women's health australia

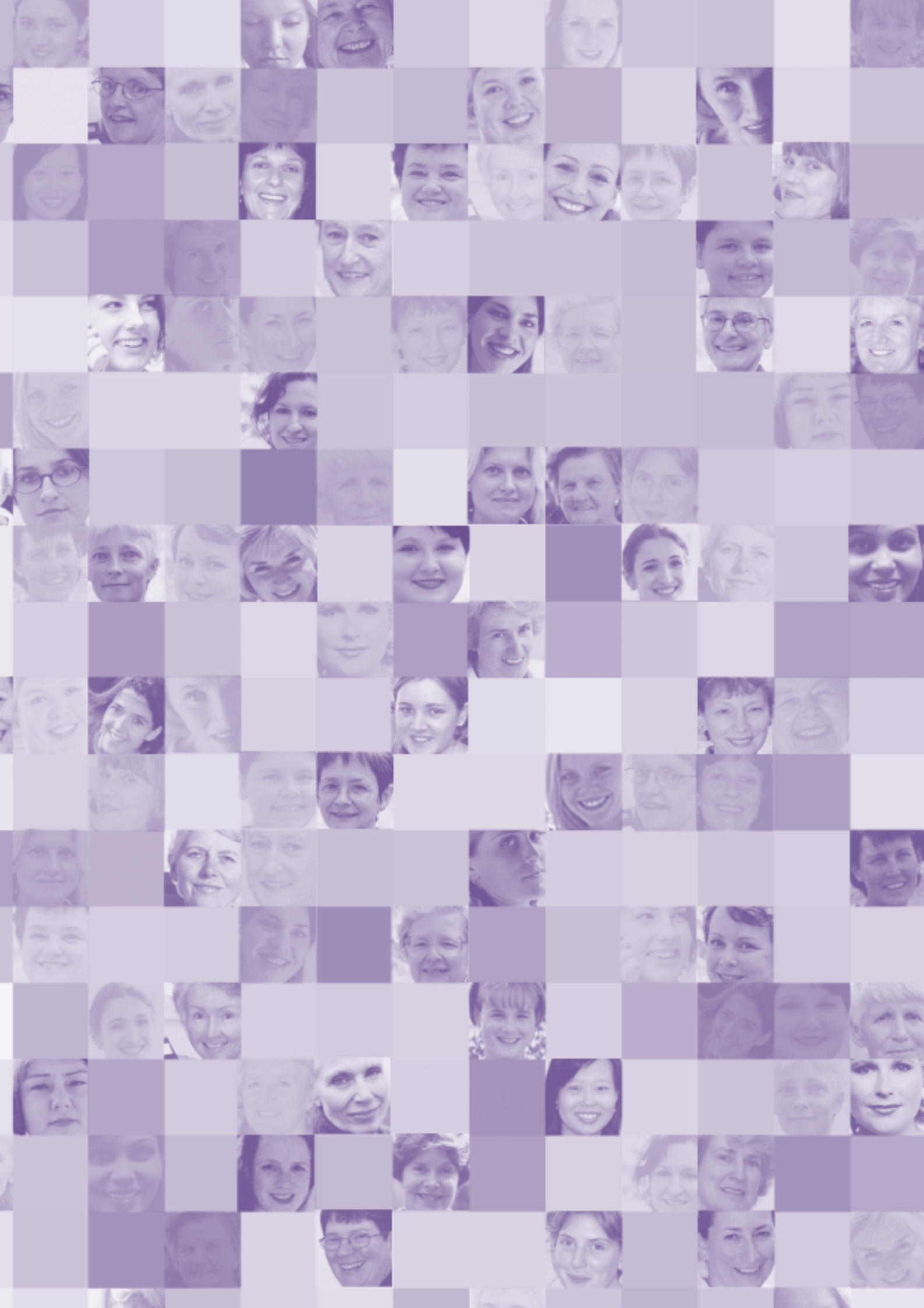
The Australian Longitudinal Study on Women's Health

Annual Report 2003

The University of Newcastle Australia

The University of Queensland

ISSN: 2653-3227



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women's health australia

" We will remember 2003 as a challenging year.

Against a background of great financial uncertainty the research team has made major progress with the Australian Longitudinal Study on Women's Health. At the end of our eighth year, the team has established a reputation for high quality, policy-relevant research in many interlocking areas united by the theme of women's health.

The Australian Longitudinal Study on Women's Health is funded by the Australian Department of Health and Ageing and, increasingly, by the Office of the Status of Women to provide an evidence base for the development and implementation of policies that meet the health needs of Australian women.The study involves about 40,000 Australian women in three age cohorts. Each age cohort is to be followed for over twenty years, tracking changes in health and life circumstances as they move through major life transitions. The surveys collect data about health in its broadest context, including physical health, emotional well-being, health behaviours, social and demographic circumstances, roles and relationships, and use of health services, in order to build up a multi-faceted picture of the changing health needs of Australian women.

Director's Report

WHA staff members from the University of Newcastle.

This year we have completed the third full round of surveys with Survey 3 of the Younger cohort, who were aged between 18 and 23 when first recruited, and are now between 25 and 30. These women are undergoing many of the major changes of young adulthood, particularly in the fields of work, relationships and motherhood, and their health needs are also changing.

At the same time, we have planned and piloted Survey 4 of the Mid-age cohort of women, which will be conducted in 2004. The Mid-age women, aged 45 to 50 when the Study began, will be between 53 and 58 next year and are experiencing the life events of middle age, including changes in family structure, parents' declining health, and possibly planning for their own retirement. Data analysis has continued for the Older cohort, first surveyed when they were aged 70 to 75 and now between 78 and 83. These women provide a unique insight into the changes associated with older age and enable us to understand factors that may help to maintain independence.

Other work has included the conduct of smaller substudies and subsidiary analyses, and ongoing work on data quality and documentation. A particularly pleasing result this year has been the completion of six doctoral theses. Postgraduate students make a major contribution to the project as well as providing the next generation of scientists and

ensuring that projects such as this have a future."

Annette Dobson

Annette Dobson
Study Director

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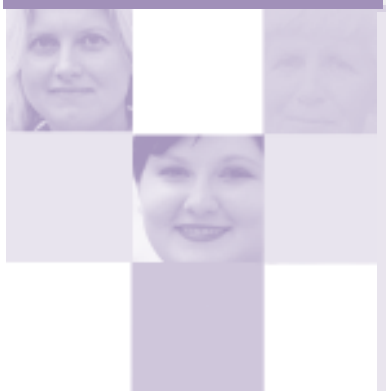

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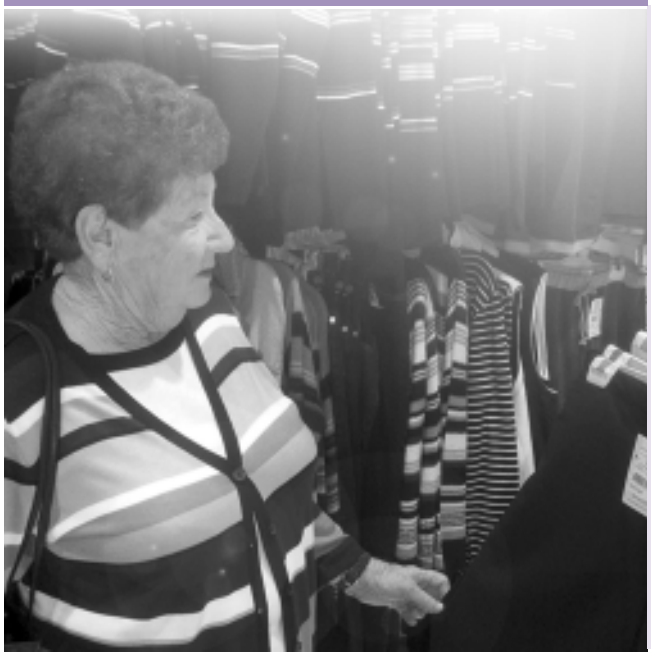
Feature: Women and Healthy Ageing

Ageing is an issue for women at all life stages

A major focus this year has been the production of a set of policy-relevant reports for the Australian Department of Health and Ageing. In keeping with current major policy initiatives, one of the five reports had a strong focus on the health of women in an ageing Australian population. The well-documented demographic trends that are leading to changes in the age profile of the Australian population have substantial implications for women of all generations.

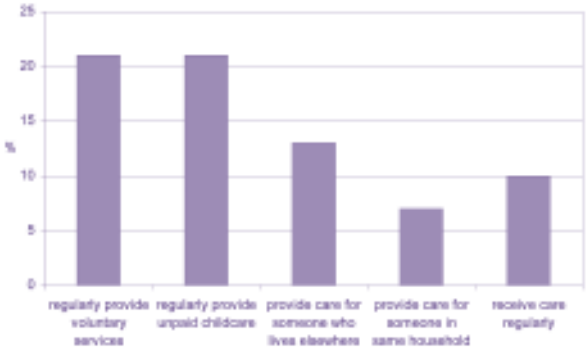
Older women are affected because they experience age-related conditions, and they provide a substantial proportion of formal and informal care for other older people. The Older women at ALSWH Surveys 1 and 2 – all aged in their 70s - were more likely to be caring for someone else than being cared for themselves: 17% of women reported they currently care for another person because of that person's long-term illness or frailty, and only 8% needed such care themselves (see Figure 1). Many cared for husbands who were in poor health and described this as their "main occupation"; a small number cared for their elderly mothers.

" We all dread the day when you can only sit in a chair ... we feel the longer you use everything, the longer it will keep going. "



They also cared for sick or disabled adult children, and were important caregivers for grandchildren and even great grandchildren.

Figure 1. Older women: Receipt and provision of practical care (Survey 2)



Middle-aged women are affected because of their increasing levels of participation in the labour force, and changing retirement patterns, as well as their roles in caring for parents, husbands, children and grandchildren. ALSWH data indicate that labour force participation is associated with better physical and mental health.

At Survey 3, over 75% of Mid-age women in the study were in the paid workforce. It is important to understand the factors that influence these women's continued participation in the workforce, the impact on their health, and how this may affect the availability of unpaid family caregivers over the next 20 years.

Younger women are affected because they are the focus of concerns about the declining fertility rate in Australia. ALSWH data show that although Younger women see a combination of paid work and motherhood as the norm, many Younger women are delaying childbearing. They have more qualifications than women of their mothers' generation, and most Younger women without children are in paid employment. As a result of starting to have children later, they may have fewer children. In contrast, in other countries where a combination of work and parenthood is promoted, fertility rates have been maintained at higher levels.

Are women torn between roles?

When asked about their aspirations, Younger women at both Survey 1 and Survey 2 said they wanted to have children and relationships; they also wanted education and paid work. However, there are some differences between the aspirations of Younger women in the cities and those in rural areas, who have more traditional expectations (see Figure 2).

Figure 2. Younger women's aspirations for age 35 by area of residence (Survey 1)

When Younger women's aspirations at Survey 1 were compared with the actual occupations of Mid-age women at that time, it seems that Younger women not only expect to combine motherhood and employment, they want jobs with higher occupational status than those their mothers' generation have had (see Figure 3).

