women's health australia

australian longitudinal study on women's health

Annual Report 2012

ISSN: 2653-3227

CONTENTS

DIRECTOR'S REPORT

The Australian Longitudinal Study on Women's Health (ALSWH) started in 1996 when Medicare sent invitations to tens of thousands of randomly selected women aged 18-23, 45-50 and 70-75. More than 40,000 women throughout the country signed up to this on-going study. Since then participants have completed surveys every three years.

After seventeen years the accumulated data-base is huge and ever-growing. Each survey has, on average, over 300 questions. Some women have also been part of special sub-studies on topics as diverse as: complementary and alternative medicine; pregnancy; and health services in the bush. The women who were aged 18-23 in 1996 are now 35-40 years old, and are currently completing their sixth survey. The women who were 45-50 in 1996 are now aged 62-67 and completed their sixth survey in 2010. After completing their sixth survey in 2011, the oldest women who were 70-75 in 1996 and are now 87-92 years old, began receiving shorter surveys at six-monthly intervals – the second six monthly survey was circulated in 2012, and the third is scheduled to begin in 2013.

The data are used to provide evidence about the health of women and their use of health services to the Australian Government Department of Health and Ageing, which funds the study, and other government and non-government agencies. The findings are also submitted to scientific journals in Australia and internationally, where they are subject to thorough scientific review. The study provides insights into the major health issues for women, and how health and other services meet their needs. The richness of the results comes from charting changes in women's health over time in the context of other aspects of their lives, including family, work and leisure.

Results from the study were used extensively in the National Women's Health Policy released in 2010. This policy provided the framework for addressing key issues such as reproduction, lifestyle-related chronic disease, violence against women, and the ageing population.

Each year the ALSWH team provides a detailed report to the Australian Government Department of Health and Ageing on a particular topic. The most recent report was on women's adherence to health guidelines – which work and which don't. The results are summarised later in this annual report.

Part of the Government's response to the National Women's Health Policy, 2010, was to announce an expansion of the ALSWH to recruit a new cohort of women now aged 18-23. This is an age group of women where relatively little is known about their health needs and expectations. It is likely, however, that they differ substantially from women who were aged 18-23 in 1996 and who are now in their mid-30's. The ALSWH expansion also included a change in the way the oldest cohort, now in their 80's, are surveyed – with more frequent and much shorter surveys.

Since 1996 there have been huge changes in the technology of conducting large scale national surveys. Much better software is now used to manage all the survey data. Many women now choose to complete the surveys on-line, though many prefer to respond to paper surveys, saying this allows them more time to think about their answers.

Young women in the age group (18-23) now being recruited for the new cohort scarcely use postal services. All communication is face-to-face or electronic. Mailed invitations from Medicare with large paper surveys are not part of their world, so social media such as Facebook and Twitter are being used instead to invite participation, together with more traditional media such as magazines, radio and TV. These recruitment strategies for young women are described in this report.

Technology can facilitate data linkage. One of the original goals of ALSWH was to link survey data with health service data in order to understand the context in which health services are needed. Of course the data are only analysed and presented in aggregate form – no participants are ever identified individually. In fact, the information needed to send out surveys (i.e. names and addresses) is kept under secure conditions at the University of Newcastle and the linked data are maintained separately at the University of Queensland where no identifying information is kept.

As well as opportunities, the study's adoption and integration of new technology and techniques presents new challenges. Ethics committees are concerned about material posted on social media, while privacy officials worry that data linkage may breech legislation designed to protect individuals.

At the same time, opinion polls and focus groups continue to show that the public think linkage of data from different sources already occurs. In addition, there are recognised public benefits from using properly de-identified data for medical research - such as identifying adverse side effects of pharmaceuticals or surgical procedures. There are some promising signs the gap between public opinion and organisational cautiousness will narrow. For example, the Australian Institute of Health and Welfare (AIHW) was recently approved to integrate data from various Commonwealth government agencies, such as Medicare.

For the ALSWH staying at the forefront of change is important for collecting and reporting data on the health of Australian women and their needs for health services. The results must be relevant and timely. This report shows how valuable the study is for Australian women.

Annette Dobson

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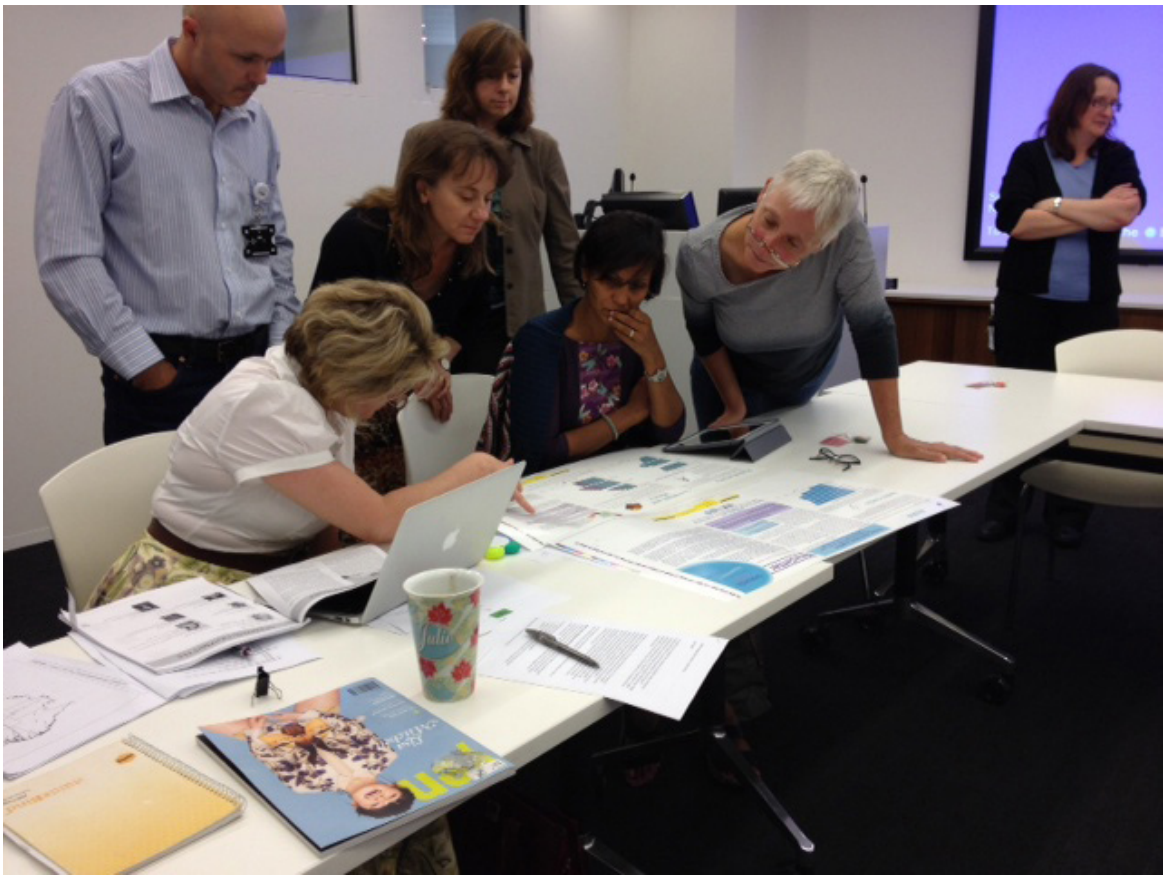
Study Director



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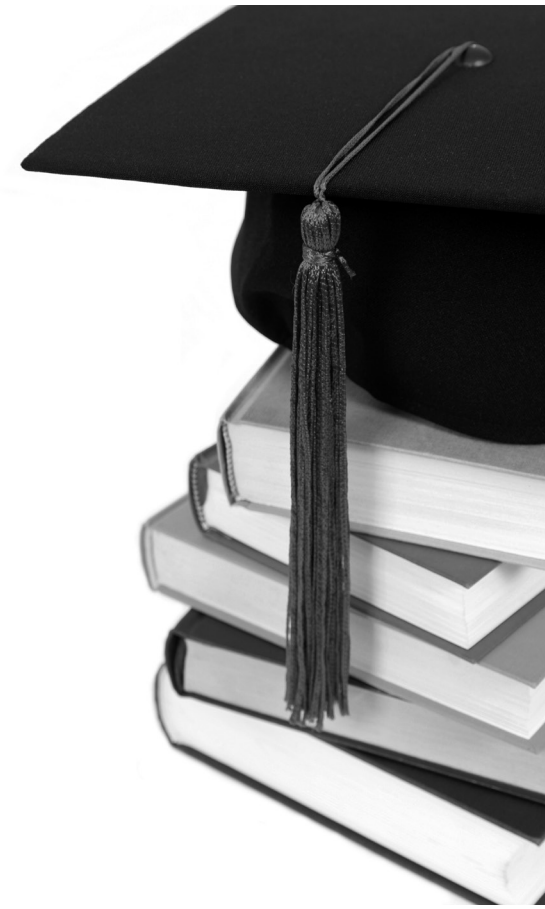

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MAJOR REPORT

ADHERENCE TO HEALTH GUIDELINES:
FINDINGS FROM THE AUSTRALIAN LONGITUDINAL STUDY ON WOMEN'S HEALTH

This report used ALSWH data to assess adherence to national guidelines for preventive health behaviours and selected health screening.

The guidelines used were from the National Health and Medical Research Council, the Royal Australian College of General Practitioners, and/or the Australian Government Department of Health and Ageing, based on the best available evidence at the time.

The main findings over the period 1996-2011 are summarised in Table 1-1.

The report was released by The Hon Tanya Plibersek, MP, Minister for Health on 26 September 2012, and is available online at http://www.alswh.org.au/publications-and-reports/major-reports .

Smoking

Women are responding to quit smoking messages. While around half the women in the cohorts had smoked at some time, the predominant change since the study began is that women have quit smoking. While some of the younger women took up smoking over the course of the study, the majority of these women quit by 2009 so that overall the prevalence of smoking halved and the prevalence of ex-smoking doubled. However some groups of women, particularly those with lower educational status and those in rural areas, remain at higher risk of continuing to smoke. Around half the smokers in the 1946-51 cohort quit smoking by the sixth survey. Smoking rates among women in the 1921-26 cohort remained stable between Survey 1 and Survey 2, but smokers had much poorer survival. Moreover, there were clear benefits of quitting in terms of improved survival among women in this age group, with ex-smokers having lower death rates than smokers.

Overweight and obesity

The overall trend was for women to gain weight, and for fewer women to meet the guidelines for healthy weight at each survey. The greatest increases were seen among the women in the 1973-78 cohort, who were aged 18-23 when first surveyed. By Survey 5 in 2009, when they were aged 31-36 years, around 45% of this cohort were overweight or obese. Few women lost weight.

The 1946-51 cohort started the study with around 47% overweight. This proportion increased over time but with some levelling off in later years. In contrast, women in the oldest cohort showed little change in the proportion who were overweight or obese. However the interpretation of the results for these women needs to consider loss to follow-up due to illness or death. Importantly, women who had a BMI less than 18.5 had the highest rate of mortality. Also, current evidence suggests that a slightly higher BMI (around 27) can be considered to be "healthy" for women in this age group.

Table 1-1 Summary of major findings of report on Australian women's adherence to health guidelines.

Table 1-1 Summary of major findings of this report

Smoking guidelines	No-one should take up smoking and smokers should quit
Cohort	Prevalence of current smoking
1973-78	Decreased from 32% to 15%
1946-51	Decreased from 18% to 9%
1921-26	Only 8% at Survey 1
Overweight and obesity	Healthy weight BMI<25 (kg/m^2)
Cohort	Prevalence of overweight and obesity
1973-78	Increased from 23% to 45%
1946-51	Increased from 47% to 62%
1921-26	Changed little, around 46% - percentage underweight increased
Alcohol consumption	No more than 2 drinks per day and 14 per week; no more than 4 drinks on any one occasion
Cohort	No more than 2 drinks per day
1973-78	Increased from 39% to 72%
1946-51	Increased from 81% to 87%
1921-26	More than 90% at Survey 1
Adherence to the guideline for no more than 4 drinks on any one occasion also increased	
Physical activity	30 mins of moderate activity on most days
Cohort	Change for Survey 2 to Survey 6
1973-78	Decreased from 47% to 44%
1946-51	Increased from 46% to 58%
1921-26	Decreased from 41% to 25%

Diet	Percentages of women meeting the guidelines for different food groups				
Cohort	Cereals 4-9	Vegetables >=5	Fruit>=2	Dairy>=2	Meat>=1
1973-78	2%	<1%	21%	14%	71%
1946-51	12%	2%	11%	45%	83%
1921-26*	N/A	8%*	70%*	N/A	N/A

*Different data collection method. Due to the times and methods for measuring diet in ALSWH few changes can be detected over time.

Screening health checks for 1946-51 cohort	
Blood pressure	>90%
Cholesterol	Increased from 60% to 83% since Survey 3
Mammography	Increased from 53% to 83% since Survey 1
Pap smear	Steady, around 80% since Survey 3
Bowel cancer	33% at Survey 6

Alcohol

Most women in the study did not exceed more than 14 alcoholic drinks per week and most had at least one alcohol free day. Adherence to the guideline to drink no more than two drinks per day was lowest in the youngest cohort, but increased over time in all cohorts. By the time the youngest women were 31-36 years old over 70% were adhering to this guideline. Likewise the percentage adhering to the recommendation to have no more than four drinks on any one occasion increased as the women moved from their 20s into their 30s. Analysis of change across surveys among these younger women shows a high degree of fluctuation in their alcohol intakes, with around 80% being non-adherent to the advice to drink no more than two drinks a day on at least one of the surveys, and 10% not adhering to this advice across all surveys. Other cohorts were more adherent with the guidelines overall and more consistent in their drinking behaviours.

Diet

A majority of women did not meet dietary guidelines for most food groups. The only exception was for meat intake, where guidelines were met by 71% of the 1973-78 cohort and 83% of the 1946-51 cohort. Guidelines for consumption of at least 5 serves of vegetables per day were least likely to be met.

A further area of poor adherence to dietary guidelines was in relation to consumption of "extras" in the diet. These are typically nutrient poor high-energy foods and Australian adults are recommended no more than four serves of these foods per day. However, only 10% of the 1973-78 cohort and 30% of the 1946-51 cohort were adherent with this guideline, with most women consuming more than four serves of these foods.

Physical activity

The proportions of women who met guidelines for adequate physical activity declined with each survey among the youngest and oldest cohorts, but increased among the women born 1946-51. Among the 1973-78 cohort, only 18% of women maintained adequate levels of physical activity at all surveys. Women were less likely to

stay physically active once they married, had children, or were divorced. Among the 1946-51 cohort, there was a great fluctuation in adherence from survey to survey, but the overall trend was that women moved from inadequate to adequate levels of physical activity so that 57% per cent could be considered to be meeting the guidelines by Survey 6. This increase in activity was associated with changes in work and death of spouse, but a decrease was associated with birth of a grandchild. Activity levels decreased overall in the 1921-26 cohort so that by Survey 6 only 24% met the guideline. Factors associated with decreasing activity included major illness, injury or surgery, and moving into institutional care.

Pregnancy

The message about not smoking during pregnancy was observed by most women and adherence increased with age, such that around 95% of pregnant women aged 31-36 years adhered to this guideline. In contrast, most women continued to consume alcohol while pregnant, even when guidelines for abstinence were in place. However, women who continued to drink while pregnant mostly adhered to the low alcohol guidelines that were in place in 2001.

Few pregnant women adhered to the general guideline for physical activity, and this proportion declined with age. Forty percent of women who were pregnant aged 18-23 met the guideline for adequate physical activity, whereas this was only the case for 30% of women who were older during pregnancy.

Diets of pregnant women were similar to those of other women in the 1973-78 cohort except pregnant women were more likely to meet guidelines for intake of dairy products. A detailed analysis of diet quality revealed that pregnant women's diets were often deficient in important nutrients including fibre, folate, Vitamin E, iodine and iron. There is also potential tension between guidelines to avoid foods that are at high risk of listeria contamination and achieving adequate nutrition.

Screening

Over 80% of women met the guidelines for mammograms and Pap testing, and adhered to the recommendations for blood pressure, cholesterol and blood sugar checks. Bowel cancer screening and skin checks appear to be less well covered. However, small differences exist according to area of residence, and there are lower rates of screening among non-married women and those in full-time work. Adherence to screening guidelines also varies according to level of education. Screening was strongly associated with more frequent GP visits, with continuity of care, and with receiving a reminder from the GP. Checks for cholesterol and blood sugar were more common among women with poor health and with chronic conditions including heart disease and diabetes. Women who smoke were less likely to have all screening procedures.

Conclusion

Among participants in the ALSWH, adherence to guidelines about smoking, alcohol consumption and most health screens has steadily improved or has remained high since the beginning of the study.

The areas in which there are substantial differences between guidelines and actual behaviour relate to energy balance. The prevalence of overweight and obesity has increased, and around half the women do not report adequate physical activity and very few meet the dietary guidelines.

This finding brings into sharp focus the national importance of attaining healthy weight for the entire population, not just for children, and the challenges that are faced in changing diet and physical activity levels.

ESTABLISHMENT OF A NEW YOUNG COHORT

In 2011, ALSWH received funding from the Australian Government Department of Health and Ageing to establish a new cohort of 10,000 young women aged 18 to 23, who will comprise the fourth ALSWH cohort.

The broad objectives for establishing a new young cohort are:

- To collect scientifically valid information about the current health and health service use of young women which will provide an evidence base for the development and evaluation of health policy and practice relevant to a new generation of Australian women;
- To add health information from young women to the information from existing ALSWH cohorts, in order to create a dataset which can be used to examine the health and health service use of Australian women across the lifespan.

Specific objectives of establishing a new young cohort are:

- To examine health risk factors including weight, physical activity, and use of tobacco and alcohol;
- To examine risk taking behaviour, such as use of illicit drugs, and sexual behaviour;
- To gather information about social experiences and environmental influences on young women, including information about families of origin, traumatic or stressful events, and social inclusion;
- To examine patterns of contraceptive use, experiences of pregnancy and childbirth, and other reproductive health issues;
- To examine young women's access to sources of information about, and use of health services and preventive health activities.

Self-reported data from the new cohort will be linked with administrative data, particularly Medicare data, to provide an objective measure of health and health service use. The surveys are planned to continue longitudinally, so that as for existing cohorts, longitudinal survey data and longitudinal health service data for the same individuals can be linked. Findings will be translated into evidence that can be used for health policy and planning.

Planning and preparation for establishing a new young cohort began in 2011.

Recruitment method

Due to concerns about poor response rates for recruitment conducted through Medicare (which is how the existing cohorts were recruited) a new protocol was developed for recruitment of the cohort. The new protocol is based on feedback from focus groups and current literature, and uses social media as well as traditional media and paid advertising to promote the survey to the public. All eligible young women are invited to participate - to be eligible, participants must be female, aged 18-23 years, and be eligible for a Medicare card.

