6. *Summary sheets*: The ALSWH Summary Sheets that have been produced by DoHA were noted.

ALSWH Seminar at the Department of Health and Ageing

The Department of Health and Ageing hosted a Departmental Seminar on 26th February that described how ALSWH data can be accessed and used by government departments. Deb Loxton and Jenny Powers presented this repeat of the seminar that was first held as part of the DoHA hosted ALSWH Open Day activities in 2007.

Newcastle meetings in March

The face to face Steering Committee meeting will be held March 10th, followed by the book launch. On March 11th the Younger 5 planning meeting will be held. All of these meetings will take place in the Newcastle CBD, but due to the building work being undertaken around the DMB, all meetings will be held off site. Please see your invitations and agendas for address details.

Reports and Deliverables

Annual Report 2007

The annual report has been approved by DoHA and will soon be available in electronic format with printed copies to follow.

Major Report C: Medication Use

A team led by Professor Julie Byles is currently finalising the draft of this major report due to DoHA towards the end of March. The report overviews medication and other health care use among women in Australia. In particular, it examines medications for chronic disease and their long-term use, and also explores the uptake and impact of new health care items.

Project News

Surveys

Younger 5 Pilot Survey: Planning is underway for the pilot Survey for the fifth Survey for younger women. A planning meeting will be held in Newcastle on Tuesday 11th March. Please contact Deb Loxton for further information (Deborah.loxton@newcastle.edu.au).

Older 5 Survey: The fifth Survey for older women has received ethics clearance from both Universities of Newcastle and Queensland Ethics Committees. It is currently being printed and prepared for distribution to the participants.

Mid 5 Survey: Around 85.1% of the surveys have been returned (10,600 of the 12,450 that were mailed).

Change of contact details for ALSWH at UQ:

Please note that Leonie Gemmell is now the principal point of contact for enquiries to ALSWH at UQ and Dr Leigh Tooth is Chair of the Publications, Substudies and Analyses Committee (PSA). To avoid delays in processing please send all Expressions of Interest for submission to the PSA Committee directly to Leonie.

Leonie's hours of work are 8am to 3pm (QLD time) Tuesday to Friday.

Her contact details are:

Ph: (07) 3346 4723

Email: sph-wha@sph.uq.edu.au or l.gemmell@uq.edu.au

Other Activities

People, meetings and visitors

The Australasian Society for Behavioural Health and Medicine conference was held recently in Sydney. Congratulations to Melissa Johnstone from the School of Psychology, University of Queensland, who won the Best PhD Student Poster award for her presentation on the Younger women's comments and their consistencies and inconsistencies with the Theory of Emerging Adulthood. We are also pleased to announce that Melissa is now working for ALSWH on a casual basis contributing to work for Major Report D (Reproductive Health).

This month ALSWH-UQ welcomed Irene Fisher who is working part-time assisting David Fitzgerald (Data Manager – Surveys) with updates for the Data Dictionary.

The UQ team temporarily farewelled Melanie Spallek (Statistician) who has taken maternity leave until February 2009.

That's all for this month! Please keep us posted as to the latest WHA news and activities. Our best contact is sph-wha@sph.uq.edu.au.

Dr Jayne Lucke
Senior Research Fellow
ALSWH-UQ
www.alswh.org.au



Monthly Progress Notes for Research Team, Associates and Colleagues March 2008

Here's the latest news from Women's Health Australia.

Strategic Issues

Newcastle meetings

The face to face Steering Committee meeting and Young 5 planning meetings were held on March 10th and 11th in Newcastle.

The face to face meeting covered many strategic issues including matters arising from the Project Advisory Committee meeting in February, membership of the ALSWH Steering Committee, updating PSA and EOI processes, Medicare and other data linkage, and surveys and deliverables.

The Young 5 planning meeting was attended by around 30 people, including ALSWH investigators, staff and collaborators and representatives from the government. The Younger 5 Survey will have an expanded section on reproductive life events and contraception, and will contain a Food Frequency Questionnaire. The challenging task is trying to keep the number of pages to an absolute maximum of 40.

Reports and Deliverables

Major Report C: Medication Use

The draft of Major Report C has been sent to DoHA.

Project News

Surveys

Older 5 Survey: The fifth Survey for older women was mailed on 17th March to almost 7,000 participants. Completed surveys have begun arriving at the Newcastle office and logging, auditing, batching and phoning for missing data will begin in early April.

Mid 5 Survey: Around 85.1% of the surveys have been returned (10,600 of the 12,450 that were mailed).