Figure 3. Younger women's aspirations and Mid-age women's actual occupations (Survey 1)

However, between Survey 1 and Survey 2, the aspirations of the Younger women in the study changed, reflecting the realities of balancing motherhood and employment. They wanted fewer children, and more hoped to be in part-time rather than full-time work at age 35.

" I do the work of an occupational and physiotherapist, nurse, housewife, chief cook and bottle-wash, gardener and finance manager and for that I receive $57 a fortnight, $28 a week ... My job as a carer is 24 hours a day every day with no respite, no holidays ... we've been in situations where there's not been enough money to buy food and we've had to live on what meagre items were in the cupboard. "

Far from "retiring" in their fifties, many Mid-age women have a high level of workforce participation and many are increasing their hours of paid work. Between Survey 2 and Survey 3, about 35% of Mid-age women took on more hours of paid work.

Mid-age women who were caring for someone who was frail, elderly or ill were more likely not to be in paid work (Survey 2). However, about 15% of all employed Mid-age women in this study, irrespective of their hours of work, were providing care for an elderly person or someone in poor health at the time of Survey 3.

At Survey 3, about 40% of Mid-age women were also providing childcare, either for their own grandchildren or for someone else's children. Rural women were more likely than urban Mid-age women to be providing this type of care. By Survey 2, about 30% of Younger rural women had become mothers, compared with fewer than 15% of Younger urban women, indicating a greater need for childcare in rural areas.

" I often find the stress/lack of sleep interferes with my diabetes and this in turn affects the level of my work as an RN and I feel that I am not functioning to my full capacity, and could maybe at some time lose my job."

Is there an ideal balance between work and health?

Employed Mid-age women have better self-rated health than those who are not employed. At Survey 1, 55% of employed women said their health was excellent or very good, compared to 40% of unemployed women. Cause and effect are difficult to determine: work maintains good health, but illness or disability makes it difficult to work.

As Figure 4 shows, better mental health for Mid-age women appears to be associated with part-time work of around 18-24 hours per week. However, women working full-time have better physical health. Taken together, these results suggest that having about 25-34 hours of paid work per week may be best for Mid-age women's health.

Generally it seems that Mid-age women want to be in paid work, but are not necessarily happy when they are working long hours. The health of Mid-age women who are satisfied with the hours they are working is better than those who are unhappy with the amount of their paid work (see Figure 5), regardless of the actual number of hours worked.

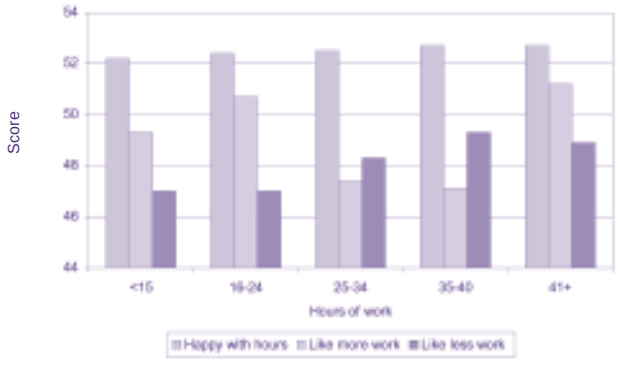
An analysis of Mid-age women's movements into and out of paid work between Surveys 2 and 3 was carried out. It showed that the physical health of Mid-age women who are continuously in employment is better than those who are not in the labour force or who have a period out of paid work.

Employed Mid-age women who were providing care for someone else at Survey 2 were more likely to have moved out of the labour force by Survey 3. Caregivers have to deal with stress and restrictions on employment, social and leisure choices. Mid-age caregivers seem to be in poorer health, while Older carers are in relatively good health (Survey 1). This may be because older women in poor health are likely to receive some services to help care for their family members.

Carers often feel that their caregiving role interferes with their ability to perform well at work.

Figure 4. Mental Health Score (MCS) and Physical Health Score (PCS) by hours of paid work (Survey 1)

Figure 5. Mental Health by satisfaction with hours of paid work (Survey 2)



Older women: a picture of healthy ageing?

The older women in ALSWH represent a generation of women who have lived through the experiences of the Depression, global war, and overwhelming technological and social change.

Most (90%) have participated in paid work at some time during their lives. Over 90% have had at least one child, and almost one quarter have had four or more children. At the time of Survey 1 these women were aged between 70 and 75 years. Many (41%) lived alone, and most of these women were widows.

At Survey 1, over one-third of the Older women rated their health as excellent or very good, and only 4% rated their health as poor. Older women's physical health is poorer than that of the Younger women, but their mental health is better (see Figures 6 and 7).

Figure 6. Physical health subscales by age cohort (Survey 1)

Figure 7. Mental Health subscales by age cohort (Survey 1)

Arthritis was one of the most common chronic conditions among Older women (42% at Survey 2). Women with arthritis were more likely to need help with daily tasks, and were higher users of health services, including GPs, specialists and hospital doctors. Older women with arthritis rated their access to GPs and medical specialists as less satisfactory than did other women. Approximately half of all Older women with arthritis also reported having visited an alternative practitioner in the previous twelve months.

The prevalence of osteoporosis increased markedly amongst Older women over time. For example, it was reported by 22% of women at Survey 1 and a further 13% at Survey 2. Having osteoporosis was associated with needing help with daily tasks, and higher use of health services, including GPs, specialists and hospital doctors. Osteoporosis is more commonly diagnosed among women in urban areas than among country women.

" Reading back through my own answers I appear to be doing very well for my age and so will many others in my age group 70-74. We are mostly a tough, resilient group, having lived through the depression years in our childhood, World War II (with its worries and limitations) and our battles to make homes, work hard and raise families over the years. Many of us married ex-servicemen whose health was not always good. "

Selected Projects in Progress 2003

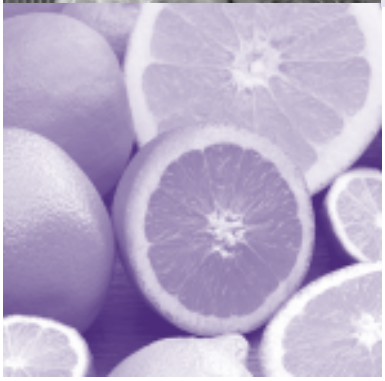
Dietary Intake among Mid-age Australian Women

ALSWH Investigators: Associate Professor Gita Mishra, Dr Kylie Ball, Dr Amanda Patterson, Professor Wendy Brown, Professor Annette Dobson

Collaborators: Dr Allison Hodge, Dr Christopher Thane (Cancer Council of Victoria)

Funding Sources: NHMRC Travel Award, MRC Nutrition Research Grant

In 2001, the third survey of the Mid-age cohort included the Cancer Council of Victoria's Food Frequency Questionnaire, and analysis of this complex dataset is in progress. Descriptive analysis of the Mid-age women's reported diets showed generally healthy patterns of food intakes, with frequent consumption of many foods that are important components of a healthy diet (e.g., fresh fruit, leafy green and other vegetables, bread, cereals, milk and meat). Analyses of nutrient intakes, however, suggested that large proportions of women consume less than the recommended dietary intakes of a number of micro-nutrients including vitamin A, vitamin E, magnesium, iron and zinc. Diets were also assessed for their compliance with thirteen food intake guidelines. Only about one-third of women complied with more than half of the guidelines, and only two women in the entire sample met all thirteen guidelines. Guidelines relating to appropriate consumption of breads and cereal-based foods, milk/cheese/yoghurt, intakes of total and saturated fat, and iron, were least likely to be met. Intakes of foods and nutrients, and compliance with the guidelines, varied across socio-demographic groups, with unmarried women and women in low-status occupations having a poorer diet. As well as helping to address the dearth of current data on dietary intakes in the Australian population, these results highlight the need for continued targeted public health strategies aimed at improving women's nutrition. The next stage of this project will involve relating various measures of nutritional adequacy to measures of health and well-being, including major diagnoses, symptoms, and quality of life.



Work-life Tensions: Time Pressure, Leisure and Well-Being Among Dual-Earner Parents in Australia

ALSWH Investigators: Dr Penny Warner-Smith, Professor Lois Bryson

Collaborators: Professor Peter Brown, Associate Professor Duncan Ironmonger

Funding Source: Australian Research Council Discovery Grant

While the question of how to balance one's personal, family and work demands is on everyone's lips, empirical research on the topic has emphasized objective measures of time use rather than the subjective sensation of time pressure. The aim of this three year project is to find out how dual-earner parents cope with their work and family responsibilities. While work-life tensions impact on individuals and families, stress-related complaints also have great potential costs for organisations, and implications for health service usage and the national budget. There is a body of literature on structural and institutional factors associated with work-life tensions, such as the implementation of family friendly workplaces, but less is known about the strategies which families employ to manage the competing demands on their time. The project examines the hypothesis that well-being is negatively related to high levels of perceived time pressure, to reduced leisure time, and to low levels of control over time schedules. Focus groups have been conducted to collect preliminary information about how families handle their busy lives but the project is also using an innovative time-sampling method to collect data from parents in dual-income households. Married, working mothers from the Young and Mid-age cohorts of ALSWH, and their partners, will be asked to use hand-held computers, which will signal them at randomly selected time intervals to enter data on their current activities and perceptions of time pressure. The researchers will subsequently interview the couples to explore this information in more detail. The project is also investigating relationships between time use, life course experience, and physical and mental well-being by using data already collected in the main Surveys.

Physical Activity: Who Changes? Who Keeps Going?

ALSWH Investigator: Professor Wendy Brown

Collaborator: Dr Stewart Trost

Funding Source: Australian Department of Health and Ageing

A detailed exploration of changes in physical activity over time, has been carried out by Professor Wendy Brown and Dr Stewart Trost at the University of Queensland. Longitudinal analysis of the Younger women's data showed that 36% were physically active at both Surveys 1 and 2 and 24% inactive at both surveys. The other 40% showed changes in physical activity between Survey 1 and Survey 2, with approximately 20% of the women changing from being active to inactive, and another 20% changing from being inactive to active. Young women who were most likely to change from being active at Survey 1 to inactive at Survey 2 were those who married, those who had their first baby, those who had a subsequent baby, and those who began paid work.

In the Mid-age cohort, the proportion of women doing at least 150 minutes of physical activity each week declined between Survey 2 and Survey 3 from 53% to 47%. Approximately 21% of the Mid-age women changed from being active to inactive and 15% changed from being inactive to active. Women who retired were most likely to change from being inactive to active. Women who reported a significant increase in work conditions (hours, conditions, responsibilities) were more likely to become inactive. Experiencing menopause, divorce, death of a spouse or partner, spouse or partner retiring from work, and children leaving home were - somewhat unexpectedly - not associated with change of physical activity level at Survey 3.

These data suggest that times of major change in social roles and responsibilities are often associated with major changes in daily routines, that are likely to precipitate dropout from physical activity. These findings have important implications for health promotion at times of change and stress in women's lives.

Who Experiences Poor Mental Health?

