

Policy Briefs from the Australian Longitudinal Study on Women's Health

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Health**

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Executive Summary

Overview

The Australian Longitudinal Study on Women's Health (ALSWH) is a longitudinal population-based survey examining the health of over 57,000 Australian women. The study comprises four cohorts of women: three cohorts (born in 1921-26, 1946-51, 1973-78) have been repeatedly surveyed since 1996, and a new cohort (born in 1989-95) was first surveyed in 2013. Survey data are linked to Medicare (MBS) and Pharmaceuticals Benefits Scheme data (PBS), cancer registry, perinatal, aged care, and hospital inpatient datasets. Death data are obtained from the National Death Index. Information from ALSWH is widely used to assess health status of women in Australia and to investigate factors across life that affect health, wellbeing and the use of health services at different life stages.

This major report, the latest in a series for the Department of Health, provides policy briefs on major topics for women's health and wellbeing. It draws on an array of ALSWH research work undertaken over the past decade that has been published with peer review and that provides sufficient evidence to warrant a series of policy recommendations.

The topics of the policy briefs cluster into groups: *Mental health and Violence and abuse*; then *Sexual health, Reproductive health, and Pregnancy and maternal health*; those related to lifestyle and health behaviours - *Weight and weight gain, Nutrition, Physical activity and sedentary behaviour*, and lastly *Chronic conditions and Housing and care for older women*.

In overviewing these topics, it is important to emphasise the many common risk factors and overlapping effects of the issues covered. For instance, violence and abuse are associated with poor mental health; postnatal depression is a key issue for reproductive health and is closely linked with a prior history of depression; obesity has adverse implications for pregnancy complications and chronic diseases, such as diabetes; and there are strong connections between physical and mental health. It is also important to emphasise the common social determinants of many of these health needs and outcomes.

Main findings and recommendations

Mental health

Mental health is a major issue for Australian women, with anxiety symptoms being more prevalent than depressive symptoms across the ALSWH cohorts. The findings did suggest however, that unlike physical health, mental health improves with age, at least to age 85. Young women, who were aged 18-23 in 2013, reported the worst mental health of the ALSWH cohorts: one in two reporting high to very high levels of psychological distress, with those with less than year 12 education having the highest prevalence. Recommendations are:

- Screening for mental health problems should be routine practice in all clinical settings because of the strong links with unhealthy behaviours, sexual and reproductive issues, and many chronic conditions.
- The high prevalence of mental health problems among young women underscores the importance of the Better Access MBS items. The availability of these items and other mental health support services should be improved for disadvantaged women, especially those living outside major cities.

Violence and abuse

Adversity in childhood includes abuse experiences, witnessing domestic violence, and living with household dysfunction; it has lifelong health implications. Of women born in 1973-78, 41% experienced some childhood adversity which was associated with higher GP, allied and specialist healthcare costs (Medicare and out of pocket costs) in adulthood. Bodily pain, poor general health, and depression were associated with childhood sexual abuse. Across three cohorts (1989-95, 1973-78, and 1946-51) 16% to 26% of women reported having been in a violent relationship with a partner or spouse. Those who experienced domestic violence had consistently worse mental health over time; a deficit that persisted even after the abuse ceased. Young women also reported higher rates of unwanted sexual activity than older cohorts. It is recommended that:

- Experience of abuse at any stage in the life course has such a strong link to adverse health outcomes that health care professionals should talk to patients about childhood abuse, sexual abuse, domestic violence and elder abuse in addition to medical conditions, in order to understand their needs.
- Prevention of domestic violence is a priority for improving women's health. However, even if domestic violence ceases, many women will continue to experience health

problems associated with past abuse. There is a need to promote strategies to ameliorate this problem.

- The higher prevalence of domestic violence in non-metropolitan areas highlights the need to improve support services for these women.

Sexual health

Chlamydia was the most common sexually transmitted infection (STI) affecting young Australian women. The prevalence of ever having chlamydia increased from 1.7% in 1996 among women aged 18-23 to almost 12% among women aged 22-28 in 2017. Most young women did not use condoms, and around 1 in 10 did not use any contraception during sexual intercourse. It is recommended that:

- The increase in prevalence of chlamydia in the last two decades means that additional and better campaigns are needed to increase knowledge of STIs and STI prevention among young women.
- Healthcare providers should be made aware that women at risk of developing STIs include those not in a long-term sexual relationships and who identify as bisexual or not exclusively heterosexual.
- Additional training on contraceptive-specific GP consultations is recommended to improve women's health care experiences and to ensure GPs adequately inform women about the range of contraception available and the potential side-effects.