Other Activities

People, meetings and visitors

Book Launch

Professor Julie Byles launched the new ALSWH book at Customs House in Newcastle on March 10th. The book is a special issue of the *International Journal of Multiple Research Approaches* 2007 (vol. 1/2) featuring the Australian Longitudinal Study on Women's Health.

Conducting Longitudinal Research: Practical lessons from the Australian Longitudinal Study on Women's Health.

- [Editorial: A practical guide to longitudinal studies](#)
Australian Longitudinal Study on Women's Health. *Deborah Loxton*
- [Getting Started: Preparing the ground' and 'planting the vines' for longitudinal research.](#) *Julie Byles, Annette Dobson, Lois Bryson, Wendy Brown*
- [Human Resources for Longitudinal Studies: Matching people to skills and tasks.](#)
Penny Warner-Smith, Deborah Loxton, Wendy Brown
- [Accessing and Disseminating Longitudinal Data: Protocols and policies.](#) *Catherine Chojenta, Rosemary Mooney, Penny Warner-Smith*
- [Longitudinal Survey Development and Design.](#) *Deborah Loxton, Anne Young*
- [Recruiting for a Longitudinal Study: Who to choose, how to choose and how to enhance participation.](#) *Lyn Adamson, Anne Young, Julie Byles*
- [Developing Relationships and Retaining Participants in a Longitudinal Study.](#) *Lyn Adamson, Catherine Chojenta*
- [Cohort Management: Developing and maintaining participant databases in longitudinal studies.](#) *Lyn Adamson, Anna Graves*
- [Data Management: The building blocks of clean, accurate and reliable longitudinal datasets.](#) *Anna Graves, Jean Ball, Eliza Fraser*
- [Working with Longitudinal Data: Attrition and retention, data quality, measures of change and other analytical issues.](#) *Anne Young, Jennifer Powers, Virginia Wheway*
- [Conducting Substudies in a Longitudinal Research Project.](#) *Jenny Helman, Deborah Loxton, Lyn Adamson, Anna Graves, Jennifer Powers*
- [Communication and Dissemination of Longitudinal Study Findings.](#) *Catherine Chojenta, Julie Byles, Deborah Loxton, Rosemary Mooney*

The launch was followed by a dinner at Noah's on The Beach in Newcastle to celebrate the contributions of Emeritus Professor Lois Bryson, Dr Penny Warner-Smith, and Lyn Adamson who have been with ALSWH since its inception. Lois and Penny have both recently retired from the Steering Committee, while Lyn has changed her role in ALSWH, dropping back to one day per week as a staff member and becoming a fulltime postgraduate student as of the 1st April 2008.

Conference Presentation

A symposium titled "Women's Mental Health: An overview and selected findings from the Australian Longitudinal Study on Women's Health" was presented by Dr Deborah Loxton, Dr Leigh Tooth, Mrs Cath Chojenta and Dr Lynne Parkinson at the Women's

Mental Health Congress in Melbourne on the 18th March. The ALSWH speakers covered the topics:

- Sole Motherhood, mental health and social support
- The Impact of Caring Roles on Women's Mental Health
- Prevalence and Antecedents of Postnatal Depression in Australia
- Women and Arthritis: The Burden of Suffering for older Australian Women

Cath Chojenta's presentation generated a considerable amount of media coverage for the longitudinal study. Cath was interviewed on radio, including state and national ABC and appeared on Channel 7's Sunrise program. The story was also syndicated in several newspapers.

Dr Leigh Tooth
Senior Research Fellow
ALSWH-UQ
www.alswh.org.au

Appendix 3. Old 5 Survey materials



women's
health
australia



*Fifth Survey for
Women over 80*
2008



■ How to complete this survey

This is the fifth main survey for women aged over 80. As the purpose of the project is to look at changes over time, some of the questions are the same as those in previous surveys.

Please answer every question you can.

If you are unsure about how to answer a question, mark the response for the closest answer to how you feel.

Please write any comments or important information on page 22 only. We are not able to read comments written elsewhere throughout the survey.

*Please read the instructions above each question **very carefully.***

Some require you to only answer those options which are applicable to you.

Other questions require you to mark one answer on each line.

The questions may also refer to different time periods.

INSTRUCTIONS:

Cross the boxes like this:

- Use a black / blue pen
- Do not fold or bend this survey

In general, would you say your health is: (Mark one only)

Excellent

Very good

Good ← You would cross this box if you think your health is good

Fair

Poor

Print clearly in the boxes like this:

What is your postcode? (PRINT clearly in the boxes)

2	3	0	8
---	---	---	---

Correct mistakes like this:

When you go to a General Practitioner:

(Mark one on each line)

	Always	Most of the time	Some-times	Rarely or never
Do you go to the same place?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If you make a mistake simply scribble it out and clearly mark the correct answer with a cross.