ALSWH Investigators: Professor Christina Lee, Professor Annette Dobson, Ms Nadine Smith (PhD candidate)

Funding Source: Australian Department of Health and Ageing

Detailed analysis of factors associated with poor mental health has been prompted by increasing policy interest in the prevention of chronic mental health problems. Around 12% of the women participating in ALSWH have been diagnosed with mental health conditions such as depression or anxiety, but over 20% report symptoms of poor mental health. Poor mental health is most common among the Young women and least common among the Older women, many of whom demonstrate high levels of resilience in the face of difficult circumstances. In all age groups, women with poor mental health tend to be single; in financial difficulties; in poor physical health; and to have many behavioural risk factors for poor health, including smoking, risky drinking, lack of physical activity, and use of illicit drugs (this last was only assessed amongst the Younger women).

Poor mental health appears to be one part of a complex and reciprocally interacting set of factors. Cause and effect are not straightforward. Poor mental health causes and maintains social and personal problems, but these in turn cause and maintain poor mental health. The life choices and health behaviours of women who are depressed or unhappy, especially the younger women, will have long-term implications. Decisions about education, finances, fertility and relationships may make it more difficult for them to make positive life changes, suggesting the importance of prevention and early intervention.

The odds of being diagnosed with depression increase as the number of symptoms of physical illness, and the number of major diagnoses, increases. This pattern is found across the lifespan. Social support is also associated with mental health, and marriage is strongly associated with better mental health: again these relationships are reciprocal, with good social relationships and a supportive spouse helping to prevent depression, and good emotional health helping to maintain successful relationships and marriage.

Completed Research Theses 2003

Domestic abuse and health: Quantitative and qualitative investigations among mid-aged Australian women

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Degree:
PhD

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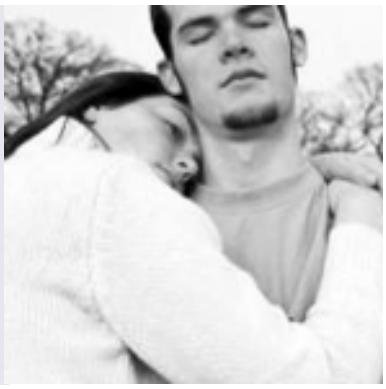
This thesis aimed to examine the relationships between a history of domestic violence and women's health service use, and physical and psychological health in mid-life; to determine factors that mediate the relationship between domestic violence and mid-life health; and to elaborate on these quantitative findings with information from qualitative interviews.

Multiple regression analyses were conducted using data from the Mid-age cohort of the ALSWH. The analyses used data from Survey 1 (1996; N = 14,100; 45-50 years) for health service use, physical health, and mediation analyses, and Survey 2 (1998; N = 11,648; 47-52 years) for psychological health analyses. Qualitative telephone interviews were conducted with a subset of the Mid-age sample (2001; N = 26; 50-55 years).

Associations were found between domestic violence and increased health service use; decreased physical health, physical symptoms, and diagnosed illnesses; and diagnoses of psychological disorders and symptoms, and psychoactive medication use. The relationship between domestic violence and physical health was partially mediated by stress, life events, education, income management, and smoking; and the relationship between domestic violence and psychological health was mediated by stress, life events, and social support. In-depth qualitative interviews indicated that domestic abuse affected women's ability to seek health services; directly and adversely affected their physical and psychological health in the short- and long-term; and that mediating factors occurred subsequent to domestic abuse, and adversely affected health. Additional factors (eg. coping strategies) may also mediate the relationship between domestic abuse and health.

This thesis concludes that domestic abuse leads to an increased need for health services; and that domestic abuse has direct adverse and long-term consequences for physical and psychological health. Furthermore, domestic abuse affects lifestyle, and causes coping responses that influence physical and psychological health.



Stress, health behaviours and the transition to adulthood among young women

Stress, smoking and physical activity are areas of particular concern for young women, as they report higher levels of stress, are taking up smoking at a higher rate, and are less likely to undertake vigorous leisure time physical activity, than young men. In this thesis the health psychology concepts of stress, smoking and physical activity were examined in a life-span perspective. The focus was on the transition to young adulthood, which is a time of many changes for most individuals and represents the move from a dependent adolescent to an independent adult. The transition to young adulthood was defined objectively by using positions in four life domains: residential independence, employment, relationships and parenthood. Young women participating in the ALSWH, who were aged 18 to 23 at Survey 1 in 1996 and 22 to 27 at Survey 2 in 2000, provided the data used in this thesis. The majority of these women could be classed as being in the transition to young adulthood at the time of both surveys. The stages of transition to young adulthood were used to examine, both cross-sectionally and longitudinally, the relationships with stress, smoking and physical activity. Overall, the strongest relationships were found with stress and smoking. Physical activity was most strongly related to relationship and motherhood, but not to other stages or transitions. A consistent finding was that participants who were in the most adult stage by Survey 1 showed the most negative outcomes for longitudinal changes in stress, smoking and physical activity. The exact age at which life changes were made could not be ascertained from the main surveys. This led to a survey, which asked about the timing of six major life changes, being sent to a subsample of the young women. Early timing of the life changes was found to be most related to negative outcomes for smoking behaviour. The implications for health and developmental psychology theories and prevention/intervention strategies are discussed. Future research could incorporate more subjective measures of the transition to young adulthood, whilst future work will entail the examination of a more complex assessment of longitudinal transitions and the impact of the timing of transitions.

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Abused Mid-aged Women in Australia: Experiences, Well-being, and Ways of Coping

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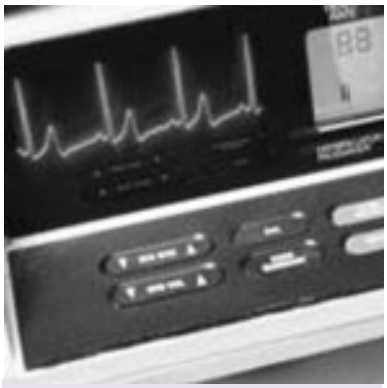
PhD

Supervisor: Professor Christina Lee

This thesis examines the relationship between characteristics of abuse, coping, and emotional well-being among women from the Australian population. Using data from the Mid-age cohort (n = 12339) of the Australian Longitudinal Study on Women's Health, abused women (n = 4268) were identified as an at-risk group for a number of adverse health, behavioural, and social problems. One hundred and forty-three women, who had earlier participated in a targeted survey on their experiences of abuse, completed a second questionnaire that drew on both quantitative and qualitative methods to investigate the strategies used to cope with abuse in adult relationships. This survey included the Revised Ways of Coping Checklist and the Antonovsky Sense of Coherence scale. Multivariate analysis of variance showed that problem-focused coping at the time of the abuse was not related to current emotional health, while emotion-focused coping was related to poor emotional health, and a high sense of coherence was related to better emotional health. Using data from this and the earlier abuse surveys, analysis of covariance indicated that the effect of emotion-focused coping on emotional health was indirect, through its inverse relationship with sense of coherence. In the final summary path model, sense of coherence emerged as the only coping measure to have significant direct effects on current emotional health. Greater use of emotion-focused coping was associated with frequent abuse, with the number of abusers, with talking about the abuse to a medical practitioner, with emotional abuse, with returning to an abusive partner, with feeling a bond with other abused women, with feeling vulnerable to further abuse, and with viewing oneself as a victim, and not with talking about the abuse to family or friends. After controlling for emotion-focused coping, a high sense of coherence was positively related to disclosure of the abuse to family and friends, but inversely associated with abuse from strangers, with frequent abuse, with recent abuse, with talking about the abuse to a psychiatrist, with talking about the abuse to a social worker, with talking about the abuse to a financial advisor, with feeling vulnerable to further abuse, and with viewing oneself as a victim. However, characteristics of abuse experience explained less than 29 per cent of the variance on coping measures. Qualitative analysis of women's own descriptions of useful ways of coping generally identified self-determination and self-affirmation, distancing and distraction tactics, and open disclosure of the abuse. The thesis concludes that coping is more usefully viewed as a personal resource than as a strategy, and its efficacy in situations of abuse will be determined by each woman's perception of the situation, by the degree of challenge to comprehensibility, manageability, and meaningfulness, and by the extent of individual resolve for change.



Psychological factors associated with the frequency of angina and the role of mediating variables

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Coronary heart disease (CHD) is the most burdensome disease in Australia. The disease can manifest itself in the form of angina, myocardial infarction (MI), and sudden coronary death. There is a large body of research showing that psychological factors are associated with various manifestations of CHD. Psychological interventions will have a greater effect, and be more cost-efficient, if patients are identified who are most at risk of having their angina triggered by psychological variables.

Three possible moderators were identified from a literature review: gender, a history of MI, and a history of coronary artery bypass graft (CABG). Three studies were designed to test the hypothesis that these three variables would moderate the relationship between psychological factors and angina frequency.

Study One examined 204 patients hospitalised with unstable angina. The results showed a relationship between reactive anger and angina frequency in women, but not men, during the acute phase of the angina. The strongest moderator appeared to be having a recent history of a CABG.

Because this finding of prior cardiac procedures (CABG or angioplasty) was so novel, it was important to explore corroborating evidence that having such a procedure moderated the relationship between psychological factors and coronary chest pain. This was achieved by analyzing data from the Older cohort of ALSWH for 543 women who reported having been diagnosed with CHD but reported no history of these procedures, and 481 women who had had these procedures. The analysis confirmed that having a heart intervention did moderate the relationship between psychological factors and chest pain in older women. Time pressure in 1996 predicted the presence of chest pain three years later in those with CHD but without a history of prior cardiac heart procedures. In contrast, a diagnosis of depression during the three-year period predicted chest pain in those who reported having undergone a cardiac procedure.

The third study explored three possible psychophysiological mediators to explain the relationship between psychological factors and angina frequency. A sample of 30 stable angina patients was used for the study. Heart rate variability was strongly correlated with angina frequency with evidence of moderating effects of history of MI and CABG, but not gender.

On the basis of the findings from this thesis, combined with the findings of the literature, it is concluded that there is an association between psychological factors and angina frequency, but that these relationships are complex, being affected by moderators such as gender, history of MI and history of CABG. Future research is needed to elucidate the links between psychological factors and angina to help treat angina episodes that are induced by psychological factors.

Factors affecting weight change in mid-aged women

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This thesis describes research exploring factors that affect weight change in a population-based sample of mid-aged Australian women.

Two separate studies were conducted.

In Study One, data from successive surveys of the Mid-age ALSWH cohort were used to explore patterns of weight change over a two-year period in a cohort of 14,100 women. Cross-sectional analysis using a linear regression model showed that body mass index tended to be higher in the late peri-menopause compared with other categories of menopause status. Prospective investigation of weight change and menopause transition showed that women who were peri-menopausal for two years gained slightly more weight (1.3 kg) than those who remained pre-menopausal (0.8 kg) over a two year period.

Study Two, of the Weight Change at Menopause Study, involved a series of focus group discussions with menopausal women, aimed at identifying factors that the women believed influenced their body weight. Based on the findings, a 16-page survey was mailed to 1161 Mid-age ALSWH women who had experienced a change in menopausal status; 875 (77%) responded.