Focus Groups & Pilot testing

Focus groups were conducted in 2011 and early 2012 to gain an understanding of how to recruit and retain a representative national sample, and to inform the development of relevant survey content, format and distribution. Focus groups were held in rural and urban settings in New South Wales and Queensland. Findings indicated:

- Strong support for offering the survey online
- Strong endorsement of social media, particularly Facebook, as the preferred method of communication about, and access to, the survey
- Preference for short surveys
- Incentives, such as gift vouchers, would be necessary to gain the attention of young women

No topics were considered unacceptable by focus group participants, as long as an option to not answer was provided, and it was clear that confidentiality regarding responses would be maintained at all times. After

focus groups were completed, a pilot survey and evaluation were conducted via an online market research organisation, MyOpinions, who provided the survey to 200 of their members who met eligibility criteria (female, 18-23 years old, residing in Australia). Overall, responses were positive, with participants reporting a high degree of satisfaction with the quality of the survey and ease of completion.

Main Survey

The main survey was finalised and recruitment began in October 2012. To access the survey, a web 'splash' page (www.alswh.org.au/survey) dedicated to the survey was developed. From the splash page, as well as accessing the survey, potential participants can preview the survey questions, view the information statement, and read the eligibility criteria. If they are interested, but would prefer to complete the survey later, they can provide their email address and receive a reminder email at a later date to return and complete the survey. All promotional materials include the link to the 'splash' page, and recruitment is focused on encouraging young women to follow the link to the survey.

Recruitment

Recruitment of this cohort is a dynamic process and accordingly a range of strategies, designed to be flexible and reactive to public response, has been employed. (All recruitment methods and materials are subject to ongoing review by ethics committees of the University of Newcastle and the University of Queensland, and where relevant, the ethics committees of the Australian Departments of Health and Ageing, and Human Services).

Materials: Various promotional materials have been developed for use in different media. A poster (Figure 1) was designed for display by businesses and networks, and for inclusion in print advertising. Postcards were developed for distribution in shopping bags by retailers, and for display by Avantcard, a national postcard distribution company that supplies free postcards to thousands of cafes and similar outlets across the country. Postcard and poster designs are also being used in social media posts, for online advertising and distribution via email networks.

Incentives: Based on feedback from focus groups, incentives for participation are being offered - participants have the chance to win one of one hundred $50 prepaid eftpos gift vouchers after completing the survey.

Social media:

- **Facebook:** An ALSWH page has been created and regular posts are made, providing the link to the survey and directly encouraging young women in the target age group to take part. Targeted paid advertising is also being purchased on Facebook.
- **Twitter:** The ALSWH Twitter account (@ALSWH_Official) follows key stakeholders and high profile young women as well as issuing tweets containing the survey link and encouraging young women to participate. Advocates of the ALSWH new young cohort survey regularly retweet messages, assisting with both legitimising the survey and disseminating the information to their followers.
- **YouTube:** An ALSWH YouTube channel was established in October 2012 and is linked to the ALSWH Facebook and Twitter accounts – when clips are posted on YouTube, links are also posted to Facebook and Twitter. The first clip for recruitment of the new cohort was posted in November 2012.

Word of mouth/sharing: Focus groups strongly endorsed social media sharing for promoting the survey, and accordingly this strategy is heavily promoted in all ALSWH Facebook and Twitter messages. In addition, ALSWH staff and investigators have circulated the link by email to their own networks and collaborators, and encouraged further sharing by recipients. Participants also receive a thank-you email once they complete the survey which encourages them to inform their friends about participating in the study themselves.

ALSWH participants: Existing ALSWH participants were emailed and asked to forward on an invitation to take part to anyone they knew who might be interested in taking part. In addition, invitation cards are being sent out with the annual newsletter to participants with a request to give the cards to women who might be interested.

Advocates: High achieving young Australians were invited to advocate for ALSWH to young women. As at December 2012 Sami Kennedy-Sim (winter athlete) had agreed to act as an advocate and to assist with recruitment.

Traditional media: A media release announcing the launch of the new cohort will be distributed to traditional media outlets throughout the country (television, radio, newspapers) in early 2013.

Progress summary

At 19th December, 501 surveys had been completed. The survey is available at www.alswh.org.au/survey and will remain open until the end of 2013 – we encourage all eligible young women to participate! Copies of posters, postcards and other promotional materials are available on the study website (www.alswh.org.au) and can also be posted – please contact Leonie Gemmell on 07 3346 4723 / sph-wha@sph.uq.edu.au if postage is required.

Figure 1 - Promotional poster for recruitmentof the new ALSWH cohort.

DATA LINKAGE

In 2012, approval was obtained from the Department of Health and Ageing Departmental Ethics Committee and the AIHW Ethics Committee for a revised data linkage protocol for linkage of ALSWH survey data with Commonwealth datasets under the auspices of the AIHW as an Integrating Authority. As the Integrating Authority, the AIHW will ensure appropriate governance of the record linkage aspects of the project in accordance with the high level principles for data linkage involving Commonwealth data defined by the Cross Portfolio Statistical Integration Committee (CPSIC).

The approved protocol allows for linkages of de-identified ALSWH data from all participants, with the exception of those who have specifically refused consent, to data from the Medicare Benefits Scheme (MBS) and the Pharmaceutical Benefits Scheme (PBS), Aged Care Funding Instrument (ACFI), Community Aged Care Program (CACP), Extended Care at Home (EACH) Program, Extended Care at Home- Dementia (EACH-D) Program, Home and Community Care (HACC) Program – HACC minimum data set (MDS) including functional dependency items, Aged Care Assessment Program (ACAP) and the National Death Index (NDI).

The AIHW are currently negotiating access to historical (from 1996) MBS/PBS data with the Department of Health and Ageing and will then extract required data for provision to the ALSWH investigators.

This year, ALSWH has also progressed linkages between ALSWH data and State-based datasets. Approval has been gained from Human Research Ethics Committees (HREC) in Queensland, New South Wales, Western Australia and Victoria for access to Admitted Patients Datasets, Perinatal Data Collections and Cancer Registry, and data have been received from these States. South Australia and the Northern Territory HREC applications are in progress. Approval has been obtained for the State-based data to be updated annually so that all analyses are based on the most recent data.

A number of projects relying on State data are currently in progress.

PUBLICATIONS

Fifty-eight papers and five book chapters using ALSWH data were published or accepted for publication in national and international scientific journals during 2012.

PUBLISHED PAPERS

Adams J, Sibbritt D & Lui C.
Health Service Utilisation among Persons with Self-reported Depression: A Longitudinal analysis of 7,164 Women.
Archives of Psychiatric Nursing, 2012; 26(3),181-191.

Objective: Depression is a common mental disorder and a leading contributor to the global burden of disease. In Australia, depression is reportedly the leading cause of morbidity for young women. In addition to conventional treatments, there is also some evidence that there is common use of complementary and alternative medicine (CAM) among people with depressive symptoms. However, there has been little research focus upon broad health care and practitioner use (including consumption of both conventional and CAM practitioners as well as self-prescribed care) among young adults with depression. This article aims specifically to address this knowledge gap by providing the first longitudinal analysis of the use of health service among women with self-reported depression.

Methods: Data from a longitudinal cohort study (Australian Longitudinal Study on Women's Health) conducted over a 3-year period on 7,164 young Australian women were analyzed. Information on health status, health service use, and self-prescribed treatments was obtained from two questionnaires mailed to study participants in 2003 and 2006.

Results: The study identified that only a small proportion of the women had sought professional assistance for their self-reported depression. It also shows that many women who reported depression used CAM alongside or as a complement to conventional health care services. In particular, young women who did not seek help for their depression were more likely to self prescribe CAM than were women without depression.

Conclusion: The frequent use of a range of conventional providers and practitioner-based CAM and self-prescribed CAM among women with self-reported depression warrants further investigation.

Anderson A, Hure A, Powers J, Kay-Lambkin F & Loxton D.
Determinants of pregnant women's compliance with alcohol guidelines: A prospective cohort study.
BMC Public Health, 2012; 12(1), 777.

Background: In 2009, Australian alcohol guidelines for pregnancy changed from low to no alcohol intake. Previous research found a high proportion of pregnant Australian women drank during pregnancy; however, there has been limited investigation of whether pregnant women comply with 2009 alcohol guidelines. The purpose of this study was to provide an assessment of pregnant women's compliance with 2009 Australian alcohol guidelines and identify predictors of such compliance, including previous drinking behaviour.

Methods: Cross-sectional analysis of prospective data from the 1973–1978 cohort of the Australian Longitudinal Study on Women's Health was conducted. Women aged 30–36 years who were pregnant at the 2009 survey and had data on alcohol use were included (n = 837). Compliance with 2009 alcohol guidelines for pregnancy was defined as no alcohol intake. Predictors of compliance were analysed using multivariate logistic regression, controlling for area of residence, in three separate models to account for multicollinearity between measures of previous alcohol intake (compliance with 2001 guidelines; frequency and quantity; bingeing). Private health insurance, household income, and illicit drug use were entered into all models and

retained if significant.

Results: 72% of pregnant women did not comply with the 2009 alcohol guidelines and 82% of these women drank less than seven drinks per week, with no more than one or two drinks per drinking day. The odds of complying with abstinence increased by a factor of 3.48 (95% CI 2.39-5.05) for women who previously complied with the 2001 alcohol guidelines and decreased by a factor of 0.19 (95% CI 0.08-0.66) if household incomes were $36,400 or more. In other models the odds of complying were lower for women who consumed alcohol before pregnancy at least weekly (OR = 0.40, 95% CI 0.25-0.63) or binged (OR ≥ 0.18, 95% CI 0.10-0.31) and were higher for those who abstained (OR = 45.09; 95% CI 8.63-235.49) prior to pregnancy.

Conclusion: Most pregnant women did not comply with alcohol guidelines promoting abstinence. Prior alcohol behaviour was the strongest predictor of compliance during pregnancy, suggesting alcohol use should be addressed in women of child-bearing age. The study is limited by the relatively short timeframe between the official introduction of the 2009 guidelines and the date the surveys were sent out. Widespread dissemination of the guidelines may be necessary to help increase guideline compliance by pregnant women.

Au N, Hauck K & Hollingsworth B.

Employment, work hours and weight gain among middle-aged women.

International Journal of Obesity, 2012; 1-7. [Epub ahead of print]

Objective: To investigate the influence of employment and work hours on weight gain and weight loss among middle-aged women.

Design: Quantile regression techniques were used to estimate the influence of employment and hours worked on percentage weight change over 2 years across the entire distribution of weight change in a cohort of middle-aged women. A range of controls was included in the models to isolate the effect of work status.

Subjects: A total of 9276 women aged 45–50 years at baseline who were present in both the 1996 and 1998 surveys of the Australian Longitudinal Study of Women's Health. The women were a representative sample of the Australian population.

Results: Being out of the labour force or unemployed was associated with lower weight gain and higher weight loss than being employed. The association was stronger at low to moderate levels of weight gain. Among employed women, working regular (35–40), long (41–48) or very long (49þ) hours was associated with increasingly higher levels of weight gain compared with working part-time hours. The association was stronger for women with greater weight gain overall. The association between unemployment and weight change became insignificant when health status was controlled for.

Conclusions: Employment was associated with more weight gain and less weight loss. Among the employed, working longer hours was associated with more weight gain, especially at the higher levels of weight gain where the health consequences are more serious. These findings suggest that as women work longer hours they are more likely to make lifestyle choices that are associated with weight gain.

Beatty L, Adams J, Sibbritt D & Wade T.

Evaluating the impact of cancer on complementary and alternative medicine use, distress and health related QoL among Australian women: A prospective longitudinal investigation.

Complementary Therapies in Medicine, 2012; 20(1-2), 61-69.

While several cross-sectional studies have examined psychological correlates of complementary and alternative medicine (CAM) use and cancer, few prospective longitudinal investigations have been reported. This study examined whether CAM use moderated distress and quality of life (HRQoL) from pre- to post-cancer. A prospective longitudinal national cohort design. Participants were 718 mid-aged women from the Australian longitudinal study on women's health who did not have cancer at survey 1, but who subsequently developed cancer. For each participant, three waves of data were extracted: the wave prior to diagnosis ('pre'), at diagnosis ('cancer'), and after cancer ('post'). CAM use was measured by the question 'in the past 12 months have you consulted an alternative health practitioner'. Distress was measured by perceived stress (PSS) and depression (CES-D 10), HRQoL was measured by physical and mental health functioning (SF-36). CAM use significantly moderated the change over time in stress [$F(561) = 3.09$, $p = 0.04$], depression [$F(494) = 3.14$, $p = 0.04$], but not HRQoL. CAM-users were significantly more stressed than non-users pre-cancer ($p < 0.05$), but there were no significant differences at subsequent surveys. CAM-users were significantly less depressed post-cancer compared to non-users ($p < 0.05$). Findings indicated that CAM users may be more psychologically vulnerable than non-users with respect to stress, with CAM acting as an effective psychological, but not HRQoL, intervention.

Bielak A, Byles J, Luszcz M & Anstey K.

Combining longitudinal studies showed prevalence of disease differed throughout older adulthood.

Journal of Clinical Epidemiology, 2012; 65(3), 317-324.

Objectives: Disease prevalence rates are often generalized across the older adult age range. By pooling self-reported health data from five Australian longitudinal studies of aging, we were able to present disease prevalence rates by 5-year age bands and sex. We also investigated the influence of education on prevalence at each age range and compared our observed prevalence rates with those from the 2001 National Health Survey (NHS) to see if existing data could be used to augment national estimates.

Study design and setting: We used data on 12,718 adults between 60 and 105 years of age from the Dynamic Analyses to Optimise Ageing (DYNOPTA) project.

Results: Hypertension and arthritis were the most prevalent diseases, with approximately 30% of males and 45% of females having either condition. Nearly all diseases were most prevalent amongst older adults in their 70s and lower for individuals in their 60s, and 80s and older. The effect of education varied by disease and older age group. Prevalence rates from DYNOPTA were generally similar to those reported by the NHS.

Conclusion: Disease prevalence is not consistent across older adulthood. Combining longitudinal studies provided a sufficient sample to estimate precise age divisions and can be used to supplement national estimates for specific populations.

Broom A, Kirby E, Sibbritt D, Adams J & Refshauge K.

Back pain amongst mid-age Australian women: A longitudinal analysis of provider use and self-prescribed treatments.

Complementary Therapies in Medicine, 2012; 20(5), 275-282.

Objectives: To analyse use of conventional and complementary and alternative (CAM) practitioners and self-prescribed CAM amongst mid-age Australian women with back pain.

Design: Self-completion postal surveys completed in 2004 and 2007, of the mid-age cohort of the Australian Longitudinal Study on Women's health. Questions asked for written responses about the use of conventional practitioners, CAM practitioners and self-prescribed CAM for treatment of back pain.

Setting: Analysis of cross-sectional and longitudinal survey data (n = 9820), conducted as part of the Australian Longitudinal Study on Women's Health (ALSWH), which was designed to investigate multiple factors affecting the health and well being of women over a 20-year period. Main outcome measure: Women were asked if they had sought help for back pain in the previous twelve months.

Results: The prevalence of back pain was 54.8% (n = 5383). The percentage of women who sought help for their back pain was 17.3% (n = 1700). Of the women who sought help for back pain, 2% consulted with a CAM practitioner only, 35% consulted a conventional practitioner only and 63% with both a conventional and CAM practitioner.

Conclusions: Back pain is prevalent amongst mid-age Australian women, although only one third sought help. Women who sought help for their back pack were high users of CAM (practitioners and self-prescribed) and conventional care providers, consulting a CAM practitioner in complement with conventional biomedical consultations rather than as an alternative. Further research is needed to explore the complex contemporary landscapes of back pain negotiation and management.

Broom A, Kirby E, Sibbritt D, Adams J & Refshauge K.

Use of complementary and alternative medicine by mid-age women with back pain: A national cross-sectional survey

BMC Complementary and Alternative Medicine, 2012; 12:98.

Background: The use of complementary and alternative medicine (CAM) has increased significantly in Australia over the past decade. Back pain represents a common context for CAM use, with increasing utilisation of a wide range of therapies provided within and outside conventional medical facilities. We examine the relationship between back pain and use of CAM and conventional medicine in a national cohort of mid-aged Australian women.

Methods: Data is taken from a cross-sectional survey (n = 10492) of the mid-aged cohort of the Australian Longitudinal Study on Women's Health, surveyed in 2007. The main outcome measures were: incidence of back pain the previous 12 months, and frequency of use of conventional or CAM treatments in the previous 12 months.

Results: Back pain was experienced by 77% (n = 8063) of the cohort in the previous twelve month period. The majority of women with back pain only consulted with a conventional care provider (51.3%), 44.2% of women with back pain consulted with both a conventional care provider and a CAM practitioner. Women with more frequent back pain were more likely to consult a CAM practitioner, as well as seek conventional care. The most commonly utilised CAM practitioners were massage therapy (26.5% of those with back pain) and chiropractic (16.1% of those with back pain). Only 1.7% of women with back pain consulted with a CAM practitioner exclusively.

Conclusions: Mid-aged women with back pain utilise a range of conventional and CAM treatments. Consultation with CAM practitioners or self-prescribed CAM was predominantly in addition to, rather than a replacement for, conventional care. It is important that health professionals are aware of potential multiple practitioner usage in the context of back pain and are prepared to discuss such behaviours and practices with their patients.

Brown W, McLaughlin D, Leung J, McCaul K, Flicker L, Almeida O, Hankey G, Lopez G & Dobson A.

Physical activity and all-cause mortality in older women and men.

British Journal of Sports Medicine, 2012; 46(9), 664-668.

Background: Regular physical activity is associated with reduced risk of mortality in middle-aged adults; however, associations between physical activity and mortality in older people have been less well studied. The objective of this study was to compare relationships between physical activity and mortality in older women and men.

Methods: The prospective cohort design involved 7080 women aged 70–75 years and 11 668 men aged 65–83 years at baseline, from two Australian cohorts – the Australian Longitudinal Study on Women's Health and the Health in Men Study. Self-reported low, moderate and vigorous intensity physical activity, sociodemographic, behavioural and health characteristics were assessed in relation to all-cause mortality from the National Death

Index from 1996 to 2009; the median follow-up of 10.4 (women) and 11.5 (men) years.

Results: There were 1807 (25.5%) and 4705 (40.3%) deaths in women and men, respectively. After adjustment for behavioural risk factors, demographic variables and self-reported health at baseline, there was an inverse dose – response relationship between physical activity and all-cause mortality. Compared with women and men who reported no activity, there were statistically significant lower hazard ratios for women who reported any activity and for men who reported activities equivalent to at least 300 metabolic equivalent. min/week. Risk reductions were 30–50% greater in women than in men in every physical activity category.