If you need help to answer any questions, please ring 1800 068 081

(This is a FREECALL number)

■ *women's health* is about using health services

1. In the **LAST 3 YEARS** have you been diagnosed with or treated for:
(Mark all that apply)

		Yes
a	High blood pressure (hypertension)	<input type="checkbox"/>
b	Osteoarthritis	<input type="checkbox"/>
c	Osteoporosis	<input type="checkbox"/>
d	Parkinson's Disease	<input type="checkbox"/>
e	Angina	<input type="checkbox"/>
f	Heart attack	<input type="checkbox"/>
g	Other heart problems	<input type="checkbox"/>
h	Diabetes (high blood sugar)	<input type="checkbox"/>
i	Asthma	<input type="checkbox"/>
j	Bronchitis / Emphysema	<input type="checkbox"/>
k	Stroke	<input type="checkbox"/>
l	Macular Degeneration	<input type="checkbox"/>
m	Glaucoma	<input type="checkbox"/>
n	Cataract	<input type="checkbox"/>
o	Skin cancer	<input type="checkbox"/>
p	Other cancer	<input type="checkbox"/>
q	Depression	<input type="checkbox"/>
r	Anxiety / Nervous disorder	<input type="checkbox"/>
s	Alzheimer's Disease or Dementia	<input type="checkbox"/>
t	None of these conditions	<input type="checkbox"/>

2. In the **LAST 3 YEARS**, have you had any of the following operations or procedures? (Mark all that apply)

		Yes
a	Hysterectomy	<input type="checkbox"/>
b	Repair of prolapsed vagina, bladder or bowel	<input type="checkbox"/>
c	Eye surgery (including cataract surgery)	<input type="checkbox"/>
d	Hip surgery for hip replacement	<input type="checkbox"/>
e	Hip surgery for broken hip	<input type="checkbox"/>
f	Bone density test	<input type="checkbox"/>
g	Knee surgery or arthroscopy	<input type="checkbox"/>
h	Other surgery	<input type="checkbox"/>
i	No operations or procedures	<input type="checkbox"/>

If there are other conditions, operations or procedures that you would like to tell us about, there is space on page 22.

3. How many times have you consulted a family doctor or another general practitioner in the LAST 12 MONTHS? (Mark one only)
- | | |
|------------------|--------------------------|
| None | <input type="checkbox"/> |
| 1 or 2 times | <input type="checkbox"/> |
| 3 or 4 times | <input type="checkbox"/> |
| 5-8 times | <input type="checkbox"/> |
| 9-12 times | <input type="checkbox"/> |
| 13-15 times | <input type="checkbox"/> |
| 16-19 times | <input type="checkbox"/> |
| 20 or more times | <input type="checkbox"/> |

4. Have you been admitted to hospital in the LAST 12 MONTHS?
(Mark all that apply)

- | | | |
|---|-----------------------------------|--------------------------|
| a | No | <input type="checkbox"/> |
| b | Yes but I did not spend the night | <input type="checkbox"/> |
| c | Yes I spent at least one night | <input type="checkbox"/> |

5. Have you consulted any of the following people for YOUR OWN HEALTH in the LAST 12 MONTHS? (Mark all that apply)

- | | | |
|---|---|--------------------------|
| a | A physiotherapist | <input type="checkbox"/> |
| b | A podiatrist or chiropodist | <input type="checkbox"/> |
| c | An occupational therapist | <input type="checkbox"/> |
| d | An "alternative" health practitioner (eg herbalist, chiropractor, naturopath, acupuncturist, etc) | <input type="checkbox"/> |
| e | None of these people | <input type="checkbox"/> |

6. Which of the following types of cover do you have for health services (excluding your Medicare card): (Mark all that apply)

- | | | |
|---|---|--------------------------|
| a | Private health insurance for hospital cover | <input type="checkbox"/> |
| b | Private health insurance for ancillary services / extras cover (eg dental, physiotherapy) | <input type="checkbox"/> |
| c | Department of Veterans' Affairs Gold Card | <input type="checkbox"/> |
| d | Department of Veterans' Affairs White Card | <input type="checkbox"/> |
| e | Commonwealth Seniors Health Card | <input type="checkbox"/> |
| f | Pensioner Concession Card | <input type="checkbox"/> |
| g | None of these | <input type="checkbox"/> |

■ *women's health* is about how you are feeling

The questions on this page ask only about NOW – how your health is NOW and about how your health limits certain activities NOW.