The 326 women who gained weight were compared with the 483 who avoided weight gain. While there was no significant difference between the two groups on dietary intake, there were several key differences in lifestyle and behavioural factors. The weight-gainers reported a higher frequency of hot flushes and night sweats than the non-gainers. The weight-gainers were more likely to attribute their weight gain to factors beyond their control, while non-gainers reported taking steps to control their weight. The weight–gainers were more likely than the non-gainers to be in full-time employment, to view their career as their main role in life, and to report that being under time pressure meant that they had increased energy intake in comparison with three years previously. The weight-gainers were also more likely to have quit smoking, and reported more dieting behaviour than the non-gainers and less vigorous physical activity.

In investigating both the prevalence and factors associated with weight gain in middle-aged women, these research findings have the potential to inform development of population-based strategies to prevent weight gain at this life stage.

Treatments for Menstrual Symptoms: An Epidemiological Investigation

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Australian statistics indicate that hysterectomy is a common procedure amongst middle-aged Australian women. The appropriateness of hysterectomy to treat non-malignant conditions has been debated in recent years. A variety of procedures, less dramatic than hysterectomy, is available to treat menstrual problems. Factors such as socio-economic status, social support, geographical location, the number of menstrual problems experienced, the availability of information about menstrual problems and treatment options, and satisfaction with the outcomes of treatments may influence a woman's decision to elect to have a hysterectomy.

To investigate these issues, an epidemiological investigation of women with menstrual problems was undertaken. The aim was to describe the characteristics of middle-aged Australian women with menstrual problems and to identify factors that predict hysterectomy as a treatment for the relief of menstrual symptoms. This study was conducted as two separate sub-studies of the ALSWH.

The cross-sectional study was developed to describe the characteristics of Australian women who choose hysterectomy as a treatment for menstrual symptoms and to identify relationships and pathways from menstrual problems to hysterectomy (n = 201). The study showed that there is not enough information available to women about treatment options for the relief of menstrual problems, excluding hysterectomy. Satisfaction with hysterectomy as a treatment for menstrual problems was reported by the majority of women, in spite of these women also reporting the onset of new problems. Few women had tried a range of treatment options for the relief of their menstrual problems prior to their hysterectomy.

The prospective study was developed to identify factors which predict the number and type of treatments tried for the relief of menstrual problems (n = 486). Three main factors were identified as predictors of the number of treatments tried: better access to health care professionals, experiencing more limitations in daily activities, and negative emotions to a greater degree as a result of menstrual problems. The prospective study also allowed for the examination of changes in women's experiences over time. This study demonstrated that the number of menstrual problems experienced by middle-aged women decreases over time.

A comparative analysis was also undertaken of those women who had a hysterectomy (cross-sectional study) and those who did not (prospective study baseline data). The sample consisted of 687 women who participated in either the cross-sectional or prospective study. Regression analysis was used to determine the factors that predict women's choice of treatments for the relief of menstrual symptoms. The findings indicate that more menstrual symptoms or conditions experienced, more information that is perceived to be available about menstrual problems, and greater influence on the treatment decision-making process, all increase the likelihood of hysterectomy. Dissatisfaction with treatments tried for the relief of menstrual problems also increases the likelihood of hysterectomy and progression to hysterectomy puts many women at risk of also having oophorectomy and thus, surgical menopause.

Publications 2003

The following abstracts of papers can be found on our webpage under the publication section. The address is www.newcastle.edu.au/centre/wha/

Mishra G, Lee C, Brown W & Dobson A.
Menopausal transitions, symptoms and country of birth: The Australian Longitudinal Study on Women's Health.
Australian and New Zealand Journal of Public Health, 2002; 26(6): 563-570.

Objective: To assess differences among the menopausal transitions and symptoms experienced by women participating in the Australian Longitudinal Study on Women's Health, according to their countries of birth.

Methods: Data from 8,466 women aged 45-50 in 1996, who responded to surveys in 1996 and 1998 and had not had a hysterectomy, were analysed. Women were categorised by country of birth and cross-sectionally by menopausal status at Survey 1 and 2, as well as longitudinally by transition through menopause between Surveys 1 and 2. Four endocrine-related and 10 general symptoms were assessed.

Results: Women born in Asia were twice as likely as Australian-born women to be post-menopausal at Survey 1, twice as likely to become post-menopausal between surveys, less likely to remain peri-menopausal, and less likely to report hot flushes and night sweats. Odds ratios for each symptom at Survey 2 were near unity for all country of birth groups compared with Australian born women, with or without adjustment for symptoms at Survey 1, menopausal transition category, behaviour, lifestyle and demographics.

Conclusions: Asian-born women entered menopause earlier and passed through it more quickly, but once this was taken into account all women showed the same prevalences of symptoms. There may be differences between ethnic groups that influence the timing of menopause, but the subjective experience appears similar.

Implications: The timing of menopause may be affected by biological or dietary differences. Asian-born women's lower reported prevalence of symptoms may be explained by a more rapid peri-menopausal transition. With increasing numbers of Asian-Australian women reaching menopause, an understanding of country-of-birth differences has implications for public health.

Ball K, Brown W & Crawford D.
Who does not gain weight? Prevalence and predictors of weight maintenance in young women.
International Journal of Obesity, 2002; 26: 1570-1578.

Objective: To investigate the prevalence and predictors of weight maintenance over time in a large sample of young Australian women.

Design: This population study examined baseline and 4-year follow-up data from the cohort of young women participating in the Australian Longitudinal Study on Women's Health.

Subjects: A total of 8,726 young women aged 18-23 years at baseline.

Measures: Height, weight and body mass index (BMI); physical activity; time spent sitting; selected eating behaviours (e.g., dieting, disordered eating, takeaway food consumption); cigarette smoking, alcohol consumption; parity; and sociodemographic characteristics.

Results: Only 44% of the women reported their BMI at follow-up to be within 5% of their baseline BMI (maintainers); 41% had gained weight and 15% had lost weight. Weight maintainers were more likely to be in managerial or professional occupations; to have never married; to be currently studying; and to not be mothers. Controlling for sociodemographic factors, weight maintainers were more likely to be in a healthy weight range at baseline, and to report that they spent less time sitting, and consumed less takeaway food, than women who gained weight.

Conclusions: Fewer than half the young women in this community sample maintained their weight over this four-year period in their early twenties. Findings of widespread weight gain, particularly among those already overweight, suggest that early adulthood, which is a time of significant life changes for many women, may be an important time for implementing strategies to promote maintenance of healthy weight. Strategies which encourage decreased sitting time and less take-away food consumption may be effective for encouraging weight maintenance at this life stage.

Parker, G & Lee, C.
Violence and Abuse: An assessment of mid-aged Australian women's experiences.
Australian Psychologist, 2002; 37(2): 142-148

Little systematic research has been conducted in Australia to develop a picture of women's experiences of violence and abuse across their lifetime. The present study was designed to address this deficiency by assessing the prevalence of different types of abuse, the situations in which they occur, how women have coped, and the effect of abusive encounters on general health and wellbeing. Using self-report questionnaires, data were obtained from 1,159 women aged 48 to 53, previously recruited in the Women's Health Australia longitudinal project. Measures included descriptors of the abuse and help-seeking behaviours, and measures of general wellbeing and depression. The most frequently reported forms of abuse were emotional, physical and sexual. These overwhelmingly occurred in the home, and across all life stages, but mostly in adulthood, and most commonly on an occasional or weekly basis. Perpetrators were usually persons known to the victim. Most abusive encounters were not recent but, when experienced, had persisted over time and had negatively affected mental and physical health. The majority of women had discussed their circumstances with close relatives, friends, or professional persons. One-third of respondents had reported abusive episodes to the police, and almost half of these had found it helpful to do so. The data show that abuse is a fact of life for many Australian women and demonstrate a continuing need for appropriate prevention and intervention strategies.

Warner-Smith P & Mishra G.
'Happy hours': Women's wellbeing and their satisfaction with hours of paid work.
Health Sociology Review, 2002; 11(1&2): 39-48

While the labour force participation of women in post-industrial western societies is increasing, study after study shows that women still take major responsibility for family work, whatever their employment commitments. However, it has also been shown that employment is associated with better health and well-being for women. In regard to optimal integration of work, wellbeing and family life, there is therefore a need for more fine-grained research which looks at the specifics of women's health and their patterns of time use.

This paper reports on associations between satisfaction with hours of paid work and the physical and mental health of mid-age women. Data are drawn from the Australian Longitudinal Study on Women's Health (now known as the Women's Health Australia [WHA] project) which is a 20 year survey of the health of over 40,000 Australian women in three age cohorts. At the baseline survey in 1996 the cohorts were aged 18-23 ('young'), 45-50 ('mid age') and 70-75 ('older').

While it appears that part-time work is more generally associated with better health for mid-age women, the analysis discussed in this paper showed that women who were happy with their hours of work had better mental and physical health than women who would like to work either more hours or fewer hours. This was true irrespective of how many hours the women actually worked. These findings underscore links between health and employment, and point to the need for social policies which facilitate women's preferences for paid work.

Young AF & Dobson AJ.

The decline in bulk billing and increase in out-of-pocket costs for general practice consultations in rural areas of Australia, 1995-2001.

Medical Journal of Australia, 2003; 178: 122-126.

Objective: To describe the changes in bulk billing and out-of-pocket costs for Australian general practice consultations over the period 1995 – 2001.

Design: Retrospective analysis of 1996-2001 survey data from the Australian Longitudinal Study on Women's Health (ALSWH), linked with Medicare and Department of Veterans' Affairs (DVA) data on general practice consultations from 1995 to 2001.

Participants: 22 633 women who gave consent to linkage of their ALSWH data with Medicare/DVA records. In 1996, women in the "young" cohort (*n*=6219) were aged 18-23 years, those in the "mid-age" cohort (*n*=8883) were aged 45-50 years, and those in the "older" cohort (*n*=7531) were aged 70-75 years.

Outcome measures: Out-of-pocket costs paid by patients for general practice consultations, by calendar year, urban/rural area of residence, age, frequency of attendance, self-rated health and education level.

Results: For each age group and year studied, the use of bulk-billing was lower in rural areas than in urban areas. For example, in 2000 the percentage of women in rural and urban areas, respectively, who had all their general practice consultations bulk-billed was 31% v 52% (young women), 24% v 45% (mid-age women) and 58% v 79% (older women). There has been a steady decline in bulk-billing for general practice consultations in rural areas since 1995. The average out-of-pocket cost per consultation for women in rural areas was higher than the cost for women living in urban areas. After adjusting for age, health and socioeconomic factors, women living in urban areas were more than twice as likely to have all their consultations bulk-billed as women living in rural areas: odds ratio (OR), 2.4 (95% CI, 2.1-2.7) (young women); OR, 2.5 (95% CI, 2.3-2.8) (mid-age women); OR, 2.6 (95% CI, 2.3-2.9) (older women).

Conclusions: In Australia, the geographic differential in the cost of general practice consultations is widening. Policy changes are required to enable women in rural and remote areas to have access to affordable health care services.

Schofield MJ & Mishra GD.

Validity of self-report screening scale for elder abuse: Women's Health Australia study.

The Gerontologist, 2003; 43(1): 110-120.

Purpose of the study: Early identification of elder abuse requires a valid, easily administered screening instrument. This study examined the reliability and validity of the 'Vulnerability to Abuse' Screening Scale (VASS), a 12-item self-report measure with four factors (vulnerability, dependence, dejection, coercion).