Reproductive health

Reproductive health includes polycystic ovarian syndrome (PCOS), endometriosis, fertility, hysterectomy, natural menopause, menopausal symptoms, and the use of hormone therapy. Around 10% of Australian women reported either PCOS or endometriosis which are both associated with infertility, and almost 20% of women reported infertility by their early to mid-thirties. The rates of HPV vaccination were far higher in young women (83% of 18-23 year olds in 2013) than older women (2.4% of 31-36 year olds in 2009). The mean age of natural menopause was 51.4 years; 2.5% of women had early menopause (<45 years) and 8.1% had late menopause (56 years and over). Women who had hysterectomy or oophorectomy or used hormone therapy had higher risk of chronic conditions. It is recommended that:

- Given the low rate of HPV vaccine uptake among women who were not covered by the school-based program, and the serious outcomes of HPV, consideration should be given to extending the age at which women can obtain subsidised HPV vaccination through the Pharmaceutical Benefits Scheme.

- Women who have had a hysterectomy should be carefully monitored by their doctors as they are at increased risk of chronic conditions.

Pregnancy and maternal health

Many women of reproductive age were not nutritionally prepared for pregnancy - 9 out of 10 Australian women reported consuming fewer than 5 fruit and vegetable portions per day. Higher diet quality before or during pregnancy was associated with a lower risk of adverse pregnancy outcomes such as gestational hypertension for the mother and low birth weight for the infant. Women who reported a history of depression and anxiety were more likely to report experiencing postnatal depression. Women who gave birth in the private maternity sector were less likely to be assessed for psychosocial health during pregnancy. However, women who were asked about their emotional health were more likely to seek help and be referred for additional support. It is recommended that:

- Changes to Australia's Medical Benefits Schedule (MBS) items for obstetric services (including MBS items 16950, 16951 and 16407) to prioritise perinatal mental health alongside physical health and help drive practice change in the private sector. These changes should be accompanied by adequate training and resources, structured referral pathways for women, and supportive systems for staff.
- Data items on depression/anxiety screening in the antenatal period, psychosocial referral in the antenatal period, presence or history of a mental health condition (as well as items on alcohol use and domestic violence) should be included in the Perinatal National Minimum Dataset.
- Prevention, detection and treatment of poor mental health prior to child bearing and during pregnancy are recommended to reduce the incidence of postnatal depression.
- Pre-pregnancy and antenatal health care consultations should be used to increase women's understanding of risks associated with being overweight and obese, having a poor diet, and alcohol use for the woman and her baby.

Weight and weight gain

There were clear patterns of increasing weight among all but the oldest cohort. In 2015 over 50% of women in their late thirties/early forties were overweight or obese, and in 2017 over 40% of women in their early twenties were already in these weight categories. Despite a plethora of public health initiatives on weight and physical activity, obesity and overweight remain among the greatest threats to health in Australia. It is recommended that:

- More effective strategies are needed, focusing not just on childhood obesity, but on women and men of all ages. Based on previous campaigns that have been effective, these strategies should include substantial inter-sectoral actions in education, legislation, and taxation.
- Public health policies to control weight gain, overweight and obesity should include actions that target groups at greatest risk, including socioeconomically disadvantaged women.
- Following national guidelines for diet and physical activity should be better promoted as being among the best methods to reduce weight and weight gain.

Nutrition

Diet, including total energy intake, is a major determinant of body mass, overweight and obesity and hence women's risk of reproductive problems and chronic disease. Yet most women did not meet the dietary guidelines, for instance only a small proportion (2%) of women consumed the recommended five daily servings of vegetables. Sociodemographic factors were associated with unhealthy eating, including living in rural and regional areas, lower education levels, and being unemployed. It is recommended that:

- To help women meet the recommended dietary guidelines, it is necessary to advocate a series of changes applicable at every meal, e.g. the dietary guidelines for vegetable intake could be achieved for most women by incorporating one extra serving at each of three daily meals.
- Policies and interventions to improve diet should focus on social and economic factors and general health-related behaviour for all age groups.
- Improving access to healthy foods in rural and regional areas, and for those with low incomes, could improve healthy eating and contribute to better health.
- Pre-pregnancy planning, pregnancy and parenthood provide key opportunities and motivation for women to improve their diet.