7. In general, would you say your health is Excellent
 (Mark one only) Very good
Good
Fair
Poor
8. Compared to one year ago, how would you rate your health in general now? (Mark one only)
- Much better now than one year ago
- Somewhat better now than one year ago
- About the same as one year ago
- Somewhat worse now than one year ago
- Much worse now than one year ago
9. The following questions are about activities you might do during a typical day. Does YOUR HEALTH NOW LIMIT YOU in these activities? If so, how much? (Mark one on each line)
- | | Yes,
limited
a lot | Yes,
limited
a little | No, not
limited
at all |
|--|--------------------------|-----------------------------|------------------------------|
| a VIGOROUS ACTIVITIES, such as running, lifting heavy objects, participating in strenuous sports | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b MODERATE ACTIVITIES, such as moving a table, pushing a vacuum cleaner, bowling or playing golf | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c Lifting or carrying groceries | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d Climbing SEVERAL flights of stairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e Climbing ONE flight of stairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f Bending, kneeling or stooping | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g Walking MORE THAN ONE kilometre | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h Walking HALF a kilometre | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i Walking 100 metres | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j Bathing or dressing yourself | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

10. During the PAST 4 WEEKS, have you had any of the following problems with your work (including your work outside the home and housework) or other regular daily activities AS A RESULT OF YOUR PHYSICAL HEALTH? (Mark one on each line)

	Yes	No
a Cut down on the amount of time you spent on work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
b Accomplished less than you would like	<input type="checkbox"/>	<input type="checkbox"/>
c Were limited in the kind of work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
d Had difficulty performing the work or other activities (for example it took extra effort)	<input type="checkbox"/>	<input type="checkbox"/>

11. During the PAST 4 WEEKS, have you had any of the following problems with your work or other regular daily activities AS A RESULT OF ANY EMOTIONAL PROBLEMS (such as feeling depressed or anxious)? (Mark one on each line)

	Yes	No
a Cut down on the amount of time you spent on work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
b Accomplished less than you would like	<input type="checkbox"/>	<input type="checkbox"/>
c Didn't do work or other activities as carefully as usual	<input type="checkbox"/>	<input type="checkbox"/>

12. During the PAST 4 WEEKS, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours or groups? (Mark one only)

Not at all	Slightly	Moderately	Quite a bit	Extremely
<input type="checkbox"/>				

13. How much BODILY pain have you had during the PAST 4 WEEKS? (Mark one only)

No bodily pain	Very mild	Mild	Moderate	Severe	Very severe
<input type="checkbox"/>					

14. During the PAST 4 WEEKS, how much did PAIN interfere with your normal work (including both work outside the home and housework)? (Mark one only)

Not at all	A little bit	Moderately	Quite a bit	Extremely
<input type="checkbox"/>				

15. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the PAST 4 WEEKS:

		All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
a	Did you feel full of life?	<input type="checkbox"/>					
b	Have you been a very nervous person?	<input type="checkbox"/>					
c	Have you felt so down in the dumps that nothing could cheer you up?	<input type="checkbox"/>					
d	Have you felt calm and peaceful?	<input type="checkbox"/>					
e	Did you have a lot of energy?	<input type="checkbox"/>					
f	Have you felt down?	<input type="checkbox"/>					
g	Did you feel worn out?	<input type="checkbox"/>					
h	Have you been a happy person?	<input type="checkbox"/>					
i	Did you feel tired?	<input type="checkbox"/>					

16. During the PAST 4 WEEKS, how much of the time has your PHYSICAL HEALTH OR EMOTIONAL PROBLEMS interfered with your social activities (like visiting friends, relatives, etc)? (Mark one only)

All of the time	Most of the time	Some of the time	A little of the time	None of the time
<input type="checkbox"/>				

17. How TRUE or FALSE is EACH of the following statements for you?

		Definitely true	Mostly true	Don't know	Mostly false	Definitely false
a	I seem to get sick a little easier than other people	<input type="checkbox"/>				
b	I am as healthy as anybody I know	<input type="checkbox"/>				
c	I expect my health to get worse	<input type="checkbox"/>				
d	My health is excellent	<input type="checkbox"/>				

■ *women's health* is about your daily life

18. How tall are you without shoes? cms **OR** ft ins

19. How much do you weigh without clothes or shoes?

kgs **OR** stones pounds

20. Do you have any of these sleeping problems?

(Mark all that apply)