Conclusions: Physical activity is inversely associated with all-cause mortality in older men and women. The relationship is stronger in women than in men, and there are benefits from even low levels of activity.

Bruck D & Astbury J.

Population Study on the Predictors of Sleeping Difficulties in Young Australian Women.

Behavioural Sleep Medicine, 2012; 10(2), 84-95.

Gender disparity in sleep difficulties in young adults may be driven by higher rates of affective disorders in women. This article investigated a range of factors as potential predictors of "difficulty sleeping" in 9,061 women aged 24 to 30 years, using survey data. Regression analyses and odds ratios showed that depression and anxiety symptoms were indeed the greatest predictors of difficulty sleeping. However, 4 variables (binge-drinking, lower qualifications, dissatisfaction with excessive weight, and a history of abuse) also made significant contributions to sleep difficulty when a range of other variables (including depression and anxiety symptoms) were statistically controlled. Affective problems often predict sleep difficulties in young women, but other predictors are also significant and not necessarily intertwined with anxiety and depression.

Burns R, Byles J, Mitchell P & Anstey K.

Positive components of mental health provide significant protection against likelihood of falling in older women over a 13-year period.

International Psychogeriatrics, 2012; 24(9), 1419-1428.

Background: In late life, falls are associated with disability, increased health service utilization and mortality. Physical and psychological risk factors of falls include falls history, grip strength, sedative use, stroke, cognitive impairment, and mental ill-health. Less understood is the role of positive psychological well-being components. This study investigated the protective effect of vitality on the likelihood of falls in comparison to mental and physical health.

Methods: Female participants were drawn from the Dynamic Analyses to Optimise Ageing (DYNOPTA) harmonization project. Participants (n = 11,340) were aged 55-95 years (Mean = 73.68; SD = 4.31) at baseline and observed on up to four occasions for up to 13 years (Mean = 5.30; SD = 2.53).

Results: A series of random intercept logistic regression models consistently identified vitality's protective effects on falls as a stronger effect in the reduction of the likelihood of falls than the effect of mental health. Vitality is a significant predictor of falls likelihood even after adjusting for physical health, although the size of effect is substantially explained by its covariance with mental and physical heath.

Conclusions: Vitality has significant protective effects on the likelihood of falls. In comparison with mental health, vitality reported much stronger protective effects on the likelihood to fall in comparison with the risk associated with poor mental health in a large sample of older female adults. Both physical health and mental health account for much of the variance in vitality, but vitality still reports a protective effect on the likelihood of falls.

Byles J & Gallienne (Leigh) L.

Driving in older age: a longitudinal study of women in urban, regional, and remote areas and the impact of caregiving.

Journal of Women and Aging, 2012; 24(2), 113-125.

This study uses data from the Australian Longitudinal Study on Women's Health to describe the trends in the proportion of older women who drive themselves as their main means of transport, factors associated with giving up driving, and the impact of women's caring roles on driving cessation. Compared to major cities, the odds of driving were 110% higher in outer regional areas, particularly for women carers. This highlights the importance of informed and responsive transport policies to address the needs of older women who are unable to continue driving, those living in rural areas, and women who are carers.

Chojenta C, Loxton D & Lucke J.

How Do Previous Mental Health, Social Support, and Stressful Life Events Contribute to Postnatal Depression in a Representative Sample of Australian Women?

Journal of Midwifery & Women's Health, 2012; 57(2), 145-150.

Background: The purpose of this study was to examine the risk factors for postnatal depression (PND) utilising longitudinal data in a representative Australian sample of Australian women.

Methods: Mailed survey data collected from the

youngest cohort of the Australian Longitudinal Study on Women's Health were analysed. Of the women in this cohort, 2451 had a baby in the four years preceding Survey 4 in 2006, and those who reported being diagnosed or treated for PND at Survey 4 (n = 252) were compared to those who had no report of PND at Survey 4 (n= 2324) in order to identify risk factors for PND.

Results: Women with a history of depression (from Survey 2 in 2000 and from Survey 3 in 2003) were more likely report postnatal depression (OR 2.10, 95% CI, 1.39 - 3.18, and OR 2.15, 95% CI 1.37 - 3.35 respectively) Contrary to previous research, demographic factors were not significantly related to PND. Women who rated their affectionate support and positive social interaction as being available 'some of the time' were significantly more likely to experience PND (OR 2.37, 95% CI, 1.24 -4.53) than those who rated this type of support as being available all of the time.

Conclusions: While previous mental health and a history of stressful life events were found to be significant risk factors for PND, the results of this study show that women with PND are also lacking some aspects of social support around the time of the birth of their child. Implications for treatment and policy are discussed.

Dobson A, Almeida O, Brown W, Byles J, Flicker L, Leung J, Lopez D, McCaul K, McLaughlin D & Hankey G.

Absolute risk chart for death within 10 years for women and men in their 70s.

BMC Public Health, 2012; 12: 669.

Background: Estimates of the absolute risk of death based on the combined effects of sex, age and health behaviours are scarce for elderly people. The aim of this paper is to calculate population based estimates and display them using simple charts that may be useful communication tools for public health authorities, health care providers and policy makers.

Methods: Data were drawn from two concurrent prospective observational cohort studies of community-based older Australian women (N=7,438) and men (N=6,053) aged 71 to 79. The outcome measure was death within ten years. The predictor variables were: sex, age, smoking status, alcohol consumption, body mass index and physical activity.

Results: Patterns of risks were similar in men and women but absolute risk of death was between 9 percentage points higher in men (17%) than in women (8%) in the lowest risk group (aged 71-73 years, never smoked, overweight, physically active and consumed alcohol weekly) and 21% higher in men (73-74%) than women (51-52%) in the highest risk group (aged 77-79 years, normal weight or obese, current smoker, physically inactive and drink alcohol less than weekly).

Conclusions: These absolute risk charts provide a tool for understanding the combined effects of behavioural risk factors for death among older people.

Elstgeest L, Mishra G & Dobson A.

Transitions in living arrangements are associated with changes in dietary patterns in young women.

The Journal of Nutrition, 2012; 142(8), 1561-1567.

Household composition influences people's diet, so typical transitions in young women's lives, including cohabitation, marriage, and motherhood, might be expected to influence their subsequent dietary behavior. The objective was to examine associations between transitions in living arrangements and changes in energy intake and dietary patterns for women in their 20s and 30s using longitudinal data collected in 2003 and 2009. FFQ were collected twice from 6534 women born in 1973–1978 participating in the Australian Longitudinal Study on Women's Health. Transition groups were defined from changes in their living arrangements. Factor analysis was used to identify dietary patterns. Associations between transitions in living arrangements and changes in energy intake and dietary pattern scores were analyzed using multiple linear regression. Women living with children had greater energy intake than other women initially and those who started a family had the greatest increases over time. Five similar dietary patterns were derived from both surveys. Women living in a family at both times had higher scores on the high-fat and sugar, meat, and cooked vegetables patterns and lower scores on the Mediterranean-style and fruit patterns than other women. Women starting a family increased their consumption of the high-fat and sugar, fruit, and cooked vegetables patterns. Women not living with children at both times had increased scores on the Mediterranean-style pattern and decreased scores on the high-fat and sugar and cooked vegetables patterns compared with other women. In conclusion, starting a family is associated with changes in women's diet that are mainly unhealthy.

Heesch K, van Uffelen J, Gellecum Y & Brown W.

Dose response relationships between physical activity, walking and health-related quality of life in mid-age and older women.

Journal of Epidemiology and Community Health, 2012; 66(8): 670-677.

Background: Although physical activity is associated with health-related quality of life (HRQL), the nature of the dose-response relationship remains unclear.

Objectives: To examine the concurrent and prospective dose-response relationships between total physical activity (TPA) and (only) walking with HRQL in two age

cohorts of women.

Methods: Participants were 10 698 women born in 1946-1951 and 7646 born in 1921-1926, who completed three mailed surveys for the Australian Longitudinal Study on Women's Health. They reported weekly TPA minutes (sum of walking, moderate and vigorous minutes). HRQL was measured with the Medical Outcomes Study Short-Form 36 Health Status Survey (SF-36). Linear mixed models, adjusted for socio-demographic and health-related variables, were used to examine associations between TPA level (none, very low, low, intermediate, sufficient, high and very high) and SF-36 scores. For women who reported walking as their only physical activity, associations between walking and SF-36 scores were also examined.

Results: Curvilinear trends were observed between TPA and walking with SF-36 scores. Concurrently, HRQL scores increased significantly with increasing TPA and walking, in both cohorts, with increases less marked above sufficient activity levels. Prospectively, associations were attenuated although significant and meaningful improvements in physical functioning and vitality were observed across most TPA and walking categories above the low category.

Conclusion: For women in their 50s-80s without clinical depression, greater amounts of TPA are associated with better current and future HRQL, particularly physical functioning and vitality. Even if walking is their only activity, women, particularly those in their 70s-80s, have better HRQL.

Herbert D, Lucke J & Dobson A.

Birth outcomes after spontaneous or assisted conception among infertile Australian women aged 28-36 years: A prospective, population-based study.

Fertility and Sterility, 2012; 97(3), 630-638.

Objective: To examine the extent to which the odds of birth, pregnancy, or adverse birth outcomes are higher among women aged 28 to 36 years who use fertility treatment compared with untreated women.

Design: Prospective, population-based. Patient(s): Participants in the ALSWH born in 1973 to 1978 who reported on their infertility and use of in vitro fertilisation (IVF) or ovulation induction (OI). Intervention(s): Postal survey questionnaires administered as part of ALSWH. Main Outcome *Measure(s)*: Among women treated with IVF or OI and untreated women, the odds of birth outcomes estimated by use of adjusted logistic regression modeling.

Results: Among 7,280 women, 18.6% (n = 1,376) reported infertility. Half (53.0%) of the treated women gave birth compared with 43.8% of untreated women. Women with prior parity were less likely to use IVF compared with nulliparous women. Women using IVF or OI, respectively, were more likely to have given birth after treatment or be pregnant compared with untreated women. Women using IVF or OI were as likely to have ectopic pregnancies, stillbirths, or premature or low birth-weight babies as untreated women.

Conclusion: More than 40% of women aged 28–36 years reporting a history of infertility can achieve births without using treatment, indicating they are sub-fertile rather than infertile.

Herbert D, Lucke J & Dobson A.

Agreement between self-reported use of in vitro fertilisation or ovulation induction, and medical insurance claims in Australian women aged 28-36 years.

Human Reproduction, 2012; 27(9), 2823-2828.

Study question: What is the self-reported use of in vitro fertilization (IVF) and ovulation induction (OI) in comparison with insurance claims by Australian women aged 28–36 years?

Summary answer: The self-reported use of IVF is quite likely to be valid; however, the use of OI is less well reported.

What is known and what this paper adds: Population-based research often relies on the self-reported use of IVF and OI because access to medical records can be difficult and the data need to include sufficient personal identifying information for linkage to other data sources. There have been few attempts to explore the reliability of the self-reported use of IVF and OI using the linkage to medical insurance claims for either treatment.

Study design: This prospective, population-based, longitudinal study included the cohort of women born during 1973–1978 and participating in the Australian Longitudinal Study on Women's Health (ALSWH) (n ¼ 14247). From 1996 to 2009, participants were surveyed up to five times.

Participants and setting: Participants self-reported their use of IVF or OI in two mailed surveys when aged 28–33 and 31–36 years (n ¼ 7280), respectively. This study links self-report survey responses and claims for treatment or medication from the universal national health insurance scheme (i.e. Medicare Australia).

Main results and the role of chance: Comparisons between self-reports and claims data were undertaken for all women consenting to the linkage (n ¼ 3375). The self-reported use of IVF was compared with claims for OI for IVF (Kappa, K ¼ 0.83), oocyte collection (K ¼ 0.82), sperm preparation (K ¼ 0.83), intracytoplasmic sperm injection (K ¼ 0.40), fresh embryo transfers (K ¼ 0.82), frozen embryo transfers (K ¼ 0.64) and OI for IVF medication (K ¼ 0.17). The self-reported use of OI was compared with ovulation monitoring (K ¼ 0.52) and OI medication (K ¼ 0.71).

Bias, confounding and other reasons for caution: There

is a possibility of selection bias due to the inclusion criteria for participants in this study: (1) completion of the last two surveys in a series of five and (2) consent to the linkage of their responses with Medicare data.

Generalizability to other populations: The results are relevant to questionnaire-based research studies with infertile women in developed countries.

Study funding/competing interest(s): ALSWH is funded by the Australian Government Department of Health and Ageing. This research is funded by a National Health and Medical Research Council Centre of Research Excellence grant.

T*rial registration number*: None.

Hure A, Powers J, Mishra G, Herbert D, Byles J & Loxton D.

Miscarriage, Preterm Delivery and Stillbirth: Large Variations in Rates within a Cohort of Australian Women.

PLoS ONE, 2012; 7(5), 1-8.

Objectives: We aimed to use simple clinical questions to group women and provide their specific rates of miscarriage, preterm delivery, and stillbirth for reference. Further, our purpose was to describe who has experienced particularly low or high rates of each event.

Methods: Data were collected as part of the Australian Longitudinal Study on Women's Health, a national prospective cohort. Reproductive histories were obtained from 5806 women aged 31–36 years in 2009, who had self-reported an outcome for one or more pregnancy. Age at first birth, number of live births, smoking status, fertility problems, use of in vitro fertilisation (IVF), education and physical activity were the variables that best separated women into groups for calculating the rates of miscarriage, preterm delivery, and stillbirth.

Results: Women reported 10,247 live births, 2544 miscarriages, 1113 preterm deliveries, and 113 stillbirths. Miscarriage was correlated with stillbirth (r = 0.09, P,0.001). The calculable rate of miscarriage ranged from 11.3 to 86.5 miscarriages per 100 live births. Women who had high rates of miscarriage typically had fewer live births, were more likely to smoke and were more likely to have tried unsuccessfully to conceive for 12 months. The highest proportion of live preterm delivery (32.2%) occurred in women who had one live birth, had tried unsuccessfully to conceive for 12 months, had used IVF, and had 12 years education or equivalent. Women aged 14–19.99 years at their first birth and reported low physical activity had 38.9 stillbirths per 1000 live births, compared to the lowest rate at 5.5 per 1000 live births.

Conclusion: Different groups of women experience vastly different rates of each adverse pregnancy event. We have used simple questions and established reference data that will stratify women into low- and high-rate groups, which may be useful in counselling those who have experienced miscarriage, preterm delivery, or stillbirth, plus women with fertility intent.

Jenkins L, Patterson A, McEvoy M & Sibbritt D.

Higher unprocessed red meat, chicken and fish intake is associated with a higher vegetable intake in mid-age non-vegetarian women.

Nutrition & Dietetics Journal, 2012; 69(4), 293-299.

Aim: To investigate whether higher intakes of unprocessed red meat, chicken and fish are associated with higher intakes of vegetables in middle-aged, non-vegetarian Australian women.

Methods: Food intake data was collected from a nationally representative sample of 10 530 middle-aged Australian women (50–55 years) who completed the third survey of the Australian Longitudinal Study on Women's Health. The validated Dietary Questionnaire for Epidemiological Studies (Version 2) was used. Multivariate regression analyses were used to determine the association between vegetable intake and four variables: total meat, red meat, chicken and fish intake in grams per day.

Results: Total meat (regression coefficient (RC) = 0.32, 95% CI: 0.30–0.34; P < 0.001), red meat (RC = 0.45, 95% CI: 0.42–0.48; P < 0.001), chicken (RC = 0.78, 95% CI: 0.70–0.85; P < 0.001) and fish intake (RC = 0.48, 95% CI: 0.42–0.53; P < 0.001) were significantly associated with higher vegetable intakes after adjusting for confounders. The adjusted R2 values for each of the regression models were relatively small (0.1590, 0.1394, 0.0932, 0.0802), indicating that the included predictors did not account for much of the variation in vegetable intake.

Conclusion: These results provide some evidence that higher intakes of unprocessed red meat, chicken and fish are associated with higher intakes of vegetables. This supports the notion that many Australians who are serving up unprocessed red meat, chicken or fish for their meals are also consuming a number of vegetable serves.

Leung J, Gartner C, Hall W, Lucke J & Dobson A.

A longitudinal study of the bi-directional relationship between tobacco smoking and psychological distress in a community sample of young Australian women.

Psychological Medicine, 2012; 42(6), 1273-1282.

Background: Tobacco smoking and poor mental health are both prevalent and detrimental health problems in young women. The temporal relationship between the two variables is unclear. We investigated the prospective bi-directional relationship between smoking and mental health over 13 years.

Method: Participants were a randomly selected community sample of 10 012 young women with

no experience of pregnancy, aged 18-23 years at baseline (1996) from the Australian Longitudinal Study on Women's Health. Follow-up surveys over 13 years were completed in 2000, 2003, 2006 and 2009, allowing for five waves of data. Measures included self-reported smoking and mental health measured by the Mental Health Index from the 36-item short-form health questionnaire and the 10-item Center for Epidemiologic Studies Depression Scale. Sociodemographic control variables included marital status, education level and employment status.

Results: A strong cross-sectional dose-response relationship between smoking and poor mental health was found at each wave [odds ratio (OR) 1.41, 95% confidence intervals (CI) 1.17-1.70 to OR 2.27, 95% CI 1.82-2.81]. Longitudinal results showed that women who smoked had 1.21 (95% CI 1.06-1.39) to 1.62 (95% CI 1.24-2.11) times higher odds of having poor mental health at subsequent waves. Women with poor mental health had 1.12 (95% CI 1.17-1.20) to 2.11 (95% CI 1.68-2.65) times higher odds of smoking at subsequent waves. These results held after adjusting for mental health history and smoking history and sociodemographic factors. Correlation analysis and structural equation modelling results were consistent in showing that both directions of the relationship were statistically significant.

Conclusions: The association between poor mental health and smoking in young women appeared to be bi-directional.

Liddle J, Parkinson L & Sibbritt D.

Painting pictures and playing musical instruments: Change in participation and relationship to health in older women.

Australasian Journal on Ageing, 2012; 31(4), 218-221.

Aim: To explore how changed participation in painting pictures or playing a musical instrument is related to change in physical and mental health in older women.

Method: Women enrolled in the 1921–1926 birth cohort of the Australian Longitudinal Study on Women's Health were surveyed in 2005 and 2008. Changed participation in painting pictures or playing a musical instrument was considered in relation to changes in social activity, social support, health status and health-related quality of life.