Design and methods: The sample comprised 10,421 nationally representative Women's Health Australia study participants who completed Time 2 postal survey in 1999, aged 73-78. We tested validity of the VASS factor structure and whether baseline risk status independently predicted Time 2 attrition.

Results: Findings confirmed the VASS factor structure and construct validity. Four factors explained 51% of variance, and factors were internally consistent. The vulnerability and coercion factors held the strongest face and construct validity for physical and psychological abuse. The dependence and dejection factors were valid, reliable and significantly predicted three year attrition after controlling for confounders.

Implications: Further work is needed to determine sensitivity and specificity of VASS as a screening instrument for elder abuse. Qualitative research could examine specific experiences and contexts of vulnerable women.

In the 1996 baseline surveys of the Australian Longitudinal Study of Women's Health (ALSWH), 36.1% of mid-age women (45-50) and 35% of older women (70-75) reported leaking urine. This study aimed to investigate (a) the range of self-management strategies used to deal with urinary incontinence (UI); (b) the reasons why many women who report leaking urine do not seek help for UI; and (c) the types of health professionals consulted and treatment provided, and perceptions of satisfaction with these, among a sample of women in each age group who reported leaking urine "often" at baseline.

Five hundred participants were randomly selected from women in each of the mid-age and older cohorts of the ALSWH who had reported leaking urine "often" in a previous survey. Details about UI (frequency, severity, and situations), self-management behaviors and help-seeking for UI, types of health professional consulted, recommended treatment for the problem, and satisfaction with the service provided by health care professionals and the outcomes of recommended treatments were sought through a self-report mailed follow-up survey.

Most respondents had leaked urine in the last month (94% and 91% of mid-age and older women, respectively), and 72.2% and 73.1% of mid-aged and older women, respectively, had sought help or advice about their UI. In both age groups, the likelihood of having sought help significantly increased with severity of incontinence. The most common reasons for not seeking help were that the women felt they could manage the problem themselves or they did not consider it to be a problem. Many women in both cohorts had employed avoidance techniques in an attempt to prevent leaking urine, including reducing their liquid consumption, going to the toilet "just in case," and rushing to the toilet the minute they felt the need to.

Strategies are needed to inform women who experience UI of more effective management techniques and the possible health risks associated with commonly used avoidance behaviors. There may be a need to better publicize existing incontinence services and improve access to these services for women of all ages.

Miller YD, Brown WJ, Smith N & Chiarelli P. **Managing urinary incontinence across the lifespan.** *International Journal of Behavioral Medicine*, 2003; 10(2): 143-161.

The Perceived Stress Questionnaire for Young Women (PSQYW) was assessed for internal reliability and validity, for longitudinal changes, and for relationships with health and health behaviours. Participants in the Young cohort of the Women's Health Australia project completed the questionnaire as part of a wide-ranging survey on health and well-being in both 1996 and 2000. The 9683 women were aged between 18 and 23 years at Survey 1, and 22 and 27 years at Survey 2. The PSQYW was shown to have reproducible internal reliability and validity. Overall stress levels increased across the 4 years. For individual items the largest increase in stress was in the life domain of relationship with partner/ spouse, whilst the largest decrease was in the life domain of study. Higher levels of stress were associated with current smoking, and weekly alcohol bingeing. Of the health outcomes, mental health was found to have the strongest relationship with stress, with a measure of symptoms contributing some unique explanation, and physical health having only a minimal relationship. As this cohort is in the midst of the transition to adulthood future research should include the contextual factor of life course position, with another key area for future research being the causal relationship between stress and health over time.

Bell S & Lee C. **Perceived stress revisited: the Women's Health Australia project Young cohort.** *Psychology, Health and Medicine*, 2003; 8(3): 343-353.

Lee C & Russell A.
Effects of physical activity on emotional well-being among older Australian women: cross-sectional and longitudinal analyses.
Journal of Psychosomatic Research, 2003; 54: 155-160.

Objective: To explore relationships between physical activity and mental health, cross-sectionally and longitudinally, in a large cohort of older Australian women.

Method: Women in their 70s participating in the Australian Longitudinal Study on Women's Health responded in 1996 (aged 70-75) and in 1999 (aged 73-78). Cross-sectional data were analyzed for 10,063 women and longitudinal data for 6,472. Self-reports were used to categorize women into four categories of physical activity at each time point, as well as to define four physical activity transition categories across the three-year period. Outcome variables for the cross-sectional analyses were the mental health component score, and mental health subscales, of the SF-36. The longitudinal analyses focused on changes in these variables. Confounders included the physical health component scale of the SF-36, marital status, body mass index, and life events. Adjustment for baseline scores was included for the longitudinal analyses.

Results: Cross-sectionally, higher levels of physical activity were associated with higher scores on all dependent variables, both with and without adjustment for confounders. Longitudinally, the effects were weaker but women who had made a transition from some physical activity to none generally showed more negative changes in emotional well-being than those who had always been sedentary, while those who maintained or adopted physical activity had better outcomes.

Conclusion: Physical activity is associated with emotional well-being among a population cohort of older women both cross-sectionally and longitudinally, supporting the need for the promotion of appropriate physical activity in this age group

Mishra GD, Brown WJ & Dobson AJ.
Physical and mental health: Changes during menopause transition.
Quality of Life Research, 2003; 12(4): 405-412.

Objective: To measure changes in physical and mental health in six groups of women defined by menopausal status or use of hormone replacement therapy (HRT).

Design: Longitudinal study with 2 years follow-up.

Participants: Eight thousand six hundred and twenty three women participating in the Australian Longitudinal Study on Women's Health, aged 45-50 years in 1996.

Main outcome measures: Changes in the eight dimensions of the Short Form General Health Survey (SF-36) adjusted for baseline scores, lifestyle, behavioural and demographic factors.

Results: At baseline, mean scores for five of the eight dimensions of the SF-36 were highest (indicating better state of health or well-being) in pre-menopausal women. There were declines (that is, worsening health) in the SF-36 dimensions in most groups of women. Declines were largest in physical functioning (adjusted mean change of –4.9, standard error (SE) 0.7) and physical role limitation (-5.7, SE: 1.3) in women who remained peri-menopausal throughout the study period and in women taking HRT at the time of either survey (physical functioning: -5.3 (0.7), role physical limitation: -7.5 (1.2)). They were smallest in women who remained pre-menopausal (physical functioning: -3.2 (0.7); role physical limitation: -2.1 (1.1).

Conclusions: Physical aspects of general health and well-being decline during the menopausal transition. Sensitive measures and careful analysis are needed to understand why these changes are worse for peri-menopausal women and those taking HRT.

While telephone surveys of non-responders to mail surveys may improve response rates, some types of survey questions may not be answered equivalently by mail and telephone. The aim of this paper was to investigate the differences in mail and telephone responses to questions on self-rated health in a longitudinal study of three cohorts of women. Self-rated health was measured by the eight subscales of the Medical Outcomes Study Short Form Health Survey (SF-36).

In 1996, Survey 1 was answered by mail. In 1998, 706 and 11,595 mid-age women answered Survey 2 by telephone and mail respectively. The two groups differed in their self-rated health at Survey 1, with the women who later responded by telephone having poorer self-rated health at Survey 1. At survey 2 self-rated health declined overall for mail respondents but improved for telephone respondents. After adjusting for the Survey 1 SF-36 subscale score, the change between Survey 1 and 2 was significantly and clinically different for telephone and mail respondents for four of the eight SF-36 subscales: physical functioning, general health, mental health and social functioning.

Clinically meaningful changes in self-rated health may be due to the differences in mode of administration of the survey rather than true effects. Thus the use of mail and telephone to collect data in longitudinal studies may complicate the analysis and interpretation of changes in health.

Powers JR & Young AF.
Beware mixing mail and telephone administration of surveys.
Australian Epidemiologist, 2003; 10(2): 41-44 (Summary provided by the authors).

Objectives: To compare the characteristics of complementary and alternative medicine (CAM) users and non-users among Australian women.

Design: Cross-sectional postal questionnaire conducted during 1996, forming the baseline survey of the Australian Longitudinal Study on Women's Health.

Participants: Women aged 18-23 (n=14,779), 45-50 (n=14,099) and 70-75 (n=12,939) years, randomly selected from the Health Insurance Commission (Medicare) database, with over-sampling of women from rural and remote areas of Australia.

Main outcome measures: Consultation with an alternative health practitioner in the twelve months prior to the survey.

Results: Women in the mid age cohort were more likely to have consulted an alternative health practitioner in the previous year (28%) than women in the younger cohort (19%) or older cohort (15%). In all age groups, CAM users were more likely to reside in non-urban areas, to report poorer health, have more symptoms and illness and be higher users of conventional health services than CAM non-users.

Conclusions: There is clear evidence of use of CAM in parallel with conventional health services by women in Australia. These findings highlight a need for further research exploring the determinants of women's use of CAM.

Adams J, Sibbritt D, Easthope G & Young A.
The profile of women who use complementary and alternative medicine (CAM) in Australia.
Medical Journal of Australia, 2003; 179(6): 297-300.

Byles JE, Mishra GD, Harris MA & Nair K.
The problems of sleep for older women: Changes in health outcomes.
Age and Aging, 2003; 32(2): 154-163.

Objective: To identify the continuance of sleeping difficulty and medication use in a cohort of older Australian women from baseline to 3-year follow-up and to explore the relationship between these factors and health-related quality of life scores, falls and other health care use.

Method: A 3-year longitudinal survey of 10,430 Australian women aged 70–75 years at baseline. These women were participants in the Australian Longitudinal Study on Women's Health randomly selected from the Australian Medicare database.

Results: A majority of women (63%) endorsed one or more items related to sleeping difficulty at 3-year follow-up: 33% reported one item only, 16% reported two or three items, and 14% reported more than three items; 4,194 (42.4%) reporting "waking in the early hours", 2,592 (26.0%) "taking a long time to get to sleep", 2,078 (21.0%) "sleeping badly at night", 1,072 (10.8%) "lying awake most of the night" and 1,087 (11.0%) "worry keeping you awake" . Total scores on the Nottingham Health Profile sleep sub-scale ranged from 0-100 and were skewed to the right. The median score was 12.57. There was a strong statistical association between reporting sleeping difficulty at baseline and at follow-up. A total of 1,532 (15%) women reported use of sleeping medication at follow-up and women were 6.5 times more likely to report use if they also reported any item of sleep difficulty. There was a moderate level of agreement (88%, K = 0.56) between taking sleeping medication within 4 weeks before the baseline survey and within 4 weeks before follow-up. On multivariate analysis, sleeping difficulty at baseline was negatively associated with general health perceptions, emotional role limitations and general mental health sub-scales of the Short-Form-36 Health Survey at follow-up; the use of sleep medication at baseline was negatively associated with physical functioning, bodily pain, vitality, social functioning and general mental health Short-Form-36 sub-scale scores. The use of sleep medication was also significantly associated with falls, accidents, and health care utilisation.

Conclusion: Sleeping difficulty is a common and persistent complaint among older women and is strongly associated with use of sleeping medications. Both behaviours are negatively associated with health status.

Miller YD, Brown WJ, Chiarelli P & Russell A.
Urinary incontinence across the lifespan.
Neurourology and Urodynamics, 2003; 22: 550-557.