- | | Yes |
|---|--------------------------|
| a Waking up in the early hours of the morning | <input type="checkbox"/> |
| b Lying awake for most of the night | <input type="checkbox"/> |
| c Taking a long time to get to sleep | <input type="checkbox"/> |
| d Worry keeping you awake at night | <input type="checkbox"/> |
| e Sleeping badly at night | <input type="checkbox"/> |
| f None of these problems | <input type="checkbox"/> |

21. Do you have: *(Mark all that apply)*

- | | Yes |
|---|--------------------------|
| a Difficulty seeing newspaper print, even with glasses? | <input type="checkbox"/> |
| b Difficulty recognising people across the road, even with glasses? | <input type="checkbox"/> |
| c Difficulty in hearing a conversation, even with a hearing aid? | <input type="checkbox"/> |
| d Difficulty speaking? | <input type="checkbox"/> |
| e None of the above? | <input type="checkbox"/> |

22. What is your date of birth? (Please write date in boxes)

		19		
Day			Year	

23. Have you had any of the following problems in the LAST 12 MONTHS?
(Mark one on each line)

		Never	Rarely	Some- times	Often
a	Stiff or painful joints	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Back pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Problems with one or both feet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	Breathing difficulty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	Indigestion / heartburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	Chest pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	Urine that burns or stings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	Passing urine more than twice during the night	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i	Leaking urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j	Constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k	Poor memory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l	Dizziness, loss of balance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m	Difficulty swallowing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n	Problems with teeth or gums	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o	Anxiety / panic attacks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. When you get your medication from the pharmacy is it:

		Yes
a	Still in its original packaging?	<input type="checkbox"/>
b	Already prepared into your daily doses (eg Webster pack)?	<input type="checkbox"/>
c	I do not take medication	<input type="checkbox"/>

25. Do you experience and if so how much are you bothered by:

(Mark one on each line)

	Not at all	Slightly	Moderately	Greatly
a Urine leakage related to the feeling of urgency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b Urine leakage related to physical activity, coughing or sneezing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c Small amounts of urine leakage (drops)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. How often do you experience urine leakage?

(Mark one only)

Never	<input type="checkbox"/>
Less than once a month	<input type="checkbox"/>
A few times a month	<input type="checkbox"/>
A few times a week	<input type="checkbox"/>
Every day and / or night	<input type="checkbox"/>

27. How much urine do you lose each time?

(Mark one only)

None	<input type="checkbox"/>
Drops	<input type="checkbox"/>
Small splashes	<input type="checkbox"/>
More	<input type="checkbox"/>

28. Please indicate how often you experience the following:

(Mark one on each line)

	Never	Less than once per month	Once or more per month, less than once per week	Once or more per week, less than once per day	Once or more per day
a Accidental leakage of solid stool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b Accidental leakage of liquid stool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c Accidental leakage of gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d Do you wear a pad or undergarment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e Do you alter your lifestyle due to bowel leakage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



29. Compared with when you were in your twenties, how good are you at:
(Mark one on each line)

	Much better now	Some-what better now	About the same	Some-what worse now	Much worse now
a Remembering the name of a person just introduced to you?	<input type="checkbox"/>				
b Recalling telephone numbers or other numbers that you use on a daily or weekly basis?	<input type="checkbox"/>				
c Recalling where you put objects (such as keys) in your home?	<input type="checkbox"/>				
d Remembering specific facts from a newspaper or magazine article you have just finished reading?	<input type="checkbox"/>				
e Remembering the item(s) you intend to buy when you arrive at the shops?	<input type="checkbox"/>				
f In general, how would you describe your memory compared to when you were in your twenties?	<input type="checkbox"/>				

30. In the LAST 12 MONTHS, have you: (Mark all that apply)

	Yes
a Slipped, tripped, or stumbled (not including falls to the ground)?	<input type="checkbox"/>
b Had a fall to the ground (does <i>not</i> include stumbles / trips)?	<input type="checkbox"/>
c Been injured as a result of a fall?	<input type="checkbox"/>
d Needed to seek medical attention (eg doctor, hospital) for an injury from a fall?	<input type="checkbox"/>
e Had any other injury from an accident at your home (eg burns, cuts, bruises)?	<input type="checkbox"/>
f Broken or fractured any bone/s?	<input type="checkbox"/>
g None of these	<input type="checkbox"/>



31. In our last survey, we asked about major events you had experienced. This question is about events you may have experienced in the LAST THREE YEARS. (Mark all that apply)

		Yes
a	Major personal illness or injury	<input type="checkbox"/>
b	Major surgery (not including dental work)	<input type="checkbox"/>
c	Major decline in health of spouse or partner	<input type="checkbox"/>
d	Death of spouse or partner	<input type="checkbox"/>
e	Death of your child	<input type="checkbox"/>
f	Major decline in health of other close family member or friend	<input type="checkbox"/>
g	Death of other close family member or friend	<input type="checkbox"/>
h	Decreased income	<input type="checkbox"/>
i	Moving house	<input type="checkbox"/>
j	Being robbed	<input type="checkbox"/>
k	Moving into hostel / institution	<input type="checkbox"/>
l	Spouse / partner moving into hostel / institution	<input type="checkbox"/>
m	Been pushed, grabbed, shoved, kicked or hit	<input type="checkbox"/>
n	None of these events	<input type="checkbox"/>

You are half way through. Time for a cuppa?