Results: Data were available for 5058 women. Improvements in instrumental activities of daily living (odds ratio (OR) 1.1, 95% confidence interval (CI) 1.0–1.2; P = 0.004) and role limitations due to emotional factors (OR 1.6, 95% CI 1.0–2.5; P = 0.002) were associated with starting participation. Decline in mental health-related quality of life (OR 4.1, 95% CI 2.3–7.2; P < 0.0001) was associated with stopping.

Conclusion: Changed participation was associated with change in functional capacity and tied to emotional well-being.

Lopez D, Flicker L & Dobson A.

Validation of the Frail Scale in a cohort of older Australian women.

JAGS, 2012; 60(1), 171-173.

Background: There is a need for a simple frailty assessment tool for use in large-scale epidemiological studies. The FRAIL scale is based on five domains: fatigue, resistance (ability to climb a single flight of stairs), ambulation (ability to walk 100m), illnesses (>5) and loss of more than 5% of weight. The aims of this study are to validate the FRAIL scale in a cohort of older Australian women and to determine whether a score greater than 2 on this scale is predictive of frailty.

Methods: Data were obtained from the 1921-1926 birth cohort at survey 2 (1999), survey 3 (2002) and survey 5 (2008). Assessment of frailty was calculated from responses to the SF-36 (fatigue, resistance and ambulation), more than five chronic conditions (Alzheimer's disease, dementia, angina, heart attack, depression, arthritis, asthma, bronchitis or emphysema, diabetes mellitus, hypertension, osteoporosis and stroke), and self-reported weight. Women were considered frail if they scored >2 on the FRAIL scale. Dependent variables were date of death or survival at October 31, 2009 and activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Covariates included age, BMI, education and living alone.

Results: The FRAIL scale predicted all-cause mortality and disability in a graded manner (P for trend <0.05). Women who scored >2 on the FRAIL scale in 2002 had a hazard ratio for death of 2.68 (95% confidence interval (CI) 2.42-2.99) compared with those women who scored 0. Women who were assessed as frail (FRAIL scale >2) were also at greater risk of subsequent disability (ADLs - odds ratio (OR) 3.63, 95%CI 3.05-4.32; IADLS - OR 4.90, 95%CI 3.67-6.54) than women who scored 0.

Conclusion: The FRAIL scale is a simple measure of frailty and is predictive of mortality and disability. This scale may have applications for clinicians and researchers, but requires further validation against established criteria.

McLaughlin D, Leung J, Pachana N, Hankey G, Flicker L & Dobson A.

Social support and subsequent disability: It's not the size of your network that counts.

Age & Ageing, 2012; 41, 674-677.

Background: high levels of social support and engagement may help sustain good health and functional ability. However, the definition of social support in previous research has been inconsistent and findings are mixed. The aim of this analysis was to explore the effect of two aspects of social support

on subsequent disability in a group of community dwelling older women and men.

Methods: data were drawn from two concurrent prospective observational cohort studies of community-based older Australian women (N = 2,013) and men (N = 680). Baseline and follow-up data were drawn from the second (1999) and fifth (2008) surveys of the women and the second (2001) and third (2008) surveys of the men. At baseline, social support was measured by the two subscales (social network and subjective support) of the Duke Social Support Index (DSSI). The outcome measure was Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs).

Results: overall, social network size was not associated with subsequent disability in either women or men. After adjusting for health status at baseline, lack of satisfaction with social support was associated with greater difficulties in ADLs and IADLs for both women and men.

Conclusions: our results suggest that the provision of social support is insufficient to limit subsequent disability: support provided must be subjectively perceived to be relevant and adequate

McLaughlin D, Adams J, Sibbritt D, Lui C.
Sex differences in the use of complementary and alternative medicine in older men and women.
Australasian Journal on Ageing, 2012; 31(2), 78-82.

Aim: The aim of this study was to examine sex differences in complementary and alternative medicine (CAM) use among older adults.

Methods: Cross-sectional analysis of data from two cohort studies of community-dwelling women (n = 5399) and men (n = 3188) aged 82–87 and 77–91 years, respectively. The main outcome measure was self-report of consultations with an alternative health practitioner.

Results: Men were 1.79 (95% confidence interval (CI): 1.46, 2.20) times more likely to use CAM than women. People born in a non-English speaking country were 1.49 times (95% CI: 0.94, 2.35) more likely to use CAM. Self-reported general health (P = 0.01) and bodily pain (P < 0.01) were significantly associated with CAM use. *Conclusion*: In contrast to previous research, CAM use is more prevalent among older men than older women in our sample. Both men and women are using CAM to maintain good health and for the treatment of ongoing conditions.

McLaughlin D, Adams J & Lu C.
Complementary and alternative medicine use among older Australian women – a qualitative study.
BMC Complementary and Alternative Medicine, 2012; 12(34).

Background: The use of complementary and alternative medicines (CAM) among older adults is an emerging health issue, however little is known about older people's experiences of using CAM and the cultural, geographical and other determinants of CAM use in this population. This study used qualitative methods to explore older women's views of CAM and reasons for their use of CAM. Participants for the project were drawn from the Australian Longitudinal Study on Women's Health (ALSWH) 1921-1926 birth cohort. Women who responded positively to a question about CAM use in Survey 5 (2008) of the ALSWH were invited to participate in the study. A total of 13 rural and 12 urban women aged between 83 and 88 years agreed to be interviewed.

Results: The women expressed a range of views on CAM which fell into three broad themes: "push" factors such as dissatisfaction with conventional health services, "pull" factors which emphasised the positive aspects of choice and self-care in health matters, and barriers to CAM use. Overall, the "push' factors did not play a major role in the decision to use CAM, rather this was driven by "pull" factors related to health care self-responsibility and being able to source positive information about types of CAM. A number of barriers were identified such as access difficulties associated with increased age, limited mobility and restricted transport options, as well as financial constraints.

Conclusions: CAM use among older women was unlikely to be influenced by aspects of conventional health care ("push factors"), but rather was reflective of the personal beliefs of the women and members of their close social networks ("pull factors"). While it was also apparent that there were differences between the rural and urban women in their use of CAM, the reasons for this were mainly due to the difficulties inherent in accessing certain types of CAM in rural areas.

Mishra D & Dobson A.
Using longitudinal profiles to characterize women's symptoms through midlife: Results from a large prospective study.
Menopause, 2012; 19(5), 549-555.

Objective: The aims of this study were to identify groups of symptoms experienced by women during midlife and to determine the main profiles or trajectories for each of these symptom groups through the menopausal transition.

Methods: The study uses data from the middle-aged cohort of women from a large community-based longitudinal study. Groups or patterns of symptoms are determined using factor analysis. Latent class

analysis based on age and age at menopause is used to identify profiles for each of the symptom patterns.

Results: Of the four symptom patterns identified, "somatic," "urogynecological," and "physical" symptoms have a constant profile through midlife. Vasomotor symptoms vary through menopause: 11% of women have the "early severe" profile of symptoms that begin at premenopause, whereas 29% have the "late severe" profile, with symptoms peaking during postmenopause and persisting more than a decade after menopause. The remaining women with the "moderate" or "mild" profiles report occasional symptoms that tend to peak around menopause.

C*onclusions*: Identifying the profile of vasomotor symptoms could help health professionals to tailor their advice to women going through menopause.

Pachana N, McLaughlin D, Leung J, Byrne G & Dobson A.

Anxiety and depression in adults in their eighties: Do gender differences remain?

International Psychogeriatrics, 2012; 24(1), 145-150.

Background: Women report higher rates of depression and anxiety than men; however, it is uncertain whether this gender difference continues into advanced old age.

Methods: 78 men and 111 women aged 82–87 years from the Men, Women and Ageing Project completed measures of anxiety (Geriatric Anxiety Inventory), depression (Patient Health Questionnaire; PHQ9), general psychological well-being (Mental Health subscale of SF-36), general health (general health item of SF-36) and cognitive status (Telephone Interview for Cognitive Status; TICS).

Results: Results revealed no significant gender differences on any of the psychological measures, after controlling for cognitive status, general health and education.

Conclusion: These results support the proposition that the female predominance in psychological distress diminishes with increasing age. The congruence between men and women may reflect changes in identity associated with age or the effect of decreased emotional valence of some social roles.

Powers J, Loxton D, Baker J, Rich J & Dobson A.

Empirical evidence suggests adverse climate events have not affected Australian women's health and well-being.

The Australian and New Zealand Journal of Public Health, 2012; 36(5), 452-457.

Objective: To compare the health and well-being of women by exposure to adverse climate events. An Exceptional Circumstance declaration (EC) was used as a proxy for adverse climate events. The Australian government may provide financial support to people living in EC areas, i.e. areas experiencing a one in 20-25 year event (drought, flood or fire) that results in a severe, extended downturn in farm or farm-related income.

Methods: Data from 6,584 53-58 year old non-metropolitan women participating in the 2004 survey of the Australian Longitudinal Study on Women's Health (ALSWH) were linked to EC data. Generalised linear models were used to analyse differences in SF-36 General Health (GH) and Mental Health (MH) and perceived stress by EC for all women. Models were adjusted for demographic, health-related and psychosocial factors potentially on the pathway between EC and health. Given that the effects on health were expected to be greater in vulnerable people, analyses were repeated for women with worse socioeconomic circumstances.

Results: GH, MH and stress did not differ for the 3,366 women in EC areas and 3,218 women in non-EC areas. GH, MH and stress were worse among vulnerable women (who had difficulty managing on available income) regardless of EC.

Conclusion and implications: This research adds to the existing literature on climate change, associated adverse climate events and health, by suggesting that multiple resources available in high income countries, including government support and individual psychosocial resources may mitigate some of the health impacts of adverse climate events, even among vulnerable people.

Pit S & Byles J.

The association of health and employment in mature women: A longitudinal study.

Journal of Women's Health, 2012; 21(3), 273-280.

Background: Despite a reduction in income inequalities between men and women, there is still a large gap between income and retirement savings of Australian men and women. This is especially true for women who have health or disability problems. Mature age women are closest to retirement and, therefore, have less chance than younger women to build up enough retirement savings and may need to continue working to fund their older age. Continued workforce participation may be particularly difficult for women who are less healthy. Understanding which health problems lead to a decrease in workforce participation among mature age women is crucial. Therefore, this longitudinal study sought to identify which health problems are associated with employment among midage women over time.

Methods: Data were analyzed from the midage cohort of the Australian Longitudinal Study on Women's Health (ALSWH), which involved 14,200 midage women (aged 45-50 years in 1996). The women have been surveyed four additional times, in 1998, 2001, 2004, and 2007. Generalized estimating equations

(GEE) were used to conduct nested multivariate longitudinal analyses.

Results: The percentages of women who were employed in the years 2001, 2004, and 2007 were 77%, 72%, and 68%, respectively. Results were adjusted for sociodemographic variables. Being employed decreased as physical and mental health deteriorated and with self-reported conditions: diabetes, high blood pressure, depression, anxiety, and other psychiatric conditions. Back pain, arthritis, cancer, obesity, and being a current smoker are associated with employment but not when quality of life is added to the model.

Conclusions: There were significant associations between health and employment. Understanding these relationships could inform policies and guidelines for preventing declines in employment in mature age women.

Sibbritt D, Adams J, Lui C & Broom A.
Health services use among young Australian women with allergies, hayfever and sinusitis: A longitudinal analysis.
Complementary Therapies in Medicine, 2012; 20(3), 135-142.

Objectives: The existing knowledge base on the use of complementary and alternative medicine among patients with allergies is built upon findings of cross-sectional surveys and there is a lack of longitudinal data. There is also a lack of studies that examine both the use of conventional medicine and complementary and alternative medicine among allergy patients.

Design and setting: This paper reports the findings of the first ever longitudinal study of the use of conventional providers, practitioners of complementary and alternative medicine, and self-prescribed modalities amongst women with allergies, hayfever and sinusitis from a large nationally representative sample.

Main outcome measures: Analysis focused upon data from 7538 women from the younger cohort of the Australian Longitudinal Study on Women's Health collected between 1996 and 2006. Chi-square tests were employed to compare the groups across consultations and self-prescribed treatments and one-way analysis of variance was used to compare the groups across health status. A modified Bonferroni test was used to correct for multiple comparisons.

Results: The study identified that women who sought help for their allergic disorder were more likely to consult a range of practitioners and self-prescribed complementary and alternative medicine than women who either did not seek help or did not have allergic disorders. The analysis shows that many women with allergic disorders use complementary and alternative medicine alongside or as a complement to conventional healthcare services.

Conclusions: The frequent use of a range of conventional providers and practitioner-based and self-prescribed complementary and alternative medicine amongst women with allergic disorders warrants further investigation.

Spencer E, Hugh C, Ferguson A & Colyvas K.
Language and ageing: Exploring propositional density in written language: Stability over time.
Clinical Linguistics and Phonetics Journal, 2012; 26(9), 743-754.

This study investigated the stability of propositional density in written texts, as this aspect of language shows promise as an indicator and predictor of language decline with ageing. This descriptive longitudinal study analysed written texts obtained from the Australian Longitudinal Study of Women's Health in which participants were invited to respond to an open-ended question about their health. The 635 texts used for this study were taken from 127 middle-aged women who responded to this question on each of the five surveys conducted at 3 year intervals over a 16 year period. The study made use of an automated propositional density rater (CPIDR-3) for the analysis. Propositional density was found to be a stable measure over time when comparing grouped data, but there was between and within subject variation over time. Further research is needed to explore the valid use of this measure in research into language and ageing.

Tooth L, Hockey R, Treloar S, McClintock C & Dobson A.
Does Government subsidy for costs of medical and pharmaceutical services result in higher service utilization by older widowed women in Australia?
BMC Health Services Research, 2012; 12(179), 1-7.

Background: In Australia, Medicare, the national health insurance system which includes the Medical Benefits Scheme (MBS) and Pharmaceutical Benefits Scheme (PBS), provides partial coverage for most medical services and pharmaceuticals. For war widows, the Department of Veterans' Affairs (DVA) covers almost the entire cost of their health care. The objective of this study was to test whether war widows have higher usage of medical services and pharmaceuticals.

Methods: Data were from 730 women aged 70–84 years (mostly World War II widows) participating in the Australian Longitudinal Study on Women's Health who consented to data linkage to Medicare Australia. The main outcome measures were PBS costs, claims, co-payments and scripts presented, and MBS total costs, claims and gap payments for medical services in 2005.

Results: There was no difference between the war widows and similarly aged widows in the Australian population without DVA support on use of medical services. While war widows had more pharmaceutical prescriptions filled they generated equivalent total costs, number of claims and co-payments for pharmaceuticals than widows without DVA support.

Conclusions: Older war widows are not using more medical services and pharmaceuticals than other older Australian women despite having financial incentives to do so.

van Uffelen J, Heesch K, van Gellecum Y, Burton N & Brown W.

Which older women could benefit from interventions to decrease sitting time and increase physical activity?

Journal of the American Geriatrics Society, 2012; 60(2), 393-396.

Background: Leisure-time physical activity (LTPA) shows promise for reducing the risk of poor mental health in later life, although gender- and age-specific research is required to clarify this association. This study examined the concurrent and prospective relationships between both LTPA and walking with mental health in older women.

Methods: Community-dwelling women aged 73-78 years completed mailed surveys in 1999, 2002 and 2005 for the Australian Longitudinal Study on Women's Health. Respondents reported their weekly minutes of walking, moderate LTPA and vigorous LTPA. Mental health was defined as the number of depression and anxiety symptoms, as assessed with the Goldberg Anxiety and Depression Scale (GADS). Multivariable linear mixed models, adjusted for socio-demographic and health related variables, were used to examine associations between five levels of LTPA (none, very low, low, intermediate and high) and GADS scores. For women who reported walking as their only LTPA, associations between walking and GADS scores were also examined. Women who reported depression or anxiety in 1999 were excluded, resulting in data from 6653 women being included in these analyses.

Results: Inverse dose-response associations were observed between both LTPA and walking with GADS scores in concurrent and prospective models ($p<0.001$). Even low levels of LTPA and walking were associated with lowered scores. The lowest scores were observed in women reporting high levels of LTPA or walking.

Conclusion: The results support an inverse dose-response association between both LTPA and walking with mental health, over 3 years in older women without depression or anxiety.

van Uffelen J, Heesch K & Brown W.

Correlates of sitting time in working age Australian women: Who should be targeted with interventions to decrease sitting time?

Journal of Physical Activity and Health, 2012; 9(2), 270-287.

Background: While there is emerging evidence that sedentary behavior is negatively associated with health

risk, research on the correlates of sitting time in adults is scarce.

Methods: Self-report data from 7724 women born between 1973–1978 and 8198 women born between 1946–1951 were collected as part of the Australian Longitudinal Study on Women's Health. Linear regression models were computed to examine whether demographic, family and caring duties, time use, health, and health behavior variables were associated with weekday sitting time.

Results: Mean sitting time (SD) was 6.60 (3.32) hours/day for the 1973–1978 cohort and 5.70 (3.04) hours/day for the 1946–1951 cohort. Indicators of socioeconomic advantage, such as full-time work and skilled occupations in both cohorts and university education in the mid-age cohort, were associated with high sitting time. A cluster of 'healthy behaviors' was associated with lower sitting time in the mid-aged women (moderate/high physical activity levels, nonsmoking, nondrinking). For both cohorts, sitting time was highest in women in full-time work, in skilled occupations, and in those who spent the most time in passive leisure.

Conclusions: The results suggest that, in young and mid-aged women, interventions for reducing sitting time should focus on both occupational and leisure-time sitting.

Wade T, Wilksch S & Lee C.

A longitudinal investigation of the impact of disordered eating on young women's quality of life.

Health Psychology, 2012; 31(3), 352-359.

Objective: The extent to which subclinical levels of disordered eating affect quality of life (QOL) was assessed. Method: Four waves of self-report data from Survey 2 (S2) to 5 (S5) of a national longitudinal survey of young Australian women (N = 9,688) were used to assess the impact of any level of disordered eating at S2 on QOL over the following 9 years, and to evaluate any moderating effects of social support and of depression.

Results: At baseline, 23% of the women exhibited some level of disordered eating, and they scored significantly lower on both the physical and the mental component scores of the SF-36 at every survey; differences in mental health were still clinically meaningful at S5. Social support and depressive symptoms each acted as a moderator of the mental component scores. Women

with both disordered eating and low social support, or disordered eating and depression, had the worst initial scores; although they improved the most over time, they still had the lowest scores at S5. Higher social support at baseline resulted in women with disordered eating being largely indistinguishable from women without disordered eating who had low social support. Lower levels of depression resulted in women with disordered eating having a significantly better QOL than women with high levels of depression, regardless of eating status.

Conclusions: This is the first study to examine the long-term impact of subclinical levels of disordered eating on QOL, and it suggests that even apparently minor levels of symptomatology are associated with significant and far-reaching deficits in well-being.

Wardle J, Lui C, Adams.

CAM in rural communities: Current research and future directions.