Aims: The objectives of the current study were (1) to measure type and severity of urinary leakage and (2) to investigate the association between these factors and age-related life events and conditions in three groups of Australian women with a history of urinary leakage.

Methods: Five hundred participants were randomly selected from women in the young (aged 18-22 in 1996), mid-age (aged 45-50) and older (70-75) cohorts of the Australian Longitudinal Study of Women's Health (ALSWH) who had reported leaking urine in the 1996 baseline survey. Details about leaking urine (frequency, severity, situations) and associated factors (pregnancy, childbirth, Body Mass Index [BMI]) were sought through self-report mailed follow-up surveys in 1999.

Results & Conclusions: Response rates were 50, 83, and 80% in the young, mid-age and older women, respectively. Most women confirmed that they had leaked urine in the past month, and the majority of these were cases of 'mixed' incontinence. Incontinence severity tended to increase with BMI for women of all ages, and increased severity scores were associated with having urine that burns or stings. Additional independent risk factors for increasing incontinence severity were heavy smoking in young women, past or present use of hormone replacement therapy in older women, and BMI and history of hysterectomy in mid-age women.

The use of complementary and alternative medicine (CAM) in the general population has grown considerably in recent years. However, little is known about the prevalence of CAM use amongst women with cancer. Our research provides the first step in addressing this gap in knowledge by reporting on a survey of 9,375 Australian women aged 73-78. We found that, for all cancers combined, 14.5% of women with cancer consulted an alternative practitioner. This percentage varied depending on the type of cancer: skin (15.0%), breast (11.5%), bowel (8.8%), and other (16.5%). Our findings suggest that CAM is now a significant practice issue for those delivering cancer-patient care and management.

Sibbritt D, Adams J, Easthope G & Young A.
Complementary and alternative medicine (CAM) use among elderly Australian women who have cancer.
Supportive Care in Cancer, 2003; 11: 548-550

Objectives: To estimate the prevalence of illicit drug use in young Australian women, determine their patterns of drug use and identify associated risk factors.

Methods: Data were collected in 2000 as part of the second survey of the youngest cohort in the Australian Longitudinal Study on Women's Health (n=9512).

Results: Among women aged 22-27 years, 58% reported having used an illicit drug at some time with most (57%) having used cannabis. Amphetamines (16%), ecstasy/designer drugs (15%) and LSD (14%) were the next three most commonly used drugs. Four different patterns of drug use were identified: past users of cannabis only (39%); current users of cannabis only (17%); past multiple drug users (13%) and current multiple drug users (31%). Living in a de-facto relationship or never being married, living with non-family members, a history of physical abuse, sexual intercourse, smoking and binge drinking were significantly associated with exclusive use of cannabis and with use of multiple drugs compared to never using illicit drugs. Living with a partner, experience of sexual or emotional abuse, pregnancy, diagnosis of depression and taking sleeping medication were significantly associated with being a multiple drug user but not for exclusive cannabis use. Multiple drug users had, on average, used cannabis 2-3 years before using any other drug.

Conclusions: Given the strong association found between smoking, heavy drinking and drug use of varied patterns, public health initiatives targeted at preventing young women from smoking and drinking should additionally target illicit drug use.

Turner C, Russell A & Brown W.
Prevalence of illicit drug use in young Australian women, patterns of use and associated risk factors.
Addiction, 2003; 98: 1419-1426.

This article describes one aspect of a prospective cohort study of 10,432 women aged between 70 and 75 years. After a 3-year period, 503 women self-reported a new diagnosis by a doctor of angina or myocardial infarction (symptomatic coronary heart disease [CHD]). Time one psychosocial variables (Duke Social Support Index, time pressure, Perceived Stress Scale, Mental Health Index, having a partner, educational attainment, and location of residence) were analysed using univariate binary logistic regression for their ability to predict subsequent symptomatic CHD. Of these variables, the Duke Social Support Index, Perceived Stress Scale and the Mental Health Index were found to be significant predictors of symptomatic CHD diagnosis. Only the Perceived Stress Scale, however, proved to be a significant independent predictor. After controlling for time one non-psychosocial variables, as well as the frequency of family doctor visits, perceived stress remained a significant predictor of the new diagnosis of symptomatic CHD in this cohort of older women over a 3-year period.

Strodl E, Kenardy J & Aroney C.
Perceived stress as a predictor of the self-reported new diagnosis of symptomatic CHD in older women.
International Journal of Behavioral Medicine, 2003, 10(3):205-220.

Brown WJ & Trost SG.
Life transitions and changing physical activity patterns in young women.
American Journal of Preventive Medicine, 2003; 25(2): 140-143.

Background: Physical activity (PA) patterns are likely to change in young adulthood in line with the changes to lifestyle that occur in the transition from adolescence to adulthood. The aim of this study was to ascertain whether key life events experienced by young women in their early twenties are associated with increasing levels of inactivity.

Methods: This was a 4-year follow-up of 7281 participants (aged 18-23 years at baseline) in the Australian Longitudinal Study of Women's Health, with self-reported measures of PA, life events, body mass index (BMI), and socio-demographic variables.

Results: The cross-sectional data indicated no change in PA between baseline (57% 'active') and follow-up (56% 'active'). However, for almost 40% of the sample, PA category changed between baseline and follow-up, with approximately 20% of the women changing from being 'active' to 'inactive', and another 20% changing from being 'inactive' to 'active'. After adjustment for age, other socio-demographic variables, BMI and PA at baseline, women who reported getting married, having a first or subsequent child, or beginning paid work were more likely to be inactive at follow-up than those who did not report these events.

Conclusions: The results suggest that life events such as getting married, having children, and starting work are associated with decreased levels of PA in young adult women. Strategies are needed to promote maintenance of activity at the time when most women experience these key life-stage transitions.

Hillier L, DeVisser R, Kavanagh A & McNair R.
The association between drug use and sexuality in young women.
Refereed Letter.
Medical Journal of Australia, 2003; 179(6): 326-327.

Studies of non-representative population samples show that recreational drug use is more prevalent among non-heterosexual women than heterosexual women. The Australian Longitudinal Study of Women's Health allowed an examination of the links between sexuality and recreational drug use in a representative sample of 9260 women aged 22-27 in 2000.

Respondents reported their history of tobacco, alcohol and illicit drug use. Reported frequency and volume of alcohol consumption were recorded according to National Health and Medical Research Council guidelines. Use of illicit drugs in the last year was dichotomised between marijuana and other illicit drugs - amphetamines, LSD, ecstasy/designer drugs, tranquillisers, natural hallucinogens, cocaine, inhalants, heroin, or barbiturates. Respondents also indicated whether they had ever injected illicit drugs.

Analyses compared exclusively heterosexual women with all other women. Data were weighted to correct for over-sampling in non-metropolitan areas. Odds ratios were adjusted for age, region of residence, and father's occupation (as a measure of social class).

Younger women were significantly more likely to report risky drinking and illicit drug use. Women from urban areas were significantly more likely to be non-heterosexual and to use illicit drugs, but less likely to report risky levels of alcohol consumption. Women whose fathers were professionals or managers were significantly more likely to be non-heterosexual and more likely to use illicit drugs, but less likely to smoke or report risky drinking. Details are available from the authors.

Non-heterosexual women were significantly more likely than heterosexual women to have ever smoked, to be current smokers, and to report risky levels of alcohol consumption, to have used marijuana and other illicit drugs in the last year, and to have ever injected drugs. Although these relative differences are important, so too are the absolute values - 45.6% of non-heterosexual women were smokers, and 45.6% reported alcohol consumption of concern. In the last year 58.2% used marijuana, and 40.7% used other illicit drugs. One in 10 had ever injected illicit drugs.

Although women in general are less likely than men to use drugs, and may not be a high-priority target for drug education, non-heterosexual young women's rates of illicit drug use are at least as high as those of young men. Higher levels of drug use among young non-heterosexual young women may be the result of individual experiences of homophobic discrimination, where drugs are used as an - albeit, short lived - panacea. Greater drug use may also be the result of normalisation of recreational drug use within lesbian communities. There is a need for specific interventions in young non-heterosexual women, and for further research to determine the reasons for their high levels of recreational drug use.

While the labour force participation of women in post-industrial western societies is increasing, study after study shows that women still take major responsibility for family work, whatever their employment commitments. However, it has also been shown that employment is associated with better health and well-being for women. In regard to optimal integration of work, wellbeing and family life, there is therefore a need for more fine-grained research which looks at the specifics of women's health and their patterns of time use.

This paper reports on some associations between satisfaction with hours of paid work and the physical and mental health of mid age women. Data are drawn from the Australian Longitudinal Study on Women's Health (now known as the Women's Health Australia [WHA] project) which is a 20 year survey of the health of over 40,000 Australian women in three age cohorts. At the baseline survey in 1996 the cohorts were aged 18-23 ('young'), 45-50 ('mid age') and 70-75 ('older').

Mid age women who were happy with their hours of paid work were most likely to be working part-time between 16 and 24 hours per week. They were followed by those who were working 'long part-time' of 25 to 34 hours per week. However, in every time category, women who were happy with their hours of work had better mental and physical health than women who would like to work either more hours or fewer hours. While 'long part-time' hours appear to be generally linked with optimal health for mid age women, it is certainly not the case that 'one size fits all'. Factors such as type of occupation, caring responsibilities, and living arrangement were found to be associated with satisfaction with hours of paid employment.

Warner-Smith P, Mishra G, & Brown P. **Women's wellbeing and their satisfaction with hours of paid work.** Paper prepared for the International Time Use Conference: *Time Use, Work-Family Interface, and Parent-Child Relationships*, March 21-23 2002, University of Waterloo, Toronto, Ontario, Canada.

www.lifestress.uwaterloo.ca/conference.html [24.03.03]

The National Health and Medical Research Council, Research Agenda Working Group (RAWG) and the literature on Indigenous health have identified the need to fill gaps in descriptive data on Aboriginal and Torres Strait Islander health and noted both the lack of research with urban populations and the need for longitudinal studies. This paper presents some of the broad ethical and methodological challenges associated with longitudinal research in Indigenous health and focuses particularly on national studies and studies in urban areas. Our goal is to advance debate in the public health arena about the application of ethical guidelines and the conduct of longitudinal studies in Aboriginal and Torres Strait Islander communities. We encourage others to offer their experiences in this field.

Grove N, Brough M, Canuto C & Dobson A. **Aboriginal and Torres Strait Islander health research and the conduct of longitudinal studies; issues for debate.** *Australian and New Zealand Journal of Public Health,* in press.

Byles JE, Harris M, Mishra G.
A good night's sleep: sleeping difficulty and sleeping medication use among older Australian women.
Proceedings from the 8th Annual National Health Outcomes Conference: *Health Outcomes 2002: Current Challenges and Future Frontiers.* 17-18 July 2002, Canberra, Australian Capital Territory, Australia. Published by: Australian Health Outcomes Collaboration, Wollongong 2002.

Sleeping difficulties impact on quality of life among older Australians in particular, and daytime sleepiness increases the risk of falls and other accidents. The prevalence of sleeping medication use and the extent to which it is taken optimally also needs to be understood in order to develop effective health promotion strategies to minimize sleep disturbance and its consequences.