The following section asks more questions about your health and your community.

Often, there are no 'right' or 'wrong' answers – we are interested only in your opinion or feelings.

If you feel uncomfortable about answering a question, just leave it and go on to the next one, but please try to finish the survey if you can.

■ **women's health** is about having a healthy lifestyle

These questions are about the amount of physical activity you did LAST WEEK.

32. How many **times** did you do each type of activity **LAST WEEK**?

Only count the number of times when the activity lasted for 10 minutes or more. (If you did **not** do an activity, please write "0" in the box)

a **Walking briskly** (for recreation or exercise, or to get from place to place) times

b **Moderate leisure activity** (like social tennis, golf, bowls, recreational swimming, dancing) times

c **More vigorous leisure activity** (that makes you breathe harder or puff and pant) times

d **Vigorous household or garden chores** (that make you breathe harder or puff and pant) times

33. If you add up all the times you spent in each activity **LAST WEEK**, how much time did you spend **ALTOGETHER** doing each type of activity?

(If you did **not** do an activity, please write "0" in the box)

a **Walking briskly**
(for recreation or exercise, or to get from place to place) hours minutes

b **Moderate leisure activity**
(like social tennis, golf, bowls, recreational swimming, dancing) hours minutes

c **More vigorous leisure activity**
(that makes you breathe harder or puff and pant) hours minutes

d **Vigorous household or garden chores** (that make you breathe harder or puff and pant) hours minutes

34. How many serves of vegetables do you usually eat each day?

(Mark one only)

A serve = half a cup of cooked vegetables or a cup of salad vegetables

None	1 serve	2-3 serves	4 serves	5 serves or more
<input type="checkbox"/>				

35. How many serves of fruit do you usually eat each day?

(Mark one only)

A serve = one medium piece or two small pieces of fruit or one cup of diced pieces

None	1 serve	2-3 serves	4 serves	5 serves or more
<input type="checkbox"/>				

36. How many glasses / cups of non-alcoholic drinks do you usually have each day (eg juice, tea, coffee, water, milk etc)?

(Mark one only)

0-2 glasses	3-5 glasses	6-8 glasses	9 or more glasses
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

37. Which of the following groups have you sought advice or help from in the LAST 6 MONTHS? (Mark all that apply)

	Yes
a Food services (eg Meals on Wheels)	<input type="checkbox"/>
b Nursing or community health services	<input type="checkbox"/>
c Respite services (in home, day centre, or inpatient)	<input type="checkbox"/>
d Homemaking services (eg home care services, laundry services)	<input type="checkbox"/>
e Home maintenance services (eg odd jobs, gardening)	<input type="checkbox"/>
f Counselling or other mental health services	<input type="checkbox"/>
g Ambulance service	<input type="checkbox"/>
h Support and advisory groups (eg Arthritis Foundation, Pensioner Advisory Service, Older Women's Network)	<input type="checkbox"/>
i None of these groups	<input type="checkbox"/>

■ *women's health* is about managing day by day

38. What is your main (or most common) means of transport?

(Mark one only)

- Car (you drive)
- Car (someone else drives)
- Taxi
- Bus
- Train or tram
- Other

39. Do you use any aids for getting around?

(Mark all that apply)

		Yes
a	Motorised scooter	<input type="checkbox"/>
b	Wheelchair (motorised or not)	<input type="checkbox"/>
c	Walking or wheeled frame	<input type="checkbox"/>
d	Walking or quad stick	<input type="checkbox"/>
e	I do not use any aids for getting around	<input type="checkbox"/>

40. Do you have a problem with transport?

(Mark one on each line)

		Yes	No	Not applicable
a	Getting to places at night	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Getting to local shops and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Getting beyond your local neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

41. Do you regularly NEED help with daily tasks because of long-term illness, disability or frailty (eg personal care, getting around, preparing meals etc)? (Mark one only)

Yes

No

42. In the last month HAVE YOU HAD ANY DIFFICULTY (for example, needing to take extra time, changing the activity or using a device to help you) in completing any of these activities?