Journal of Rural Health, 2012; 28(11), 101-112.

Contexts: The consumption of complementary and alternative medicine (CAM) in rural areas is a significant contemporary health care issue. An understanding of CAM use in rural health can provide a new perspective on health beliefs and practice as well as on some of the core service delivery issues facing rural health care generally.

Purpose: This article presents the first review and synthesis of research findings on CAM use and practice in rural communities.

Methods: A comprehensive search of literature from 1998 to 2010 in CINAHL, MEDLINE, AMED, and CSA Illumina (social sciences) was conducted. The search was confined to peer-reviewed articles published in English reporting empirical research findings on the use or practice of CAM in rural settings.

Findings: Research findings are grouped and examined according to 3 key themes: "prevalence of CAM use and practice," "user profile and trends of CAM consumption," and "potential drivers and barriers to CAM use and practice."

Conclusions: Evidence from recent research illustrates the substantial prevalence and complexity of CAM use in rural regions. A number of potential gaps in our understanding of CAM use and practice in rural settings are also identified.

ACCEPTED PAPERS

Adams J, Sibbritt D, Broom A, Loxton D, Wardle J, Pirotta M & Lui C.

High levels of CAM use in rural areas largely due to high levels of chiropractor use: A national survey.

Journal of Manipulative and Physiological Therapeutics.

Objectives: Evidence indicates that people who reside in non-urban areas have a higher use of complementary and alternative medicine (CAM) than people who reside in urban areas. Currently, little is known about the reasons for such differences. This paper reports findings from a survey of a national cross-sectional sample of 1,427 urban and non-urban Australian women focusing upon the relationship between the use of specific CAM practitioner types and the levels of CAM use across urban and non-urban areas. Methods: A cross-sectional survey of 1,427 mid-age participants from the Australian Longitudinal Study on Women's Health (ALSWH) conducted in 2009. The survey was designed to investigate multiple factors affecting the health and wellbeing of a cohort of women with a particular emphasis upon urban and non-urban residence. Specifically, the survey covered place of residence, measures of health status, rating of health care providers/services and consultation with CAM practitioners.

Results: Statistically significant differences between the areas of residence were found for women who used chiropractors ($p=0.0165$), yoga practitioners ($p=0.0087$) and osteopaths ($p<0.0001$). Women residing in non-urban areas were more likely to consult with a chiropractor compared to women residing in major cities. Women in major cities were more likely to consult with a yoga practitioner or osteopath than women from non-urban areas.

Conclusions: The higher overall consultation rates with CAM therapists by Australian non-urban women are due mainly to consultations with chiropractors. Further research is needed to examine the details of how chiropractors contribute to non-urban health care, the relationship between non-urban chiropractors and conventional primary health care providers as well as the motivations and experiences of non-urban chiropractors and their patients.

Berecki-Gisolf, J, McKenzie, S, Dobson, A, McFarlane, A & McLaughlin D.

A history of comorbid depression and anxiety predicts new onset of heart disease.

Journal of Behavioral Medicine.

The objective of the current study was to examine whether a history of comorbid depression and anxiety predicted new onset of heart disease. Data from 6 surveys, spanning 15 years, of the Australian

Longitudinal Study on Women's Health, a large prospective cohort study were used, including health status, lifestyle, and sociodemographic measures. Participants of the 1946–1951 cohort who did not self-report heart disease at surveys 1 (1996) and 2 (1998) were included in the study (n = 11,828). After adjusting for health status, lifestyle and sociodemographic factors, a history of comorbid depression and anxiety (odds ratio (OR) = 1.78; 95 % confidence interval (CI) = 1.41–2.24) was associated with new onset of heart disease. A history of comorbid depression and anxiety is an important predictor of new onset of heart disease in mid-aged women. Due to the possible detrimental consequences of heart disease, psychological factors as well as established predictors should be considered when assessing a person's risk for heart disease.

Broom A, Meurk C, Adams J & Sibbritt D.
My health, my responsibility? Complementary medicine and self (health) care.
Journal of Sociology.

People are increasingly compelled to take responsibility for their own health and illness trajectories. The existing literature on what may be termed self-care points to the ways that public health initiatives have instigated the transfer of governance onto the individual through campaigns promoting physical activity, diet and other forms of self-care. Meanwhile, cultural trends towards self (health) care may have been enhanced and/or transformed by the increased prominence of complementary and alternative medicine (CAM) which often include a focus on self-determination and self-responsibility for achieving health and wellbeing. This paper examines women's contemporary self-care practices and the logics underpinning their approaches to health, illness and healing. Our findings show that although these women were often positive about the prospects of being autonomous decision makers, their search for alternatives and practices of self (health) care can be problematic in certain cases and may also be viewed as reproducing neoliberal forms of governance and their derivative inequalities.

Byles J, Tavener M, Robinson I, Parkinson L, Warner Smith P, Stevenson D , Leigh L & Curryer C.
Transforming Retirement: New definitions of life after work.
Journal of Women and Aging.

This quantitative research study uses survey data of women born between 1946 and 1951 in Australia. It follows earlier work that identified the importance of transitions from work for women of the baby boomer generation. We provide important insights into the lives of women who have partially or fully retired and the changing nature of women's work and retirement. For many women, retirement is characterized by newfound freedoms, opportunities, career change, and evolving identities, yet others view retirement as a continuation of previous occupational and gendered roles and commitments. This study has important implications for retirement policies for women.

Herber-Gast GC, Mishra G, van der Schouw Y, Brown W & Dobson A.
Risk factors for night sweats and hot flushes in midlife: Results from a prospective cohort study.
Menopause.

Objective: To identify social, lifestyle, and reproductive history risk factors of night sweats (NS) only, hot flushes (HF) only and co-occurrence of both NS and HF.

Methods: Risk factors and symptoms were measured at baseline and at three-year intervals (survey 2-6) over 15 years, in 10,454 participants in the Australian Longitudinal Study on Women's Health who were aged 45-50 years at baseline in 1996. Multinomial logistic regression analyses were performed.

Results: Compared to neither symptom, both symptoms together were reported less often by highly educated women (Odds Ratio:0.61 [99.9% Confidence Interval:0.50-0.74]), but more often by women who were heavier (1.23 [1.08-1.40]), current smokers (1.31 [1.09-1.56]), risky drinkers (1.44 [1.10-1.89]) peri- (6.57 [5.52-7.82]) or postmenopausal (4.74 [4.00-5.63]) and had gained weight (1.15 [1.01,1.31]) or had premenstrual tension (1.86 [1.48-2.34]) than by women without these characteristics. HF only was reported less often by highly educated women (0.73 [0.59-0.90]), but more often by peri-menopausal (3.58 [2.95-4.35]) or postmenopausal (2.97 [2.47-3.57]) women and by those with premenstrual tension (1.60 [1.25-2.04]). Finally, NS only was reported more often among current smokers (1.55 [1.11-2.19]), risky drinkers (1.76 [1.04-2.97]), peri-menopausal women (1.53 [1.14-2.06]) and by those with diabetes (1.91 [1.08-3.35]), premenstrual tension (1.67 [1.09-2.56]) or an early age at first pregnancy (1.45 [1.05-1.99]).

Conclusions: Presence of both symptoms was associated with social, behavioural and menstrual factors. There were some differences in risk factors among women who reported only one or both symptoms, suggesting a slightly different aetiology for each.

Kirby E, Broom A, Sibbritt D, Adams J & Refshauge K.
A national cross-sectional survey of back pain care amongst Australian women aged 60–65.
European Journal of Integrative Medicine.

Aim of the study: To analyse the use of complementary and alternative medicine (CAM), allied health and

biomedicine for back pain amongst Australian women aged 60–65.

Methodology: Self-completion postal survey in 2011/2012 of 1310 women who reported seeking help for back pain from the mid-age cohort of the Australian Longitudinal Study on Women's Health (ALSWH). Questions asked about their use of, and attitudes towards, CAM, allied health and biomedicine for the treatment of back pain.

Results: Intensity of back pain was greater for those who consulted biomedical and allied health practitioners. Women reported seeking help from biomedical and allied health practitioners more quickly after onset of pain than CAM practitioners but the longer their pain persisted the more likely they were to consult CAM practitioners. Use of CAM reflected less perceived benefit of biomedicine and allied health. The perceived differences in approach of CAM practitioners (e.g. more time in consultation, more equal relationship, more holistic approach) may be influential in their use and perceived benefit. Ease of access/availability may also influence use of CAM in particular. Some communication limitations were reported regarding discussing the use of other practitioner groups with biomedical and CAM practitioners.

Conclusions: Help for back pain occurs within highly differentiated contexts of care with patients juggling multiple and often ideologically distinct provider groups in order to improve their health and well-being. Further detailed research is required to examine patient motivations and pathways across biomedical, allied health and CAM providers in order to facilitate continuity of clinical care.

Lucke J, Herbert D, Watson M, & Loxton D.

Predictors of sexually Transmitted infection in Australian women: Evidence from the Australian Longitudinal Study on Women's Health.

Archives of Sexual Behavior.

This longitudinal study examined characteristics of women diagnosed with sexually transmitted infections (STI) for the first time in their later 20s and early 30s. Participants were 6,840 women (born 1973–1978) from the Australian Longitudinal Study on Women's Health. Women aged 18–23 years were surveyed in 1996 (S1), 2000 (S2), 2003 (S3), and 2006 (S4). There were 269 women reporting an STI for the first time at S3 or S4. Using two multivariable logistic regression analyses (examining 18 predictor variables), these 269 women were compared (1) with 306 women who reported an STI at S2 and (2) with 5,214 women who never reported an STI across the four surveys. Women who reported an STI for the first time at S3 or S4 were less likely to have been pregnant or had a recent Pap smear compared to women reporting an STI at S2.Women reporting a first STI at S3 or S4 were less likely to have been pregnant or had a recent Pap smear compared to women reporting an STI at S2. Women were more likely to report an STI for the first time at S3 or S4 compared to women not reporting an STI at any survey if they were younger, unpartnered, had a higher number of sexual partners, had never been pregnant, were recently divorced or separated, and reported poorer access to Women's Health or Family Planning Centres at S2. These findings demonstrate the value of longitudinal studies of sexual health over the life course beyond adolescence

McKenzie S, Tooth L, Lucke J, Hockey R & Dobson A.

Transitions into and out of providing informal care and their effects on use of community services in women born between 1921 and 1926: Results from the Australian Longitudinal Study on Women's Health.

Ageing & Society.

Objectives: The current paper examines the associations between changes in the caring role, whether or not the carers and care recipients live together, and the carers' own health.

Methods: Longitudinal mixed models analyses were conducted using data from four waves of the 1921-1926 cohort of the Australian Longitudinal Study on Women's Health. Outcomes were use of nursing or community health services, respite services, homemaking services, and home maintenance services. Explanatory variables were survey wave and the following characteristics of the carer: level of education, country of birth, area of residence, ability to manage on income, care for children, need for help, sleep difficulty, age-related memory decline, and changes in caring role.

Results: Women were more likely to have used support services if they had started or stopped providing care or continued to provide care for a recipient frail, ill, or disabled person who lived with them, did not provide care for children, needed care themselves, and reported sleep difficulties or memory decline compared with women who did not provide care.

Discussion: These findings are important because they indicate that support services are particularly relevant to women who are changing their caring role and who are themselves in need of care.

Meurk C, Broom A, Adams J & Sibbritt D.

Bodies of knowledge: Nature, holism and women's plural health practices.

Health.

The proliferation of complementary and alternative medicine (CAM), and women's high level of engagement with these practices, has presented

sociology with a range of questions regarding gender, embodiment and identity work in the context of contemporary medical pluralism. The current study, drawing on 60 qualitative interviews with women from the Australian Longitudinal Study on Women's Health (ALSWH), examines how a group of Australian women negotiate CAM and biomedicine in a range of health and illness contexts. Selected from the mid-aged cohort of this national study, here we explore their accounts of engagement with CAM and biomedicine, unpacking their logics underpinning, and rhetorical practices surrounding, their therapeutic engagement. The results provide significant insight into: the importance of ideas about nature, holism and strengthening; perceptions of the harshness and softness of medicines for women's bodies; and, the relative importance of scientific proof vis-a-vis individual subjectivities. Ultimately, their accounts illustrate gendered and embodied strategies of strategic integration, and importantly, border crossing. We conclude that while women's engagement with CAM and biomedicine may be indeed be gendered in character, we suggest a rethinking of gender-based resistance (to biomedicine) or gender-alignment (to CAM) arguments; the notion of women as designers would more adequately capture the landscapes of contemporary medical pluralism.

Pavey G, Peeters G & Brown W.
Sitting-time and 9-year all-cause mortality in older women.
British Journal of Sports Medicine.

Background: Studies of mid-aged adults provide evidence of a relationship between sitting-time and all-cause mortality, but evidence in older adults is limited. The aim is to examine the relationship between total sitting-time and all-cause mortality in older women.

Methods: The prospective cohort design involved 6656 participants in the Australian Longitudinal Study on Women's Health who were followed for up to 9 years (2002, age 76-81, to 2011, age 85-90). Self-reported total sitting-time was linked to all-cause mortality data from the National Death Index from 2002 to 2011. Cox proportional hazard models were used to examine the relationship between sitting-time and all-cause mortality, with adjustment for potential socio-demographic, behavioural and health confounders.

Results: There were 2003 (30.1%) deaths during a median follow-up of 6-years. Compared with participants who sat <4 h/d, those who sat 8-11 h/d had a 1.45 times higher risk of death and those who sat ≥11 h/d had a 1.65 times higher risk of death. These risks remained after adding socio-demographic and behavioural covariates, but were attenuated after adjustment for health covariates.. A significant interaction (p=0.02) was found between sitting-time and physical activity (PA), with increased mortality risk for prolonged sitting only among participants not meeting PA guidelines (HR for sitting ≥8 h/d: 1.31, 95% CI 1.07-1.61); HR for sitting ≥11 h/d: 1.47, CI 1.15-1.93).

Conclusions: Prolonged sitting-time was positively associated with all-cause mortality. Women who reported sitting for more than 8 h/d and did not meet physical activity guidelines had an increased risk of dying within the next 9 years.

Peeters G, Tett S, Dobson A & Mishra G.
Validity of self-reported osteoporosis in mid-age and older women.
Osteoporosis International.

The accuracy of self-reported osteoporosis is often questioned, but validation studies are lacking. The aim of this study was to validate self-reported prevalence (existing cases) and incidence (new cases) of osteoporosis against medication data in mid-age and older women. The concurrent validity was moderate to good for self-reported prevalent osteoporosis, but only poor to moderate for self-reported incident osteoporosis in mid-age and older women, respectively. In both age-groups, construct validity was acceptable for self-reported prevalent but not for incident osteoporosis. It was concluded that self-report is sufficiently accurate to assess prevalent osteoporosis, but not to assess incident osteoporosis.

Peeters G, van Gellecum Y, van Uffelen J, Burton N & Brown W.
Contribution of house and garden work to the association between physical activity and well-being in young, mid-aged and older women.
British Journal of Sports Medicine .

Objective: Although physical activity occurs in leisure, transport, occupational and domestic domains of life, the contribution of house and garden work (HGW) to the association between total physical activity and well-being is not clear. The aim was to describe the contribution of HGW to total physical activity (TPA) in association with well-being in younger, mid-aged and older women.

Design: Younger (25–30 years), mid-aged (50–55 years) and older (76–81 years) participants in the Australian Longitudinal Study on Women's Health completed a mailed survey with questions about leisure, transport and house and garden activities. Well-being was assessed using the physical and mental components scores of the SF-36. Cross-sectional associations between the physical activity variables and well-being were modelled using General Additive Modelling.

Results: Correlations between HGW and leisure/transport activity (LTA) were low (r<0.3, p<0.001). Positive curvilinear associations were found between LTA and physical and mental well-being in all three cohorts, and between HGW and physical and mental

well-being in mid-aged and older women. In the younger women, an inverse relationship was found between HGW and well-being. When HGW and LTA were summed (TPA), the associations between TPA and well-being were attenuated compared with those for LTA alone and well-being.

Conclusions In mid-aged and older women, relationships between HGW and well-being were similar to, but weaker than seen for LTA and well-being. In young women, well-being declined with increasing HGW. Summing HGW to LTA led to attenuated relationships, suggesting that domains of physical activity should not be summed when studying relationships with well-being.

Peters G, Parkinson L, Badley E, Jones M, Brown W, Dobson A & Mishra G.

Variations in reporting doctor-diagnosed osteoarthritis reflect contemporaneous severity of symptoms and functioning.

Arthritis Care & Research.

Objective: Osteoarthritis is acknowledged as an enduring condition, however, in epidemiological studies, half the participants who report having osteoarthritis at one time may report not having it at a subsequent time. The aim of this study was to examine whether variations in reporting doctor-diagnosed osteoarthritis reflected concurrent fluctuations in indicators of disease severity in mid-age women.

Methods: Data were from 7,623 participants (aged 50-55 years in 2001) in the Australian Longitudinal Study on Women's Health. Based on self-report of doctor-diagnosed osteoarthritis at surveys in 2001, 2004, 2007 and 2010, the participants were classified according to pattern of osteoarthritis reporting (e.g. 0-0-0-0='no' on all surveys, 0-1-0-1='no-yes-no-yes'). Indicators of disease severity included frequency of joint pain/stiffness, use of anti-inflammatory medications, and physical functioning assessed with the SF-36. Bar graphs were used to show concurrent variations in osteoarthritis and markers, and associations were examined using log-linear models.

Results: In this sample, 46% reported having osteoarthritis on at least one survey, with half these cases reporting not having osteoarthritis at a later survey. Odds of reporting joint pain/stiffness often (odds ratio (OR) 7.26, 95% confidence interval (CI) 7.06-7.47) and using anti-inflammatory drugs (OR 4.44, CI 2.37-8.33) were higher, and physical functioning scores were lower (OR 3.75, CI 3.56-3.95) when participants reported having osteoarthritis.

Conclusion: Variations in reporting osteoarthritis coincided with episodic fluctuations in symptoms and functioning. Inconsistent reporting of osteoarthritis could therefore reflect presence of symptoms rather than reporting error and should be considered in longitudinal studies. © 2012 by the American College of Rheumatology.

Pezdirc K, Hure A, Blumfield M & Collins C.

Listeria monocytogenes and diet during pregnancy; balancing nutrient intake adequacy versus adverse pregnancy outcomes.

Public Health Nutrition.

Objective: To evaluate the impact of adherence to public health recommendations on Listeria monocytogenes food safety to limit exposure to potential food sources on micronutrient intakes of pregnant women and whether more frequent consumption of 'high-risk' foods increases risk for adverse pregnancy outcomes.