Analysis of Women's Health Australia data from Surveys 1 and 2 of the older women showed a high prevalence of sleeping difficulties, with 63% of women endorsing at least one item relating to sleeping difficulty at Survey 2. Sleeping difficulties tended to be persistent, with sleeping difficulty at Survey 1 (1996) a strong predictor of the same problem at Survey 2 (1999). Sleeping difficulties at Survey 1 were cross-sectionally and prospectively predictive of poorer SF-36 scores, as well as predicting falls, accidents, and higher use of health services.

Eleven individual interviews with participants explored older women's perceptions of the role of sleep, showing that older women felt that good sleep was very important to well-being and to good day-to-day functioning. Respondents were not favourably disposed to sleeping medications, expressing concerns about side effects and about dependency.

On the basis of these findings, a substudy has been conducted with women with and without reports of sleeping difficulty, and with and without medication use. A total of 1,011 women (84% response rate) responded to a written survey. This paper presents data on the prevalence of sleeping difficulties across different groups of women, and demonstrates associations between sleeping difficulty and SF-36, depression, and major diagnoses. Women report a range of strategies to help them sleep, and have a variety of perspectives on the use of medications.

These data provide a basis for the development of appropriate and targeted interventions to improve sleep quality among older Australian women.

Young AF, Russell A & Powers JR.
The sense of belonging to a neighbourhood: can it be measured and is it related to health and well being in older women?
*Social Science and Medicin*e, in press.

This study investigates the sense of belonging to a neighbourhood among 9,445 women aged 73-78 years participating in the Australian Longitudinal Study on Women's Health. Thirteen items designed to measure sense of neighbourhood were included in the survey of the older women in 1999. Survey data provided a range of measures of demographic, social and health-related factors to assess scale construct validity. Factor analysis showed that seven of the items loaded on one factor that had good face validity and construct validity as a measure of the sense of neighbourhood. Two of the remaining items related to neighbourhood safety and comprised a factor. A better sense of neighbourhood was associated with better physical and mental health, lower stress, better social support and being physically active. Women who had lived longer at their present address had a better sense of belonging to their neighbourhood, as did women living in non-urban areas and who were better able to manage on their income. Feeling safe in the neighbourhood was least likely in urban areas, increased in rural townships, and was most likely in rural and remote areas. Older women living alone felt less safe, as did women who were less able to manage on their income. This study has identified two sets of items that form valid measures of aspects of the social environment of older women, namely the sense of neighbourhood and feelings of safety. These findings make a contribution to our understanding of the relationship between feelings of belonging to a neighbourhood and health in older women.

Guillemin M.
Understanding illness: Using drawings as research method.
Qualitative Health Research, in press.

Until recently, the use of visual methodologies was restricted to the use of photographic studies in anthropological research. In the last decade, visual methodologies are becoming more evident in social research. These methodologies encompass various visual media, including film, video, still photography, electronic visual media, and material artefacts. In this article, I examine the use of drawings as a research tool and suggest it is most effectively used as an adjunct to other social research methods. Using examples from two studies, I illustrate how drawings can be used to explore the ways that people understand illness conditions. Drawings are both visual products and processes of meaning making. I argue that the act of drawing necessitates knowledge production, with a visual product as its outcome. Although the examples presented in this article are limited to illness conditions, I argue that drawings offer a rich and insightful research method to explore how people make sense of their world.

Mishra GD, Ball K, Dobson AJ & Byles JE.
Do socio-economic gradients in women's health widen over time or with age?
Social Science and Medicine, in press.

Objective: To investigate changes over time in women's well-being and health service use by socio-economic status and whether these varied by age.

Design: Longitudinal study with two years follow-up for mid-age cohort and three years for older cohort.

Participants: 12,328 mid-age women (aged 45-50 years in 1996) and 10,430 older women (aged 70-75 years) from the Australian Longitudinal Study on Women's Health.

Main outcome measures: Changes in the eight dimensions of the Short Form General Health Survey (SF-36) adjusted for baseline scores, lifestyle and behavioural factors; health care utilisation at Survey 2; and rate of deaths (older cohort only).

Results: Cross-sectional analyses showed clear socioeconomic differentials in well-being for both cohorts. Differential changes in health across tertiles of socioeconomic status (SES) were more evident in the mid-age cohort than in the older cohort. For the mid-aged women in the low SES tertile, declines in physical functioning (adjusted mean change of –2.4, standard error (SE) 1.1) and general health perceptions (-1.5, SE 1.1) were larger than the high SES group (physical functioning –0.8 SE 1.1, general health perceptions –0.8 SE 1.2). In the older cohort, changes in SF-36 scores over time were similar for all SES groups but women in the high SES group had lower death rates than women in the low SES group (relative risk: 0.79, 95% confidence interval 0.64 to 0.98).

Conclusions: In Australia, SES differentials in physical health seem to widen during women's mid-adult years but narrow in older age. Nevertheless, SES remains an important predictor of health, health service use and mortality in older women.

Schofield MJ & Mishra GD.
Three year health outcomes among older women at risk of elder abuse: Women's Health Australia.
Quality of Life Research, in press.

Background: Elder abuse is increasingly being recognized as a serious form of familial violence, yet detection is poor and very little is known of the long term health effects of this psychosocial problem. The effectiveness of the brief, self-report Vulnerability to Abuse Screening Scale in predicting three year health outcomes was investigated among women enrolled in the Australian Longitudinal Study on Women's Health.

Methods: The sample comprised a cohort of 10,421 women aged 73-78 who completed the 1996 and 1999 postal surveys (attrition rate 19.5%). The Time 2 sample had a small bias towards lower risk for elder abuse at Time 1 and better health on SF-36 and self-rated health.

Results: This study provides the first clear evidence of a long term impact of psychological abuse on health outcomes among older women, even when controlling for a large number of confounders. The dejection factor of the VASS, which measures emotional and psychological abuse, was strongly and consistently related to all subscales of the SF-36 quality of life measure and the physical (PCS) and mental health (MCS) factors of the SF-36. The vulnerability factor, involving physical and psychological abuse, predicted three year mental health.

Conclusions: These findings have important implications for health service providers who need to enhance their recognition of psychological abuse through easily administered brief questions such as provided in the VASS, and develop effective ways of intervening to reduce the likelihood of abuse and improve quality of life, and particularly mental health, among older people.

Smith N, Young A & Lee C.
Optimism, health-related hardiness and well-being among older Australian women.
Journal of Health Psychology, in press.

Understanding the role of psychological characteristics in predicting or maintaining positive well-being in older age may help provide directions for preventive intervention. This paper addresses the question of whether optimism and health-related hardiness contribute to health and well-being among older women. Positive psychological characteristics, including optimism and health-related hardiness, are known to be associated with good self-rated health, but the nature of the relationship is open to question, since these variables are all affected by socioeconomic status, social support, major physical illness, and access to health services. The paper uses data from 9,501 women aged 73 to 78, participating in the population-based Australian Longitudinal Study on Women's Health. Hierarchical multiple regression established that optimism and health-related hardiness explained a significant proportion of the variance in all subscales of the SF-36, and in a measure of stress, even after these potential confounders were taken into account. The data, although cross-sectional, suggest that positive personal characteristics such as these may make a unique contribution to well-being, at least among older women.

For at least the last three decades, Australia has been experiencing profound economic and social changes which, it is argued, have resulted in a widening gap between urban and rural areas. There are important health policy implications associated with these socio-cultural and demographic changes, and they are particularly relevant to women, who are greater users of the health care system, both as patients and carers, than are men. This paper draws on findings from the Australian Longitudinal Study on Women's Health (ALSWH), a 20 year study of the health of 40,000 Australian women, to paint an overview of rural women's health and well-being in three age cohorts, including consideration of the divergent life course patterns among women and issues of inequality and equity between rural and urban populations. The data presented here suggest that there is a need to integrate a thoroughly gendered approach not only into all analyses of spatial inequality but also the analysis of the distribution of and access to services.

Warner-Smith P, Bryson L & Byles J. **The big picture: The health and wellbeing of three generations of women in rural and remote areas.** *Health Sociology Review*, in press.

Objectives: To assess the acceptability, reliability and validity of the 11-item Duke Social Support Index (DSSI) in community-dwelling older Australian women and to describe its relationship with the women's socio-demographic and health characteristics.

Method: Women aged 70-75 years were randomly selected from the national Medicare database, with over-sampling of rural and remote areas. The mailed survey included items about social support, Medical Outcomes Study Short Form Health Survey (SF-36), health service use, recent life events and socio-demographics.

Results: All DSSI items were completed by 94% of the12,939 participants. Internal reliability was reasonable for ten of the 11 DSSI items and its factors, social interaction (4 items) and satisfaction with social support (6 items; Cronbach's alpha of 0.8, 0.6, 0.8). The factor structure was consistent for subgroups of women: urban/non-urban; English speaking/non-English speaking background; married/widowed. Summed scores were highly correlated with factor scores and showed good construct validity. Higher social support was associated with better physical and mental health, being Australian born, more educated and better able to manage on income.

Conclusion: Ten of the 11 DSSI items provided an acceptable, brief and valid measure of social support for use in mailed surveys to community-dwelling older women.

Powers JR, Goodger B & Byles JE. **Assessment of the abbreviated Duke Social Support Index in a cohort of older Australian women.** *Australasian Journal on Ageing*, in press.

Ball K, Mishra GD, Thane CW & Hodge A.
How well do Australia women comply with dietary guidelines?
Public Health Nutrition, in press.

Objective: To investigate the proportion of middle-aged Australian women meeting national dietary recommendations and its variation according to selected sociodemographic and behavioural characteristics.

Design: This cross-sectional population-based study used a food-frequency questionnaire to investigate dietary patterns and compliance with 13 commonly promoted dietary guidelines among a cohort of middle-aged women participating in the Australian Longitudinal Study on Women's Health.

Setting: Nation-wide community-based survey.

Subjects: A total of 10561 women aged 50–55 years at the time of the survey in 2001.

Results: Only about one-third of women complied with more than half of the guidelines, and only two women in the entire sample met all 13 guidelines examined. While guidelines for meat/fish/poultry/eggs/nuts/legumes and 'extra' foods (e.g. ice cream, chocolate, cakes, potatoes, pizza, hamburgers and wine) were met well, large percentages of women (68-88%) did not meet guidelines relating to consumption of breads, cereal-based foods and diary products, and intakes of total and saturated fat and iron. Women working in lower socio-economic status occupations, and women living alone or with people other than a partner and/or children, were at significantly increased risk of not meeting guidelines.

Conclusions: The present results indicate that a large proportion of middle-aged Australian women are not meeting dietary guidelines. Without substantial changes in their diets, and help in making these changes, current national guidelines appear unachievable for many women.

Outram S, Murphy B & Cockburn J.
Factors associated with accessing professional help for psychological distress in midlife Australian women.
Journal of Mental Health, in press.

Background: Given the high prevalence of mental health problems in midlife women it is important to understand the factors that motivate and inhibit seeking professional help.

Objective: To identify factors associated with and barriers to seeking professional help for psychological distress amongst a sample of 322 midlife Australian women.