(Mark one on each line)

	No difficulty	Some difficulty	Unable to do
a Grooming (eg brushing hair, applying make-up)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b Eating (eg cutting meat, lifting glass or cup, opening milk carton)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c Bathing or taking a shower	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d Dressing your upper body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e Dressing your lower body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f Getting up from a chair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g Walking inside the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h Using the toilet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i Shopping for personal items or groceries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j Doing light housework (eg cleaning, washing-up)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k Doing heavy housework (eg vacuuming, yard work)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l Managing money (eg writing cheques or keeping accounts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m Preparing meals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n Taking medications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o Using the telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p Doing leisure activities or hobbies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

43. In the last month have you needed HELP FROM ANOTHER PERSON to carry out any of these activities?

(Mark one on each line)

		Yes	No
a	Grooming (eg brushing hair, applying make-up)	<input type="checkbox"/>	<input type="checkbox"/>
b	Eating (eg cutting meat, lifting glass or cup, opening milk carton)	<input type="checkbox"/>	<input type="checkbox"/>
c	Bathing or taking a shower	<input type="checkbox"/>	<input type="checkbox"/>
d	Dressing your upper body	<input type="checkbox"/>	<input type="checkbox"/>
e	Dressing your lower body	<input type="checkbox"/>	<input type="checkbox"/>
f	Getting up from a chair	<input type="checkbox"/>	<input type="checkbox"/>
g	Walking inside the house	<input type="checkbox"/>	<input type="checkbox"/>
h	Using the toilet	<input type="checkbox"/>	<input type="checkbox"/>
i	Shopping for personal items or groceries	<input type="checkbox"/>	<input type="checkbox"/>
j	Doing light housework (eg cleaning, washing-up)	<input type="checkbox"/>	<input type="checkbox"/>
k	Doing heavy housework (eg vacuuming, yard work)	<input type="checkbox"/>	<input type="checkbox"/>
l	Managing money (eg writing cheques or keeping accounts)	<input type="checkbox"/>	<input type="checkbox"/>
m	Preparing meals	<input type="checkbox"/>	<input type="checkbox"/>
n	Taking medications	<input type="checkbox"/>	<input type="checkbox"/>
o	Using the telephone	<input type="checkbox"/>	<input type="checkbox"/>
p	Doing leisure activities or hobbies	<input type="checkbox"/>	<input type="checkbox"/>

■ **women's health** is about your home and neighbourhood

44. a What is your **RESIDENTIAL** postcode?
(where you live)

b What is the postcode of your **POSTAL ADDRESS?** (if different from residential)

45. Which of the following best describes your housing situation?

Do you live in:

(Mark one only)

A house

A flat / unit / apartment / villa / townhouse

Mobile home / caravan / cabin / houseboat

Retirement village / self care unit

Nursing Home

Hostel

Other

46. Who lives with you?

(Mark all that apply)

a No one, I live alone

b Spouse or partner

c Own children

d Other family members

e Non-family members

47. Do you do any volunteer work for any community or social organisations (eg fundraising, community welfare, church activities, organising groups or classes)?

(Mark one only)

Every day

Every week

Every month

Less than once a month

Not at all



48. How do you manage on the income you have available? *(Mark one only)*

- It is impossible
- It is difficult all the time
- It is difficult some of the time
- It is not too bad
- It is easy

49. What is your PRESENT marital status? *(Mark one only)*



- Married
- De facto (in a relationship)
- Widowed
- Separated
- Divorced
- Never married

50. If you have been widowed in the last three years, please write the date of bereavement on the line.

.....

51. Do you regularly PROVIDE care or assistance (eg personal care, transport) to any other person because of their long-term illness, disability or frailty? *(Mark all that apply)*

- a Yes, for someone who lives with me
- b Yes, for someone who lives elsewhere
- c No, I do not provide care

52. Do you regularly provide (unpaid) care for grandchildren or other people's children?

(Mark one only)

- Yes, daily
- Yes, weekly
- Yes, occasionally
- No, never



53. The following questions are about the support you receive from other people. (Mark one on each line)

		Often	Sometimes	Never
a	How often do your children, spouse or relatives make you feel loved and cared for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	How often do your friends make you feel loved and cared for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	How often do you feel that your children, spouse or relatives listen to your worries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	How often do you feel that your friends listen to your worries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	How often can you count on your children, spouse or relatives to help with daily tasks like giving you a lift, shopping or helping with household chores?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	How often can you count on your friends to help with daily tasks like giving you a lift, shopping or helping with household chores?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	How often do your children, spouse or relatives give you advice or information about medical, financial or family problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	How often do your friends give you advice or information about medical, financial or family problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