Design: A cohort study in women assessing Listeria exposure from an FFQ based on consumption of potential Listeria-containing food sources, the Listeria Food Exposure Score (LFES). Pregnancy status was defined as pregnant, trying to conceive, had a baby within the previous 12 months, or other. Nutrient intakes were compared with Nutrient Reference Values and self-reported pregnancy outcome history three years later.

Setting: Australia.

Subject: Women aged 25-30 years (n 7486) participating in the Australian Longitudinal Study on Women's Health.

Results: There were weak positive correlations (r = 0•13-0•37, P < 0•001) between LFES and all nutrients, with fibre, folate, Fe and vitamin E intakes consistently below the Nutrient Reference Values in every quintile of LFES. Women in the highest quintile of LFES reported 19 % more miscarriages (rate ratio = 1•19; 95 % CI 1•02, 1•38) than those in the lowest quintile, after adjusting for important confounding factors.

Conclusions: More frequent consumption of foods potentially containing L. Monocytogenes is associated with higher nutrient intakes, but an increased risk of miscarriage. L. Monocytogenes pregnancy recommendations require review and should include the list of 'risky' food items in addition to low-risk alternatives that would adequately replace nutrient intakes which may be reduced through avoidance strategies.

Powers J, McDermott L, Loxton D & Chojenta C.

A prospective study of prevalence and predictors of concurrent alcohol and tobacco use during pregnancy.

Maternal and Child Health Journal.

Concurrent drinking and smoking during pregnancy is a major public health concern. Changes in these behaviours are under-researched, although essential if effective interventions are to be implemented. Hence

this paper investigated characteristics of women who decreased concurrent drinking and smoking during pregnancy. 1,591 women were identified as pregnant at one of three surveys from 2000 to 2006 of the Australian Longitudinal Study on Women's Health and not pregnant at the previous survey. Relative risks (RRs) were calculated for concurrent drinkers and smokers before pregnancy of (1) decreasing drinking, (2) decreasing smoking and (3) decreasing drinking and smoking during pregnancy. Three hundred and fifty-four women (22%) were concurrent drinkers and smokers before pregnancy; of these women, 73% decreased drinking, 72% decreased smoking and 53% decreased drinking and smoking during pregnancy. Decreased concurrent drinking and smoking was significantly higher among women who had at least 12 years education (RRs: 1.5–1.6), who drank at least 1–2 days/week (RRs: 1.5–1.6) and who had 3 or more drinks per occasion (RRs: 1.6–1.8), and significantly lower among heavy smokers, mothers of other children (RRs: 0.8) and disadvantaged women: those stressed about money, with poor mental health, low social support and experience of partner violence (RRs: 0.6–0.7). Clearly programs are needed to tackle concurrent drinking and smoking during pregnancy. Given many pregnancies are unplanned, these programs should target drinking and smoking before and during pregnancy, as well as disadvantaged women, to reduce the deleterious effects of concurrent substance use on their babies and themselves.

Rich J, Wright S, Loxton D.

Patience, HRT and Rain!" Women, Ageing and Drought in Australia – narratives from the mid-age cohort of the Australian Longitudinal Study on Women's Health.

Australian Journal of Rural Health.

Objective: This paper explores women's experiences of drought in Australia. Despite the significance of drought for rural life in Australia, there is little research seeking to understand its psychological consequences. There is also a need to recognise gendered experiences of drought and for research that addresses its long term effects as people age in prolonged drought-affected areas.

Design: The study explores longitudinal qualitative data collected by the Australian Longitudinal Study on Women's Health. Free text comments (N=217), collected via mailed survey at five time points (1996, 1998, 2001, 2004, 2007) from the same 77 women, were subjected to a narrative analysis.

Participants: Participants from the Australian Longitudinal Study on Women's Health who were aged 45-50 when the study began in 1996.

Results: Findings indicate that drought has an impact on women as they age, particularly in reference to menopause, access to support systems and retirement.

Conclusion: This study concludes that the experience of drought cannot be disentangled from the realities of gender and ageing.

Schofield M, Powers J, & Loxton D.

Mortality and disability outcomes of self-reported elder abuse: A 12-year prospective investigation.

Journal of the American Geriatric Society.

Background/Objectives: Elder abuse is a challenging public health issue in need of more robust studies to identify abuse and examine health outcomes following abuse. This study aimed to determine whether elder abuse could predict mortality and disability over the ensuing 12 years.

Design: Population-based prospective cohort study of women aged 70-75 in 1996; survival analysis.

Setting: Australia

Participants: 12,066 women with complete data on elder abuse

Measurements: Elder abuse was assessed using the 12-item Vulnerability to Abuse Screening Scale (VASS) subscales: vulnerability, coercion, dependence, and dejection. Outcomes were death, and disability (defined as an affirmative response to 'Do you regularly need help with daily tasks because of long-term illness, disability or frailty?').

Results: In 1996, 8% reported vulnerability, 6% coercion, 18% dependence and 22% dejection. By October 2008, 3488/12066 (29%) were deceased. Increased mortality was associated with coercion and dejection, after controlling for demographics, social support, and health behavior (hazard ratio (HR) and 95% confidence interval (CI) 1.21 (1.06; 1.40) and 1.12 (1.03; 1.23) respectively), but not after adding chronic conditions to the coercion model. Over the 12 years, disability was reported by 2158/11027 women who had reported no disability in 1996. Women who reported vulnerability or dejection were at increased risk of disability, after controlling for demographics, social support, and health behavior (HR and CI: 1.25 (1.06; 1.49) and 1.55 (1.38; 1.73) respectively). The hazard ratio remained significant for dejection when chronic conditions and mental health were included in the model (1.40 (CI 1.24; 1.58).

Conclusion: This study found that specific components of vulnerability to elder abuse were differentially associated with higher rates of disability and mortality over the ensuing 12 years.

Stewart Williams J, Wallick C, Byles J & Doran C.

Assessing patterns of use of cardio-protective polypill component medicines in Australian women.

Drugs and Ageing.

Background: A low-cost 'polypill' could theoretically be one way of improving medication affordability and compliance for secondary prevention of cardiovascular and cerebrovascular disease. The polypill has also been proposed as a primary prevention strategy. Yet many of the issues surrounding the polypill are still being debated and the underlying assumptions have not been proven. In this paper, we step back from the complexities of the debate and report upon the utilization of polypill component medicines in two population cohorts of Australian women who were aged 56–61 years and 81–86 years in 2007.

Objectives: The aims of this study were, firstly, to describe the association between the women's characteristics (health, illness, behavioural, demographic, socioeconomic) and their use of statins and antihypertensive medicines for the treatment of heart disease, and secondly, to discuss possible health and economic benefits for women with these characteristics that may be expected to result from the introduction of a cardio-protective polypill.

Methods: Survey records from the Australian Longitudinal Study on Women's Health (ALSWH) were linked to 2007 Pharmaceutical Benefits Scheme (PBS) claims for 7,116 mid-aged women and 4,526 older-aged women. Associations between women's characteristics (self-reported in ALSWH surveys) and their use of statins and antihypertensive medicines (measured through PBS claims in 2007) were analysed using Chi-square and multivariate regression techniques.

Results: Between 2002 and 2007, the use of statins in combination with antihypertensives by mid- and older-aged Australian women increased. A moderate yet increasing proportion of mid-aged women were taking statins without antihypertensives, and a high proportion of older-aged women were using antihypertensives without statins. A high proportion of women who were prescribed both statins and antihypertensives were in lower socioeconomic groups and reported difficulty managing on their incomes.

Conclusion: These results suggest that a polypill may provide an easy-to-take, cheaper alternative for Australian women already taking multiple cardiovascular disease medications, with particular benefits for older women and women in lower socioeconomic groups. Future research is needed to quantify the potential social and economic benefits of the polypill.

Teede H, Joham, A, Eldho P, Moran L, Loxton D, Jolley D & Lombard C.

Longitudinal weight gain in women identified with Polycystic Ovary Syndrome: Results of an observational study in young women.

Obesity.

Objective: Polycystic ovary syndrome (PCOS) affects 6-18% of women. The natural history of weight gain in women with PCOS has not been well described. We aim to examine longitudinal weight gain in women with and without PCOS and to assess the association between obesity and PCOS prevalence.

Design and methods: This observational study was set in the general community. Participants were women randomly selected from the national health insurance scheme (Medicare) database. Mailed survey data were collected by the Australian Longitudinal Study on Women's Health. Data from respondents to survey 4, aged 18-23 years (2006, n=9145) were analysed. The main outcome measures were PCOS prevalence and body mass index (BMI).

Reults: Self-reported PCOS prevalence was 5.8%(95%CI:5.3%-6.4%). Women reporting PCOS had higher weight, mean BMI [2.5kg/m2(95%CI:1.9-3.1)] and greater 10-year weight gain [2.6kg(95%CI:1.2-4.0)]. BMI was the strongest correlate of PCOS status with every BMI increment increasing risk by 9.2%(95%CI:6%-12%).

Conclusions: This community based observational study with longitudinal measurements of weight shows that weight, BMI and 10-year weight gain were higher in PCOS. We report the novel finding that obesity and greater weight gain are significantly associated with PCOS status. Considering the prevalence, major health and economic burden of PCOS, the increasing weight gain in young women and established benefits of weight loss, these results have major public health implications.

Tooth L & Mishra G.

Intergenerational educational mobility on general mental health and depressive symptoms in young women.

Quality of Life Research.

Purpose: To investigate how intergenerational educational mobility between women and their parents influences mental health/depressive symptoms in women.

Method: We studied 5,619 women aged 31-36 years in 2009 from the Australian Longitudinal Study on Women's Health. The Short-Form 36 Mental Component Score [MCS] measured mental health and the Centre for Epidemiologic Studies Depression Scale [CES-D] measured depressive symptoms. Multiple regression analyses, with adjustment for confounders, were used.

Results: Greater downward mobility from mothers (mother high to self low) [MCS regression estimate [β]

-3.35; 95% confidence interval [CI] -5.6,-1.1; CES-D β 1.94; 95% CI, 0.7,3.2], and greater (father high to self low MCS β,-2.53; 95% CI -4.8,-0.3] and moderate (father high to self intermediate MCS β -1.71; 95% CI -3.3,-0.1] downward mobility from fathers was associated with poorer mental health in women. Another strongly consistent influence on poor mental health was answering 'don't know/not applicable' about parental education [mother-self MCS β -1.34; 95% CI, -2.3,-0.4; mother-self CES-D β 0.52; 95% CI 0.01,1.0; father-self MCS β -1.19; 95% CI -2.1,-0.3].

Conclusions: There are subtle differences for same and opposite-sex parent-daughter relationships on the impact of downwards intergenerational educational mobility on mental health in young women. These results suggest the effect of own educational attainment on mental health depends on the degree of disparity between self and parent. Future studies should consider "don't know' as a separate category rather than treating it as a "missing" response.

Windsor T, Burns R & Byles J.

Age, physical functioning, and affect in midlife and older adulthood.

J Gerontol B Psychol Sci Soc Sci.

Objectives: The aim of this study was to examine age differences in high- and low-arousal positive and negative affect, and associations of physical functioning with affect over the latter half of the life course.

Method: Participants consisted of 39,958 midlife and older adults contributing to DYNOPTA; a large-scale collaborative project concerned with pooling data from Australian studies of aging. Items assessing the experience of discrete emotions were selected to represent different combinations of high- and low-arousal affect, and positive and negative valence affect.

Results: Older adults were more likely to endorse low-arousal positive affect, and less likely to endorse negative affect (both high and low arousal) relative to those in midlife. Better self-reported physical functioning was associated with younger age, higher positive, and lower negative affect, with physical functioning emerging as a suppressor of associations of age with affect in regression analyses.

Conclusions: The results, based on a very large sample of older adults, are consistent with those of other studies demonstrating lower levels of negative emotion among older, relative to midlife adults. The findings also highlight the relevance of physical functioning to emotional well-being over the latter part of the life course.

PUBLISHED ABSTRACTS

Aljadani H, Sibbritt D, Patterson A & Collins C.

Diet quality does not predict six-year weight changes in mid-age women from Australian Longitudinal Study on Women's Health.

Obesity Research and Clinical Practice, 2012; 6(supp1): 27-28.

Aim: To examine the relationship between diet quality and six year weight change in the mid-age cohort from the Australian longitudinal Study on Women's Health (ALSWH).

Method: 8815 women followed up from 2001 to 2007. Diet quality was assessed by the Australian Recommended Food Score (ARFS), derived from the Dietary Questionnaire for Epidemiological Studies. Absolute weight change was the main outcome. Subjects with any of the following conditions were excluded: diabetes, stroke, heart disease or/and cancer. Linear regression was used to test the relationship between diet quality and changes in body weight applying for three different models. Further regression analyses were applied to assess potential relations between sub-scales of ARFS and weight change during six years.

Results: On average, women gained weight during follow-up (mean (SD) weight change 1.6 (6.2) kg). Diet quality (mean (SD) 32.6 (8.7) score) was not optimal. There was no association between ARFS and weight change during follow-up (p = 0.078; coefficient: 0.016) adjusted for total energy intake, education, area of resident, baseline weight, physical activity, smoking and menopause status. However, there was a significant association between the animal protein sub-scale and weight gain (p = 0.005; coefficient: 0.138), adjusted for total energy intake, education, area of resident, weight, physical activity, smoking and menopause status. The plant protein sub-scale had a non-significant association with weight loss, p = 0.98; coefficient: –0.002.

Conclusion: Higher diet quality, as measured by the Australian Recommended Food Score was not associated with weight change. Although a higher score of animal protein subscale contributed to gain 138 g during six years.

Chiarelli P & Sibbritt D.

Osteoporosis and pelvic organ prolapse in Australian women: A longitudinal analysis.

International Urogynecol Journal, 2012; 23(supp 2): 151-152.

Objective: This study aimed to longitudinally explore associations between diagnosis of osteoporosis in

relation to self reported pelvic organ prolapse surgery in Australian women.

Background: In women, urinary incontinence, pelvic organ prolapse and osteoporosis are prevalent, progressive disorders. Osteoporosis is characterised by compromised bone strength resulting in vertebral fractures, the most prevalent female osteoporotic fractures. Such fractures are strongly correlated with spinal deformity, and height loss hypothesised to increase intraabdominal pressure. Height loss inherent with osteoporosis is significantly associated with female urinary incontinence [1] which is also significantly associated with pelvic organ prolapsed.

Methods: In the first survey (1996), women were asked if they had "ever been told by a doctor that you had osteoporosis". In subsequent surveys were asked "in the last 2 years have you been diagnosed or treated for osteoporosis". Mid aged women were asked if they had repair of prolapse of the uterus, bladder or bowel in the previous three years in each survey while women in the 'older' group were asked in each if they had ever been told by a doctor they had POP in the first three surveys only. Responses were analysed from 10,951 mid-aged women (aged 45-50 years in 1966) across 5 surveys and 8847 elderly women (aged 70–75 in 1996) across 4 surveys in the Australian Longitudinal Study on Women's Health. After adjusting for confounders, crude and adjusted odds ratios for osteoporosis were obtained using longitudinal generalized estimating equation models, predicting pelvic organ prolapsed for both cohorts.

Results: Statistically significant associations were found between osteoporosis and self-reported surgery for pelvic organ prolapse (OR=1.46; 95% CI: 1.13, 1.89) in mid-age women and being told by a doctor they have POP in older women (OR = 1.44 (CI:1.27, 1.64).

Conclusion: Mid-aged and older women diagnosed with osteoporosis are at increased risk of developing pelvic organ prolapse suggesting that on diagnosis of osteoporosis, women be screened for and informed about their increased risk of developing pelvic organ prolapse.

Reference: Berecki-Gisolf J, Spallek M, Hockey R, Dobson A. Height loss in elderly women is preceded by osteoporosis and is associated with digestive problems and urinary incontinence. Osteoporos Int. 2010;21: 479-85.

Chiarelli P & Sibbritt D.

Osteoporosis and urinary incontinence in Australian women: A longitudinal analysis.

Neurourology and Urodynamics, 2012; 31(6): 768-769.

Hypothesis / aims of study: In women, urinary incontinence and osteoporosis are prevalent, progressive disorders. Osteoporosis is characterised by compromised bone strength resulting in vertebral fractures, the most prevalent female osteoporotic fractures. Such fractures are strongly correlated with spinal deformity, and height loss - hypothesised to increase intraabdominal pressure. Height loss inherent with osteoporosis is significantly associated with female urinary incontinence which is associated with pelvic organ prolapse [1]. This study aimed to longitudinally explore associations between diagnoses of osteoporosis in relation to onset of urinary incontinence in Australian women.

Study design, materials and methods: In the first survey (1996), women were asked if they had "ever been told by a doctor that you had osteoporosis". In subsequent surveys were asked "in the last 2 years have you been diagnosed or treated for osteoporosis". Other baseline survey questions in both cohorts asked whether women had experienced leaking urine in the last year. Response options were: never, rarely, sometimes, or often. Responses to this question (those answering rarely, sometimes, often) were used to estimate the prevalence of leaking urine in both cohorts in each survey. Responses were analysed from 10,951 mid-aged women (aged 45-50 years in 1966) and 8847 elderly women (aged 70–75 in 1996) across 5 surveys in the Australian Longitudinal Study on Women's Health. After adjusting for confounders, crude and adjusted odds ratios for osteoporosis were obtained using longitudinal generalized estimating equation models, predicting incontinence for both cohorts.

Results: Statistically significant associations were found between osteoporosis and urinary incontinence (OR=1.21; 95% CI: 1.11, 1.33) in both the mid-age and older women.

Conclusion: Mid-aged and older women diagnosed with osteoporosis are at increased risk of developing urinary incontinence suggesting that on diagnosis of osteoporosis, women be screened for and informed about their increased risk of developing urinary incontinence .

van Uffelen J, Heesch K, van Gellecum Y, Burton N & Brown W.

Social interaction and physical activity in women in their seventies.

Australasian Journal on Ageing, 2012, 31(Supp 2): 61.

Introduction: Regular participation in PA has physical and psychological health benefits up to old age. Despite these benefits, the proportion of people meeting recommended PA levels (> 150 minutes/ week of moderate PA) decreases with age. Three out of four people aged 75+ years do not meet this recommended PA level. Social interaction may enhance PA opportunities and engagement. The aim of this study therefore was to examine if more social interaction was associated with higher PA levels.

Methods: Data were from 6,116 community-dwelling women aged 76–81 years who completed surveys

for the Australian Longitudinal Study on Women's Health. PA was assessed using adapted Active Australia questionnaire items on walking, moderate and vigorous activity, and a PA level in MET.minutes/week was calculated taking the intensity of these activities into account. Social interaction was measured using a 4-item subscale of the Duke Social Support Index (DSSI). Scores ranged from 4–12 points, with higher scores indicating more interaction. The cross-sectional association between social interaction and PA was examined using multivariable linear regression, adjusted for relevant demographic, social and health variables.