Method: Qualitative and quantitative data were gathered using semi-structured telephone interviews in NSW Australia.

Results: Seeking help from a GP was associated with poorer mental (p=0.002) and physical health scores (p=0.005). Seeking help from a mental health professional was associated with being out of paid employment (p=0.035), being mostly able to talk about one's deepest problems as opposed to sometimes or hardly ever (p=0.015), being dissatisfied with family relationships (p=0.008), and feeling understood by family/friends sometimes as opposed to mostly (p=0.002). Women's major barriers to seeking help were thinking they should cope alone (64%); thinking the problem would get better by itself (43%); embarrassment (35%); believing no help available (34%); not knowing where to go for help (30%); and fear of what others might think (28%). Qualitative data also highlighted attitudinal barriers to help-seeking.

Conclusions: Attitudinal barriers need to be addressed to enable midlife women to more easily seek and access mental health care when needed.

Outram S, Murphy B & Cockburn J.
The role of general practitioners in treating psychological distress: A study of midlife Australian women.
Journal of Family Practice, in press.

Background: Patient satisfaction with general practice (GP) care is important for treatment adherence, yet little is known about women's satisfaction with GP care in relation to emotional problems.

Objectives: To explore women's perceptions of the help provided by GPs for psychological distress.

Methods: Qualitative and quantitative data were gathered using semi-structured telephone interviews in NSW Australia. The respondents were 322 women aged 46-50 who participated in the baseline survey of Women's Health Australia (WHA).

Results: Of the 309 women who had had a period of distress in the previous 12 months, 159 (52%, CI 46.4-57.6) had talked to a GP about their difficulties. Listening was the main help given by GPs (68%, CI 60.7-75.3), followed by a prescription for medication (55%, CI 47.2-62.8), and referral to specialist care (13%, CI 7.8-18.2). Few women reported specific behavioural interventions, such as counselling (4%, CI 0.9-7.1) or relaxation (1%, CI –0.6-2.6). There was a relatively high degree of satisfaction with referral, counselling and relaxation advice amongst those who received these treatments. In contrast, a fifth of women who received a prescription or were listened to found these treatments unhelpful (20%, CI 11.6-28.4, 21% CI 14.2-29.8 respectively). Thematic analysis highlighted three main concerns for women, namely structural limitations of the GP-patient consultation, GPs' limited interpersonal skills, and GPs' limited interest, knowledge and skills in mental health.

Conclusion: While most women find their GP care helpful, many reported shortcomings in terms of both GP skills and structural limitations of the consultation. These findings are useful in informing the development of training programs for GPs.

Presentations 2003

Brown WJ.
Reducing Risks and Big Fat Lies: global and local perspectives on weighty issues.
Keynote, Australasian Conference on Behavioural Health and Medicine. Brisbane, Queensland, Australia, 13 -15 February 2003.

Lee C.
What Women's Health Australia can tell us about women's well-being in the bush.
7th National Rural Conference. Hobart, Tasmania, Australia. 1-4 March 2003.

Outram S.
Midlife women's experiences of seeking help for psychological distress in rural Australia: An overview.
7th National Rural Conference. Hobart, Tasmania, Australia. 1-4 March 2003.

Loxton D, Hussain R & Schofield M.
Women's experiences of domestic abuse in rural and remote Australia.
7th National Rural Conference. Hobart, Tasmania, Australia. 1-4 March 2003.

Warner-Smith P & Brown P.
'It's time to play a bit': Mid-age rural women's leisure and wellbeing.
7th National Rural Conference. Hobart, Tasmania, Australia. 1-4 March 2003.

Bryson L.
Australian Longitudinal Women's Health Study – selected findings and relevance to rural and regional women.
Regional Women's Health Conference 2003: 'Responding to the Evidence'. Bendigo, Victoria, Australia. 3-4 March 2003.

Bryson L.
The Women's Health Australia project and issues of motherhood.
Regional Women's Health Conference 2003: 'Responding to the Evidence'. Bendigo, Victoria, Australia. 3-4 March 2003.

Warner-Smith P.
Women's Health Australia: What Can the Big Picture Tell Us About the Context of Women's Lives?
Office for the Status of Women Conference: Australian Women Speak. Canberra, Australian Capital Territory, Australia. 30 March - 1 April 2003.

Williams L, Brown W & Young A.
Weight gain in mid-aged women: The Women's Health Australia study.
Dietitians Association of Australia 21st National Conference, Evolution, Evidence, Enterprise. Cairns, Queensland, Australia, 8-10 May 2003.

Powers J.
Women's Health Australia: Selected results.
Older Women's Network, Newcastle, New South Wales, Australia, 5 June 2003.

Miller-Lewis L.
Psychosocial risk factors for late-adolescent pregnancy, childbirth, and pregnancy risk-taking: Evidence from Women's Health Australia.
Flinders University School of Psychology Colloquium program, Adelaide, South Australia, Australia, 6 June 2003.

Taft A, Small R, Hegarty K, Lumley J, Watson L with Women's Health West.
Evaluating interventions for women experiencing intimate partner abuse: challenges in the development of a randomised community intervention trial. The story of the mosaic (mothers advocates in the community project).
National Nursing Network Against Violence, 21st International Conference, Adelaide, South Australia, Australia, 20-22 June 2003.

Taft A.
Abuse and young Australian women's reproductive health outcomes – emerging data from the Australian Women's Longitudinal Health Study: what are the implications?
Emerging issues in pregnancy care: tackling violence and depression: Evidence, dilemmas and solutions. Seminar: La Trobe University, Melbourne, Victoria, Australia, 25 June 2003.

Kelaher, M.
Unemployment, contraceptive behaviour and reproductive outcomes among young Australian women.
20th Annual Research Conference: Academy of Health Services Research and Health Policy. Nashville, Tennessee, USA, 27-29 June 2003.

Miller-Lewis L.
Psychosocial risk factors for late-adolescent pregnancy and birth: a Women's Health Australia Study.
8th European Congress of Psychology. Vienna, Austria, 6-11 July 2003

Warner-Smith P.
Teenage pregnancy and parenting.
Invited presentation NSW Department for Women Roundtable: Young Women and Pregnancy, Sydney, New South Wales, Australia, 25 July 2003.

Watson L & Taft A.
Taking control of a large cohort dataset grappling with the Australian Longitudinal Study of Women's Health.
Methods Seminar, Clinical Epidemiology and Biostatistics Unit and the Centre for the Study of Mothers and Children's Health, Royal Women's Hospital, Melbourne, Victoria, Australia, 30 July 2003.

Hillier L & Kavanagh A.
Substance use and mental health and health service usage among non-heterosexual young women in Women's Health Australia.
Lesbian Health Research Seminar, Australian Research Centre for Sex, Health and Society, La Trobe University, Melbourne, Victoria, Australia, 4 August 2003.

Brown WJ.
Reducing risks and big fat lies: global and local perspectives on weighty issues.
Invited keynote presentation to the inaugural Queensland conference of the Australian Health Promotion Association, Mackay, Queensland, Australia, August 2003.

McNair RP.
The health of young lesbians in Australia.
Australian Lesbian Medical Association annual conference 2003, Noosa, Queensland, Australia, 15-17 August 2003.

Young A.
Statistical challenges in the Australian Longitudinal Study on Women's Health.
Statistics Seminars, University of Newcastle, New South Wales, Newcastle, New South Wales, Australia, 17 September 2003.

Byles J.
Australian Longitudinal Study on Women's Health.
Hunter Chapter of the Australian Association of Gerontology: Dick Gibson Oration, Willows Convention Centre, Warners Bay, New South Wales, Australia, 18 September 2003.

Young AF, Powers JR & Bell SL.
Attrition in the Australian Longitudinal Study on Women's Health: a comparison of three age cohorts.
Australasian Epidemiological Association Annual Meeting 2003, University of Western Australia, Perth, Western Australia, Australia, 22-23 September 2003.

Watson LF, Taft A, Lee C & Powers J.
Analysing a survey data set where there are many associations of interest – how to economise in a modelling bonanza.
Australasian Epidemiological Association Annual Meeting 2003, University of Western Australia, Perth, Western Australia, Australia, 22-23 September 2003.

Dobson A.
Australian Longitudinal Study on Women's Health: Tracking ageing in Australia.
The Dynamic Processes in Ageing: Dynamic relationships among cognitive, social, biological, health and economic factors in ageing, The Australian National University, Canberra, Australian Capital Territory, Australia, 22-23 September 2003.

Dobson A & the Australian Longitudinal Study on Women's Health research team.
Women in an ageing Australian population.
The Dynamic Processes in Ageing: Dynamic relationships among cognitive, social, biological, health and economic factors in ageing, The Australian National University, Canberra, Australian Capital Territory, Australia, 22-23 September 2003.

Brown W & the Australian Longitudinal Study on Women's Health research team.
Healthy Activity, Healthy Weight, Healthy Women.
The Dynamic Processes in Ageing: Dynamic relationships among cognitive, social, biological, health and economic factors in ageing, The Australian National University, Canberra, Australian Capital Territory, Australia, 22-23 September 2003.

Pachana N, Smith N & the Australian Longitudinal Study on Women's Health research team.
Changes in social support and mental health: data from the Australian Longitudinal Study on Women's Health.
The Dynamic Processes in Ageing: Dynamic relationships among cognitive, social, biological, health and economic factors in ageing, The Australian National University, Canberra, Australian Capital Territory, Australia, 22-23 September 2003.

Dobson A.
Tobacco and Health Differentials: where should prevention be targeted?
35th Annual Public Health Association of Australia Conference: Essentials, Differentials and Potentials in Health, Brisbane, Queensland, Australia, 28 September - 1 October 2003.

McDermott L.
The role of life-stage transitions in smoking behaviour among young women.
35th Annual Public Health Association of Australia Conference: Essentials, Differentials and Potentials in Health, Brisbane, Queensland, Australia, 28 September - 1 October 2003.

France C.
Depression among young and mid-aged Australian women: who is most at risk and how do they cope?
Working with the Growing Edge, University of New South Wales, Sydney, New South Wales, Australia, 29 September 2003.

Warner-Smith P, Young A & Powers J.
The Big Picture: The Australian Longitudinal Study on Women's Health.
International Network: Towards Unity for Health Conference, Newcastle, New South Wales, Australia, 11-15 October 2003.

Taft A.
Keynote speaker.
Expect Respect: Breaking the chains of domestic violence, Ballina Domestic Violence Liaison Committee. Ballina Beach Resort, Ballina, New South Wales, Australia, 22-24 October 2003.

Dobson A, Smith N & Pachana NA.
Some problems with life event scores and health outcomes.
36th Annual Australasian Association of Gerontology Conference, Hobart, Tasmania, Australia, 12 November 2003.

Smith N, Lee C & Dobson A.
Predictors of Change in Mental Health in Mid-age women: the Australian Longitudinal Study on Women's Health.
School of Population Health 2003 Research Higher Degree Students Conference, Ballymore Rugby Club, Brisbane, Queensland, Australia, 13 November 2003.

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A detailed description of the background, aims, themes, methods and progress of the study is given on the project web page. Questionnaires are also available on the website, along with contact details for the research team.

Abstracts of all papers published, papers accepted for publication, and conference presentations are also on the project website.