54. How often have you experienced the following events?

		Never	Once	More than once
a	I was ignored or not taken seriously because of my age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	I was patronised or “talked down to” because of my age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	I was denied medical treatment because of my age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

55. These questions are about getting on with other people:

(Mark all that apply)

		Yes
a	Are you sad or lonely often?	<input type="checkbox"/>
b	Do you feel uncomfortable with anyone in your family?	<input type="checkbox"/>
c	Do you feel that nobody wants you around?	<input type="checkbox"/>
d	Has anyone close to you tried to hurt you or harm you recently?	<input type="checkbox"/>
e	Has anyone close to you called you names or put you down or made you feel bad recently?	<input type="checkbox"/>
f	Are you afraid of anyone in your family?	<input type="checkbox"/>
g	None of the above	<input type="checkbox"/>

56. In the PAST MONTH, have you: (Mark one on each line)

		Yes	No
a	Gone to the movies, theatre, concerts, lectures?	<input type="checkbox"/>	<input type="checkbox"/>
b	Gone to a sporting event?	<input type="checkbox"/>	<input type="checkbox"/>
c	Played cards, bingo, pool, or some other game?	<input type="checkbox"/>	<input type="checkbox"/>
d	Eaten out at a restaurant?	<input type="checkbox"/>	<input type="checkbox"/>
e	Attended a religious service?	<input type="checkbox"/>	<input type="checkbox"/>
f	Attended a class or course?	<input type="checkbox"/>	<input type="checkbox"/>
g	Used a computer / internet?	<input type="checkbox"/>	<input type="checkbox"/>

57. In the PAST MONTH, what activities have you done? Have you:

(Mark one on each line)

		Yes	No
a	Taken care of houseplants or done any outdoor gardening?	<input type="checkbox"/>	<input type="checkbox"/>
b	Worked on a hobby or handiwork like sewing, knitting or woodworking?	<input type="checkbox"/>	<input type="checkbox"/>
c	Painted pictures or played a musical instrument?	<input type="checkbox"/>	<input type="checkbox"/>
d	Exercised with a group (eg yoga, walking, aqua-aerobics)?	<input type="checkbox"/>	<input type="checkbox"/>
e	Written letters, poetry etc, read, did crosswords etc?	<input type="checkbox"/>	<input type="checkbox"/>
f	Done any paid work?	<input type="checkbox"/>	<input type="checkbox"/>
g	Other (Please write on the line)		
		

Thank you for taking the time to complete this survey
You are a valuable contributor to women's health research

If you have any questions you can contact us by telephoning

1800 068 081

(FREECALL)

or writing to us at the address below.



If you are concerned about any of your health experiences and would like some help, please contact:

- Your nearest Women's health centre or community health centre.
- Your general practitioner for advice about who would be the best person in your community for you to talk to.

If you feel distressed NOW and would like someone to talk to, you could ring Lifeline on 13 1114 (local call).



*Australian Longitudinal Study
on Women's Health*

The University of Newcastle, Callaghan NSW 2308.

Phone: 02 4913 8872 Fax: 02 4913 8888

Email: whasec@newcastle.edu.au

Web: <http://www.alswh.org.au>



You are a unique and
irreplaceable participant
in the Women's Health
Australia project.

We recently sent you
a survey but have not
heard back from you.

If you don't have a survey please
contact us:

Freecall 1800 068 081

Email whasec@newcastle.edu.au

women's
health
australia



Did you know that...

68% of older women say they are as healthy as anyone they know

55% of women in your age group regularly work on hobbies such as handicrafts, knitting or woodwork

83% of older women regularly write letters, or read, or do crosswords

Freecall number 1800 068 081

Email whasec@newcastle.edu.au

Website www.alsw.org.au

Address Reply Paid 70,
Hunter Region MC
NSW 2310

Thank you

We have received your
completed survey.

Congratulations on your ongoing
commitment to the Women's
Health Australia project. With your
help we have provided accurate
information to the government
about the health needs of women
across Australia.

women's
health
australia



Did you know that...

19%

of older women regularly participate in group activities such as yoga, walking or aqua-aerobics

27%

of women in your age group provide care for someone who is ill or disabled

84%

of older women regularly take care of houseplants or do outdoor gardening

Freecall number 1800 068 081

Email whasec@newcastle.edu.au

Website www.alswh.org.au

Address Reply Paid 70,
Hunter Region MC
NSW 2310

www.alswh.org.au

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June 2008