Results: Thirty-six percent of the women met the recommended PA levels; 29% did some PA, but did not meet recommendations; and 35% did no PA. The mean DSSI

score was 8.9 (SD = 1.6) points, indicating moderately high levels of social interaction. Social interaction was significantly associated with PA, with an additional 57 (95% Confidence Interval 38–76) MET.minutes of PA per week for each additional point on the DSSI. This equals almost 20minutes of walking, or 15 minutes of moderate-intensity PA.

Conclusion: The findings of this study suggest that increasing social interaction may be a strategy to increase PA levels in this population group. Women with low social interaction could be a target group for PA interventions that encourage social interaction between participants.

PUBLISHED BOOK CHAPTERS

Adams J, Lui C, Sibbritt D, Broom A, Wardle J, Homer C, Steel A & Beck S.

Women's use of complementary and alternative medicine during pregnancy.

Adams J, et al. (eds.) Tradition, Complementary and Integrative Medicine: An International Reader, 2012, pp. 35-43. London, United Kingdom: Palgrave-Macmillan.

Background: The use of complementary and alternative medicine has attracted much attention and debate in recent years. This paper offers the first critical review of the evidence base on use of complementary products and therapies during pregnancy. It examines an important but neglected issue in maternity care.

Methods: A database search was conducted in MEDLINE, CINAHL, AMED and Maternity and Infant Care. A total of 24 papers published between 1999 and 2008 met the selection criteria and were included in the review.

Results: Findings of these 24 papers were extracted and reported under the themes of 'user prevalence and profile', 'motivation and condition of use', 'perception and self-reported evaluation' and 'referral and information sources'.

Conclusion: This review highlights four research gaps in the literature. More specifically, a lack of: large representative samples; in-depth understanding of user experiences and risk perceptions; research comparing consumption patterns across cultures and over time; and work exploring the nature of the therapeutic encounter with complementary practitioners in this area of women's health care.

Andrews G, Adams J, Segrott J & Lui C.

The profile of complementary and alternative medicine users and reasons for complementary and alternative medicine use.

Adams J. et al (eds) Traditional, Complementary and Integrative Medicine: An International Reader. Palgrave 2012, 11-17. MacMillan: Basingstoke.

The use of complementary and alternative medicine (CAM) has become a mainstream health care activity in many countries. The rise in prevalence of CAM use over the past decade reflects an epidemiological transition of disease patterns as well as profound transformations in health beliefs and practices in contemporary societies. As a global health trend, the use of CAM plays an increasingly important role in the management of chronic diseases and the promotion of well-being. The rapid increase in the consumption of CAM has generated much concern and discussion among health providers, policymakers and increasingly researchers. Drawing on a wide body of international research, this chapter provides an introduction to the profile of CAM users as well as the reasons people use CAM.

Andrews G, Segrott J, Lui C & Adams J.

The geography of complementary and alternative medicine.

Adams J. et al (eds) Traditional, Complementary and Integrative Medicine: An International Reader. Palgrave 2012, 231-236. MacMillan: Basingstoke.

Prior to the emergence of complementary and alternative medicine (CAM) in many advanced industrial societies during the 1980s, geographers focused their research efforts on its "predecessor," "traditional medicine." However, the need for geographers to research CAM, rather than traditional medicine, was first highlighted by Anyinam (1990) and the emergence of the "geography of health" as a distinct area of investigation (Kearns 1993) has involved a far more comprehensive engagement with CAM by contemporary geographers. This chapter outlines recent developments in the geography of complementary and alternative medicine research

ACCEPTED BOOK CHAPTERS

Collins C, Hure A, Burrows T & Patterson A.
Diet quality and its Potential Cost Savings.
VR Preedy Diet Quality: An Evidence-Based Approach London: Springer.
No abstract available.

Steel A, Frawley J, Adams J, Sibbritt & Broom A.
Primary health care, CAM and women's health.
Adams J. Et al (eds) Primary Health Care and Complementary and Integrative Medicine Imperial College Press: 2012 London.
Australian women are integrating primary health care (PHC) and complementary and alternative medicine (CAM) to alleviate a range of symptoms and conditions. This chapter introduces the use of CAM for women's health in general and more particularly, explores the integration of CAM alongside mainstream PHC by women for a range of women's health issues.

CONFERENCE PRESENTATIONS

Alhazmi A, Stojanovski E, McEvoy M & Garg M.
ARFS Items and Type 2 Diabetes in Australian Women.
Annual scientific meeting of the Australian Diabetes Society and the Australian Diabetes Educators Association 2012, Gold Coast, Queensland, 29 - 31 August 2012.

Alhazmi A, Stojanovski E, McEvoy M & Garg M.
Overall Diet Quality Score and Type 2 Diabetes.
Annual scientific meeting of the Australian Diabetes Society and the Australian Diabetes Educators Association 2012 Gold Coast, Queensland, 29 - 31 August 2012.

Aljadani H, Sibbritt D, Patterson A & Collins C.
Does higher diet quality protect weight change in adults over time: A systematic review of cohort studies?
International Conference on Diet Activity and Methods, Rome, Italy, 14 - 17 May 2012.

Aljadani H, Collins C, Sibbritt D, & Patterson A.
The role of total energy intake and energy density on changes in body weight: a systematic review of cohort studies.
16th International Congress of Dietetics, Sydney, NSW, 5 - 8 September 2012.

Aljadani H, Sibbritt D, Patterson A & Collins C.
Diet quality does not predict six-year weight changes in mid-age women from Australian Longitudinal Study on Women's Health.
Australian and New Zealand Obesity Society Annual Scientific Meeting 2012, Auckland, New Zealand, 18 - 20 October 2012.

Anderson A.
Compliance with alcohol Guidelines for pregnant women: Using data from the Australian Longitudinal Study on Women's Health (poster presentation).
Women's Health 2012: The 20th Annual Congress, Washington, DC, USA, 16 - 18 March 2012.

Austin M.
Intimate partner abuse and perinatal mental health.
International Biennial Congress of The Marcé Society, Paris, France, 3 - 5 October 2012.

Austin M.
Adverse reproductive events and mental health and parenting outcomes.
International Biennial Congress of The Marcé Society, Paris, France, 3 - 5 October 2012.

Austin M.
Disparities in reported psychosocial assessment during pregnancy and the postnatal period: A national survey of women in Australia.
International Biennial Congress of The Marcé Society, Paris, France, 3 - 5 October 2012.

Brown R.
Cancer risks for lesbians and bi-sexual women. Women' s Health Research: Health Risks and Policy Implications.
Public Forum, The University of Melbourne, Melbourne, Vic 30, January 2012.

Brown W & Uijtdewilligen L.
Changes in health behaviours over Ten years in young Australian women.
12th International Congress of Behavioral Medicine, Budapest, Hungary, 29 August – 1 September 2012.

Byles J & Gibson R.
Living long and living well: Factors associated with maintenance of physical function among older women.
Gerontological Society of America 64th Annual Scientific Meeting, Boston, MA, USA, 18 - 22 November 2012.

Byles J.
ACH Group Sir Keith Wilson Oration. Inspired by ageing: Observations from 12432 women and

one researcher.
SA Gerontology Conference 2012.The Ageing Odyssey. It's All About the Journey, Adelaide, South Australia, 14 September 2012.

Chiarelli P & Sibbritt D.
Osteoporosis and pelvic organ prolapse in Australian women: A longitudinal analysis.
37th Annual International Urogynecology Association Meeting, Brisbane, Queensland, 4-8 September 2012.

Chiarelli P & Sibbritt D.
Osteoporosis and urinary incontinence in Australian women: A longitudinal analysis.
42nd Annual Meeting International Continence Society, Beijing China, 5-19 October 2012.

Chojenta C & Harris S.
Adverse reproductive events and mental health and parenting outcomes.
International Biennial Congress of The Marcé Society, Paris, France, 3 - 5 October 2012.

Craig H, Spencer E & Ferguson A.
Language and life stages.
Digital Humanities Australasia 2012 Conference Canberra, ACT, 28 - 30 March 2012.

de Luca K, Parkinson L, Byles J, Blyth F & Pollard H.
A Cross sectional survey of pain in older women with arthritis: Study protocol.
11th National Conference of Emerging Researchers in Ageing – Making an Impact, Brisbane, Qld, 19 – 20 November, 2012.

de Luca K, Parkinson L, Byles J, Blyth F & Pollard H.
How is the experience of pain measured in older, community dwelling people with osteoarthritis – A systematic review of the literature (poster).
Chiropractic and Osteopathic College of Australasia National Conference – The Ageing Spine, Sydney, NSW, 13 - 14 October 2012.

de Luca K, Parkinson L, Byles J, Blyth F, Pollard H.
Development and pilot of a survey instrument for measuring pain in older women with arthritis (poster).
Chiropractic and Osteopathic College of Australasia National Conference – The Ageing Spine, Sydney, NSW, 13 - 14 October 2012.

de Luca K, Parkinson L, Byles J, Blyth F & Pollard H.
A cross sectional survey of pain in older women with arthritis: A study protocol (poster).
Chiropractic and Osteopathic College of Australasia National Conference – The Ageing Spine, Sydney, NSW, 13 - 14 October 2012.

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11th National Conference of Emerging Researchers in Ageing – Making an Impact, Brisbane, Qld, 19 – 20 November 2012.

de Luca K, Parkinson L, Byles J, Blyth F & Pollard H.
Development and pilot of a survey instrument for measuring pain in older women with arthritis (poster).
11th National Conference of Emerging Researchers in Ageing – Making an Impact, Brisbane, Qld, 19 – 20 November 2012.

Dillon G.
Impact of rurality on aspects of intimate partner violence in Australia.
University of New England, Faculty of the Professions, 7th Annual Postgraduate Conference, Armidale, NSW, 22-24 October 2012.

Dobson A.
Using causal inference to examine bi-directional associations in longitudinal data: Cigarette smoking and mental health.
Australian Statistical Conference 2012, Adelaide, SA, 9 - 12 September 2012.

Dobson A, et al.
Absolute risk charts for death within 10 years for Australians in their 70's by behavioural risk factors.
International Federation on Ageing, Prague, Czech Republic, 28 - 31 May 2012.

Frawley J, Sibbritt D, Adams J, Broom A & Steel A.
Women's sources of information for CAM use during pregnancy.
IRCIMH Integrative Medicine and Health Congress, Portland, Oregon, USA, 15 - 18 May 2012.

Gresham E, Byles J, Loxton D & Hure A.
Poorer diet quality predicts gestational hypertension.
16th International Congress of Dietetics, Sydney, NSW, 5 - 9 September 2012.

Harris M, Parkinson L, Moxey A, Robertson J, Doran E & Byles J.
What crisis? Women's experience of the withdrawal of Vioxx and discrediting of the COX-2s.
2nd Global Congress of Qualitative Health Research, Milan, Italy, 28 - 30 June 2012.

Heesch K, van Uffelen J, van Gellecum Y, & Brown WJ.
Dose response relationships between physical activity, walking and health-related quality of life in mid-age and older women.
4th International Congress on Physical Activity and Public Health, Sydney, NSW, 31 October – 3 November 2012.

Hockey R, Jones M, Mishra G & Dobson A.
Visualising and modelling changes in categorical variables in longitudinal studies.
Statistical challenges in Life Course Research Conference, 2012, Leeds, UK, 17 - 18 July 2012.

Holden L & Lee C.
Correlates of depression: Do they change with life stage?
7th World Conference on the Promotion of Mental Health and the Prevention of Mental and Behavioural Disorders, Perth, WA, 17 - 19 October 2012.

Hughes T.
Social determinants of sexual minority women's health: From invisibility to advocacy and empowerment.
Center For Global Women's Health (CGWH) Inaugural Symposium, Empowerment, Safety, and Health: A Global Mandate for Women and Girls. Philadelphia, United States, 11 May 2012.

Hure A.
An overview of the developmental origins of health and disease: What should Dietitians know?
16th International Congress of Dietetics, Sydney, NSW, 5 - 9 September 2012.

Kirby E & Broom A.
Navigating back pain care: A sociological study of women's illness pathways within and between intersecting social worlds.
The Second ISA Forum of Sociology, Buenos Aires, Argentina, 1-4 August 2012.

Koloski N, Jones M, Halland M, Byles J, Chiarelli P & Talley N.
Faecal incontinence in community dwelling older women - Its impact on quality of life and associated factors.
Digestive Diseases Week 2012, San Diego, USA, 19 - 22 May 2012.

Koloski N, Jones M, Raghubinder G, Forder P & Talley N.
Long term risk factors for the development of constipation in older community dwelling women.
Digestive Diseases Week 2012, San Diego, USA, 19 - 22 May 2012

Koloski N, Jones M, Wai R, Raghubinder S & Talley N.
Impact of persistent constipation on health related quality of life and mortality in older community dwelling women.
Digestive Diseases Week 2012, San Diego, USA, 19 - 22 May 2012.

Lee C.
Life control mediates social gradients in health and wellbeing among middle-aged Australian women.
12th International Congress of Behavioral Medicine, Budapest, Hungary, 29 August - 01 September 2012.

Lee C.
Life control mediates social gradients in health and wellbeing among middle-aged Australian women.
7th World Conference on the Promotion of Mental Health and the Prevention of Mental and Behavioural Disorders, Perth, WA, 17 - 19 October 2012.

Liddle J, Parkinson L & Sibbritt D.
Environmental factors affecting participation in art and craft activities by older women.
Australian Association of Gerontology & Aged & Community Services Association of NSW & ACT Incorporated Rural Conference, Dubbo, NSW, 19 - 20 March 2012.

Lo T, Parkinson L, Cunich M & Byles J.
Prevalence of arthritis: Agreement between survey data and administrative data.
45th Australian Association of Gerontology National Conference, Brisbane, Qld, 20 - 23 November 2012.

Loxton D & Chojenta C.
Intimate partner abuse and perinatal mental health.
International Biennial Congress of The Marcé Society, Paris, France, 3 - 5 October 2012.

Loxton D & Powers J.
Survival among women who have experienced abuse in older age.
National Conference on Health and Domestic Violence, San Francisco, USA, 29 - 31 March 2012.

Loxton D, Powers J & Byles J.
Aging and vulnerability to abuse: Findings on prevalence, experience and survival outcomes from the Australian Longitudinal Study on Women's Health.
International Network for the Prevention of Elder

Abuse 7th World Conference, Prague, Czech Republic, 28 May 2012.

Loxton D, Rich J & Chojenta C.
Is there anything you'd like to add? Responses to open ended survey questions as research data.
Women's Health 2012: The 20th Annual Congress, Washington, DC, USA, 16 - 18 March 2012.

McLaughlin D.
Ageing through the gender lens: Evidence from Australia.
International Federation on Ageing, Prague, Czech Republic, 28 - 31 May 2012.

McLaughlin D, Leung J, Flicker L & Dobson A.
Social support and disability: It's not the size of the network that counts.
International Federation on Ageing, Prague, Czech Republic, 28 - 31 May 2012.

McLaughlin D, Leung J, Dobson A & Byles J.
Mental Health, psychotropic medications and the subsequent risk of falls in older women and men.
International Federation on Ageing, Prague, Czech Republic, 28 - 31 May 2012.

McLaughlin D.
Data linkage in the Australian Longitudinal Study on Women's Health.
International Data Linkage Conference 2012, Perth, WA, 2 - 4 May 2012.

McLeod A, Collins C & Patterson A.
Fish intake during pregnancy and the implications for the health of young women and their infants.
16th International Congress of Dietetics, Sydney, NSW, 5 - 8 September 2012.

Mishra G.
The Challenges of adherence to guidelines.
Population Health Congress 2012, Adelaide, SA, 9 - 12 September 2012.

Mishra G.
InterLACE: an international collaborative study of reproductive health in mid life.
ICOWHI 19th International Congress on "Women's Health 2012: Partnering for a Brighter Global Future", Bangkok, Thailand, 14 - 16 November 2012.

O'Dwyer S.
Suicidal ideation in women providing informal care: Cross-sectional evidence from the Australian Longitudinal Study on Women's Health.
International Psychogeriatric Association (IPA) International Meeting 2012, Cairns, Queensland 7 - 11 September 2012.

Parkinson L, Dolja-Gore X, Robertson J, Doran E & Byles J.
Rofexoxib withdrawal and health outcomes for Australian women.
National Medicines Symposium 2012, Sydney, NSW, 24 - 25 May 2012.

Parkinson L, Dolja-Gore X, Robertson J, Gibson R, Doran E & Byles J.
Health outcomes for older Australian women - is there a relationship with rofecoxib withdrawal?
International Data Linkage Conference 2012, Perth, WA, 2 - 4 May 2012.

Parkinson L.
Arthritis in Older Women - Impacts on Participation.
New Zealand Association of Gerontology, Auckland, 13 – 15 September 2012.

Parkinson L, Harris M, Moxey A, Robertson J, Doran E & Byles J.
Older women's experience of the withdrawal of Vioxx and discrediting of the COX-2s.
Australian Association of Gerontology, Brisbane, November 2012.

Parkinson L, Harris M, Moxey A, Robertson J, Doran E & Byles J.
Older women's experience of the withdrawal of Vioxx and discrediting of the COX-2s.
Australian Association of Gerontology, Brisbane, 20 - 23 November, 2012.

Peeters G, Burton N & Brown W.
Associations between sitting time and a broad range of symptoms in mid age women.
4th International Congress on Physical Activity and Public Health, Sydney, NSW, 31 October - 3 November 2012.

Peeters G, Hockey R & Brown W.
Should physical activity intervention efforts take a whole population, high risk or middle road strategy?
4th International Congress on Physical Activity and Public Health, Sydney, NSW, 31 October-03 November 2012.

Peeters G, Parkinson L, Badley E, Brown W, Dobson A & Mishra G.
Longitudinal variations in reporting doctor-diagnosed arthritis reflect contemporaneous severity of symptoms disability.
The European League Against Rheumatism, Berlin, Germany, 6 - 9 June 2012.

Reilly N, Austin M, Loxton D, Chojenta C, Forder P & Milgrom J.

Disparities in reported psychosocial assessment during pregnancy and the postnatal period: A national survey of women in Australia.
International Biennial Congress of The Marcé Society, Paris, France, 3 - 5 October 2012.

Sibbritt D.
Public health research: insights for acupuncture.
International Scientific Acupuncture and Meridian Symposium (iSAMS), Sydney, NSW, 5 - 7 October 2012.

Spencer E, Ferguson A, Craig H & Colyvas K.
Language and ageing: Using propositional density as a measure over time (poster).
International Clinical Linguistics & Phonetics Conference, Cork, Ireland, 27 - 30 June 2012.

Teede H.
The need for a new name for PCOS.
15th International Congress of Endocrinology, Florence, Italy, 5 - 9 May 2012.

Tooth L & Mishra G.
Intergenerational educational mobility on general mental health and depressive symptoms in young women.
Population Health Congress 2012, Adelaide, SA, 9 -12 September 2012.

Uijtdewilligen L, Peeters G, van Uffelen J, Twisk J, Singh A & Brown W.
Who is at risk? Investigating the determinants of physical activity in young adult women.
12t International Congress of Behavioral Medicine, Budapest, Hungary, 29 August – 1 September 2012.

van Uffelen J, Burton N, van Gellecum Y, Peeters G, Heesch K & Brown W.
Concurrent and prospective associations between sitting time, physical activity and depression in mid-aged Australian women.
4th International Congress on Physical Activity and Public Health, Sydney, NSW, 31 October-03 November 2012.

van Uffelen J, Heesch K, van Gellecum Y, Burton N & Brown W.
Social Interaction and Physical activity in women in their seventies.
45th Australian Association of Gerontology National Conference, Brisbane, Qld 20 - 23 November 2012.

SEMINARS & WORKSHOPS

Dobson A.
Statistical challenges in longitudinal epidemiological studies.
2012 Moyal Medal presented to Annette Dobson, Sydney, NSW, 4 October 2012.

Hughes T.
Social determinants of mental health disparities among sexual minority women.
The Center for Nursing Research 2012 CNR Seminar Series, Augusta, GA, United States, 16 November 2012.

Hughes T.
Mental health disparities among sexual minority women.
Grand Rounds presentation. New York Psychiatric Institute and Columbia University. New York, United States, 4 October 2012.

Hughes T.
Substance abuse and mental health disparities among sexual minority women: the potential role of victimisation.
Lesbian Health Research Forum, The University of Melbourne, Vic, 30 January 2012.

Jones M.
A comparison of methods for missing data due to participant dropout or death in longitudinal studies.
Victorian Centre for Biostatistics Seminar, Melbourne, Victoria, 22 November 2012.

Leung J.
Rural and urban differences in breast screening patterns.
ALSWH University of Queensland Seminars, Herston, Qld, 01 November 2012.

Loxton D.
Motherhood, health and the impact of psychosocial factors in high risk mothers (Keynote speaker).
St John of God Health Care Perinatal Mental Health Seminar, The challenges of service provision to high risk mothers and infants. Sydney, NSW, 10 November 2012.

Loxton D.
ALSWH Qualitative Findings, What Australian Women Write About Their Lives.
Research Centre for Gender and Health Seminar Series, The University of Newcastle, Newcastle, NSW, 28 February 2012.

McNair R.
Lesbian and Bisexual Women's Health Research: Health Risks and Policy Implications.
Lesbian Health Research Forum, The University of Melbourne, Melbourne, Vic, 30 January 2012.

Mishra G.
International differences in dietary guidelines.
ALSWH University of Queensland Seminars, Herston, Qld, 30 August 2012.

Parkinson L.
Arthritis and pain.
Adamstown Lions Club, Newcastle, NSW, September 2012.

Parkinson L.
Examples of research into translation of evidence for ageing and health.
AAG NHMRC Workshop on Research Translation, Brisbane, Qld, 20th November 2012.

Potter J.
Difference in dietary patterns amongst cancer survivors in rural versus metropolitan regions.
5th Annual Hunter Cancer Research Symposium, Newcastle, NSW, 2 November 2012.

Rich J & Chojenta C.
Strategies for using the ALSWH qualitative data.
Research Centre for Gender and Health Seminar Series, The University of Newcastle, Newcastle, NSW, 28th February 2012.

Singh G.
Contrasting associations of weight change and the incidence of diabetes and hypertension among mid-aged women.
ALSWH University of Queensland Seminars, Herston, Qld, 12 December 2012.

Tooth L.
Intergenerational educational mobility on general mental health and depressive symptoms in young women.
ALSWH University of Queensland Seminars, Herston, Qld, 30 August 2012.

Tooth L.
Health inequalities: A focus on education.
Seminar presented to Centre for Health Equity Studies, Stockholm, Sweden, 21 November 2012.

COMPLETED STUDENT PROJECTS

Obesity in Australia: an economic perspective

Candidate: Nicole Au

Degree: PhD

University: Centre for Health Economics, Monash University

Supervisors: A/Prof Bruce Hollingsworth and Dr Katharina Hauck

Obesity is a large and growing problem in Australia and many countries. The health and economic consequences associated with obesity can lead to increased costs and reduced welfare for society as a whole, and also tend to disproportionately affect those who are already socioeconomically disadvantaged. Research into the underlying economic determinants and consequences of obesity is important for developing evidence-based policy to address these issues.

This thesis investigated some of the determinants and consequences of obesity in Australia from an economic perspective. First, it examined the influence of labour force participation, employment hours and wage rates on the probability of weight gain and obesity. A number of Australian datasets, including the Australian Longitudinal Study on Women's Health, were used and econometric techniques were employed. One of the findings suggested there was a positive impact of longer work hours on weight gain, especially among women.

Second, this thesis investigated the health care cost implications of childhood overweight and obesity. One of the findings in this analysis suggests that overweight children at aged 4-5 have significantly higher publicly funded health care costs, suggesting that early prevention of childhood obesity in children as young as 4 or 5 years may have significant economic implications.

Stroke survival and lived experiences post stroke in older Australian women: A mixed methods study

Candidate: Claire Grennall

Degree: Honours

University: Faculty of Health, The University of Newcastle

Supervisors: Isobel Hubbard, Professor Julie Byles and Professor Christopher Levi

The aim of this study was to provide baseline findings on Australian women born between 1921 – 1926 post stroke, allowing for further analyses into the survival and lived experiences post stroke over time.

Survey 1 results from 1996 were analysed to investigate baseline findings. From this data this study found that the older a women is at the onset of stroke, the more likely she is to die from stroke. Furthermore, compared to women with no history of stroke, women reporting stroke were more likely to experience difficulties in physical function, social function and mental health ($p < 0.001$). This study also found common cohort characteristics including community participation and support, co-morbidities, caring for others and satisfaction with health services.

Does physical activity contribute to better memory? Findings from the Australian Longitudinal Study on Women's Health

Candidate: Yirui Wang

Degree: Doctor of Clinical Psychology

University: School of Psychology, The University of Queensland

Supervisors: Professor Nancy Pachana and Professor Wendy Brown

This research examined the prevalence of physical activity (PA) and sedentary behaviour (i.e., prolonged sitting) in a sample of 5470 middle-aged Australian women. It also explored the relationship between PA and memory complaints. Participants included a large, national sample of community-dwelling, relatively healthy women who reported no difficulty walking 100 meters and had no missing values on the main outcome or explanatory variables. Respondents were randomly selected from the Medicare national health insurance database for the Australian Longitudinal Study on Women's Health. For this research, data collected at the surveys in 2004, 2007 and 2010 were used. The results indicated that a substantial proportion of the middle-aged Australian women achieved or exceeded the recommended 150 minutes per week of moderate-intensity PA (64.3% in 2004, 68.2% in 2007, and 65.7% in 2010). Contrary to expectation, the self-reported levels of leisure/transport PA increased from 2004 to 2010. Further investigation revealed that women with low education, low socio-economic status, high body mass index (BMI), and smokers may be less likely to meet the recommendation. The average sitting time among these women was high (42.60 hours per week in 2004, 45.80 hours per week in 2007, and 45.07 hours per week in 2010); working women and women with high BMI were more likely to report longer sitting time. The cross-sectional analyses indicated that a higher level of total PA (including leisure/transport and intense domestic PA) was associated with a lower rate of perceived decline in memory function. The association remained true following adjustment for a number of confounding variables in two of the three surveys. The research highlights the need for more empirical work, especially intervention studies, to understand the complex relationships between PA and memory complaints.

Diet quality of Australian breast cancer survivors: a cross-sectional analysis from the Australian Longitudinal Study on Women's Health

Candidate: Jennifer Potter

Degree: Honours

University: The University of Newcastle

Supervisors: Dr Leanne Brown, Professor Clare Collins and Dr Alexis Hure

Purpose: Evidence supports strong associations between healthy eating patterns and favorable health outcomes for breast cancer survivors (BCS). The purpose of this study was to evaluate the diet quality of Australian BCS and determine if diet quality differed between BCS and age-matched healthy controls (HC) or by geographic location.

Methods: This cross-sectional study included 281 BCS and 4069 HC from the Australian Longitudinal Study on Women's Health (ALSWH) mid-aged cohort completing survey three in 2001. Data from the Dietary Questionnaire for Epidemiological Studies Food Frequency Questionnaire were used to calculate the Australian Recommended Food Score (ARFS), a validated summary estimate of overall diet quality based on adherence to the Australian dietary guidelines.

Results: The mean ARFS of the BCS group was 33.2 + 9.4 out of a maximum of 74. Higher ARFS amongst BCS was associated with higher nutrient density and lower percentage of energy from total and saturated fat ($P<0.01$). Mean total ARFS and component scores of BCS did not differ from the HC group ($P>0.05$) and no differences were found in ARFS between urban and rural BCS ($P>0.08$).

Conclusions: This study is the first to describe diet quality of Australian BCS. Given known associations between higher diet quality, reduced risk of morbidity, breast cancer specific and all-cause mortality, the current data indicate there is a strong rationale to target improvements in diet quality of Australian BCS. Research targeting diet quality improvements on health outcomes of the Australian BCS population across their breast cancer journey is warranted.

Complementary and alternative medicine use in the Australian baby boomer and older adult populations

Candidate: Emma Poulsen

Degree: Doctorate of Clinical Health Psychology

University: School of Psychology, The University of Queensland

Supervisors: Professor Nancy Pachana and Dr Deirdre McLaughlin

Complementary and Alternative Medicine (CAM) use has been researched widely; however, studies with older adults and Australian populations are limited. While currently there are a range of clinical trials testing the efficacy of different types of CAM, research into the predictors of CAM use is lacking. The profile of Australian CAM users has been explored by researchers, however; the motivations and predictors of CAM use has not. This thesis will test the predictive value of a range of variables previously identified in existing literature that have been linked to CAM use. In addition, the themes surrounding CAM use will be explored across two cohorts of women from both the mid-age and older adult cohorts. A mixed methods design was used to combine both population data and personal experiences of women from a mid-age (born between 1946-51) and older adult (born between 1921-1926) cohort.

The profile of Australian women CAM users was mapped using data from the Australian Longitudinal Study of Women's Health (ALSWH) in the mid-age and older women cohorts at Surveys Two (1998/1999) and Five (2007/2008). There were significantly fewer CAM users but more non-CAM users in 1999 compared to 2007 in the mid-age adult cohort ($N = 12338$, Age, $M = 49.52$, $SD = 1.46$, $p < 0.001$) and significantly less CAM users and non-CAM users in 1998 compared to 2008 in the older adult cohort ($N = 10434$, Age, $M = 84.20$, $SD = 1.44$, $p < 0.016$). Logistic regression was used for non-CAM users at Survey Two to predict CAM use at Survey Five in both cohorts of women. In the mid-age cohort, ARIA scores from major cities, $p = 0.03$, inner regional, $p = 0.002$ and outer regional cities, $p = 0.01$ reliably predicted CAM use. Stress was also found to be a significant predictor, $p = 0.001$. These relationships were all positive, indicating that as remoteness and stress increased, so too did an individual's likelihood of using CAM in 2007. There were no significant predictors of CAM use found in the older adult cohort.

In response to these findings, six focus groups were conducted across two cohorts of women, including mid-age adults (60-65 years old) and older adult cohorts (over 80 years old) until thematic saturation had occurred. Consistent with previous studies it was evident that both mid-age and older adults CAM users consumed a varied and extensive range of CAM products ranging from fish oil through to acupuncture. Older women were less inclined to identify as being CAM users than mid-age women despite using a range of CAM products. Older adults were also more likely to refer to the influence that historical events played in their current health practices. Mid-age adults cited experiencing stress and guilt, the desire for control over their health, a holistic approach and preventative healthcare as the main reasons for commencing CAM use. Attitudes to CAM use varied across the two cohorts. Older adults described hope and optimism as being common in the mindset of a CAM user whereas mid-age adults used terms such as curious and assertive. Availability of services, promotion of CAM and a belief that it had lower risk than conventional medicine were also cited by both cohorts as being motivators to commence CAM use.

These findings have important implications for the phrasing of research questions with regard to women's CAM use. It is perhaps more important to discuss the use of individual CAM products than discuss CAM use in broad terms with older adult cohorts. The importance of direct communication about CAM, control in health decision making and having an open attitude for physicians is also crucial if CAM use is to be managed in conjunction with conventional medicine. Finally, tolerance and experimentation with CAM use is increasing, so guidelines of how to incorporate this into conventional practice should be developed.

Participation in the arts and its relation to healthy ageing

Candidate: Jeannine Liddle

Degree: PhD

University: Arts Health Centre For Research and Practice, The University of Newcastle

Supervisors: Professor Lynne Parkinson, Professor Patrick Fuery and Professor David Sibbritt

More people are living longer than ever before with those aged eighty years and over forming the fastest growing segment in Australian society. Participation is seen as an important way in which older persons can remain active and engaged in the world around them, contributing to their own health and quality of life.

Previous studies suggested relationships may exist between participation in art, craft and music making activities and health and quality of life. However research at the population level involving older Australians appeared limited. Further, conceptual understandings of how participation in these types of activities could relate to health and quality of life were underdeveloped.

Three projects involving women from the ALSWH 1921-26 cohort were conducted as part of a mixed methods study exploring how participation in art, craft and music making activities relates to health and quality of life in women aged in their eighties living in Australia.

In the first project, secondary analyses of data from the 1996, 2005 and 2008 surveys considered relationships between health and participation in art, craft and music making activities at one time point, before going on to consider change in these relationships across two time points. These analyses showed that participation in art, craft and music making activities was relatively common and that women who undertook these activities appeared to have better physical and mental health compared with women who did not.

In the second and third projects data collected from 23 women via in-depth interviews was analysed qualitatively, along with open text comments from 2005 and 2008 Surveys. The objective was to explore and describe characteristic features of art, craft and music making activities as practised by women aged in their eighties living in Australia, as well as to develop a theoretical model that explained how participation in these types of activities may relate to health and quality of life. Health was considered in its broadest sense taking on psycho-social as well as physical and cognitive dimensions.

Participation in art, craft and music making activities was found to involve several interlinked, dynamic processes. In the act of making, women used their physical senses, manipulated tools and materials and thought about and felt emotionally for what they were doing. They responded to and managed their own internal health and external social and physical environments in order to perform these activities.

Participation was conceptualised as a process of "enabling self" through purpose and pleasure. Doing good for self and helping and sharing with others motivated the women to continue their art, craft and music making interests in spite of deteriorations in health and other difficulties. By participating in these activities women were able to demonstrate capability and productivity. Their efforts were appreciated as they contributed to the welfare of others. Over time, women developed an art, craft or music making identity which they continued to express through participation. That identity was recognised by others. Through participation women developed an awareness of self as able to do, and as such took on new artistic challenges.

In understanding the multiple factors involved in participation, the three projects identified reasons why older women chose to participate in art, craft and music making activities, and why they chose to stop. Understanding the circumstances under which participation occurred or ceased can be of assistance in implementing programs aimed at encouraging participation by older people.

Correlates of mortality among middle-aged women: Results from a nationally representative prospective Australian cohort study.

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Background: Since the 1960s, there have been large declines in total mortality rate and death rates of Australian women from malignant neoplasm and ischaemic heart diseases. However, few studies have investigated the relative importance, and combined impact, of behavioural and socioeconomic status (SES) which influences death risk in middle-aged women. Those studies that have been done have either only focused on a single behavioural or SES risk factor, have had limitations on transparency or adjusted models, or evaluated mortality risk for specific populations. Using data on many risk factors of mortality in a national sample of middle-aged women from the Australian Longitudinal Study on Women's Health (ALSWH), this research aimed to address three issues: 1) Do participants in the ALSWH have a similar mortality rate to women at the same age in the Australian population? ; 2) Do ALSWH participants have similar causes of death to women of the same age in the Australian population? ; and 3) To what extent are the mortality rates of ALSWH participants affected by poorer health status, chronic diseases, poorer mental health, smoking, underweight or obesity, high-risk drinking or non-drinking, low levels of physical activity, lower levels of social support, lower SES, and living in a rural area in 1996 (at Survey 1)?

Methods: We used data from 13,703 ALSWH participants aged 45-50 years in 1996. Death data and cause of death data were obtained by linkage with the National Death Index. The average death rates from all causes and cause-specific death rates were calculated for comparisons with the corresponding rates for all Australian women. Proportion of total deaths by underlying causes was calculated to identify and sort the leading causes of death. Cox proportional hazard regression survival (to 31 October 2012)was used to model survival times to death from all causes.

Results: The average death rate from all causes among ALSWH participants over 14 years was lower than those for their counterparts in the general population, at 2.5 deaths vs. 3.0 deaths per 1,000 women per year, respectively. Most cause-specific death rates were also lower in ALSWH. However, trends in total mortality by State/Territory, marital status and leading causes of death were the same in both populations.

Women with 'poor' or 'fair' health were associated with higher death risks fo r5.82 (95% CI: 3.36 -10.07) and 3.30 (95%CI: 2.09-5.21) respectively, compared to women with excellent health. Rare or light drinking had an inverse association with total mortality (HR: 0.73, 95%CI: 0.56-0.95 and HR: 0.70, 95%CI: 0.54-0.91) compared to non-drinkers. Current smoking (15-24 cigarettes per day, HR: 1.72, 95%CI: 1.20-2.45 and 25 or more cigarettes per day, HR: 2.63, 95%CI: 1.99-3.47) and age (HR: 1.11, 95%CI: 1.05-1.19 per year) were statistically significant predictors of death. Unemployed/no paid work was strongly associated with mortality risk (HR: 1.68, 95%CI: 1.37-2.06).

Conclusion: The average death rate and most of the cause-specific death rates were lower in women participating in ALSWH, compared to similarly aged women in the Australian population. However, the same trends in leading causes of death were recorded in both populations. Health behaviours and employment status, along with age and self-rated health were stronger predictors of early mortality, than morbidity. For individuals, consuming alcohol rarely or only drinking lightly and not smoking may be beneficial to survival. Government interventions, such as low-wage work programs among unemployed people, may also be beneficial to survival of middle-aged women.

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Data Archiving

The Australian Longitudinal Study on Women's Health has a policy to archive the ALSWH data with the Australian Social Sciences Data Archive (ASSDA) at the Australian National University on an annual basis. To date, data have been archived for Surveys 1, 2, 3, 4 and 5 of the 1921-26 and 1973-78 cohorts. Data from Surveys 1, 2, 3, 4, 5 and 6 have been archived for the 1946-51 cohort.

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A detailed description of the background, aims, themes, methods, representativeness of the sample and progress of the study is given on the project web page. Copies of surveys 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.

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