Physical activity and sedentary behaviour

In all but the oldest ALSWH cohort, born 1921-26, the majority of women reported weekly physical activity (PA) that met or exceeded national guidelines, but many did not. In the 1989-95 cohort around 30% of women did not meet PA guidelines, with this increasing to 40-50% for the 1973-78 and 1946-51 cohorts. The proportion not meeting guidelines was also high among pregnant women. It is recommended that:

- Strategies that aim to assist all women not currently meeting the guidelines of 150 minutes of PA per week to do so ('middle of the road' approach) would be better for reducing the incidence of chronic conditions, rather than aiming for an increase of 30 minutes by everyone ('whole population' approach), or an increase of 60 minutes by the least active women ('high risk' approach).
- Public health policies geared towards increasing adherence to PA guidelines (or increasing PA levels generally) should prioritise women of lower socioeconomic status, Asian-born women, women with children, women at risk of developing chronic conditions, and women with poorer mental health.

Chronic conditions

The rates of most chronic conditions increased with age and there were cohort/generational differences. For instance, in the 1946-51 cohort 14% of women reported diabetes by the age of 67, whereas prevalence did not reach this level in the 1921-26 cohort until the age of 81. Multimorbidity (that is, having two or more chronic conditions) also increased with age, with higher risk for women who were overweight or obese, experienced short-term weight gain (over a 3 year period), and were socioeconomically disadvantaged. It is recommended that:

- Greater attention should be given to public health measures which aim to prevent and reduce chronic disease risk factors, including smoking, being overweight or obese, and weight gain. This is likely to reduce the burden of chronic conditions now and in the future.
- There is a need to encourage more women to engage in cancer screening and testing for chronic disease risk factors, with a corresponding improvement in access to health services for women living in regional and remote areas.
- Multimorbidity requires increased emphasis on integrated person-centred health care rather than multiple condition-specific management regimens. This is acknowledged in the National Strategic Framework for Chronic Conditions.

Housing and care for older women

Most women spent much of their later life in a house (61%), an apartment (13%), or a retirement village (6%). Others transitioned from a house or an apartment to a retirement village or residential aged care (RAC). Women living in retirement villages had higher rates of admission to RAC, but not higher use of home care services. Over a third of women entered RAC at some time, often in response to dementia or stroke, and remained in care for around

2-3 years. Driving remained the main means of transport for women in late life. It is recommended that:

- In the formulation and implementation of housing policy, the needs of older women should receive particular attention.
- Strategies to increase use of community services in retirement villages may delay or prevent admission to residential aged care.
- RAC should be seen as an important stage in the women's life course, not only with attention to lifestyle, engagement and ongoing wellbeing, but also anticipating their specific end of life needs and so avoiding unnecessary hospital admissions and treatments.
- Strategies to enable driver safety and/or to enable women to transition to other transport options are important for women's wellbeing.

Conclusion

These key recommendations are not intended as an exhaustive policy prescription – since they relate specifically to the evidence that has emerged from ALSWH – but as a series of items that should be included in the development and synthesis of future policy initiatives. This process should highlight where initiatives can be integrated in ways that focus on women at increased risk across a range of health issues and that will have multiple benefits.

Equally, this should not be seen as a limitation of the potential contribution from ALSWH to support women's health policy development. The strengths and value of this national flagship study need to be underscored, with over two decades of survey data linked with health services use and treatments. These longitudinal datasets enable the on-going monitoring of the trajectory of health and wellbeing, such as the decline in smoking rates and the rise in obesity that reflect changes in policy or the environment, including the factors that influence the differences seen in specific groups of women. The study continues to expand with the first collection of biomedical data for the 1973-78 cohort to be completed in 2019.

This means that ALSWH is ideally placed for the further research needed to investigate the long term causes and consequences of health issues, including evaluating health services use, and to continue to provide policymakers with evidence regarding the efficacy of existing programmes and track implementation of proposed policy initiatives.

Mental Health Policy Brief

Authors: Natalie Townsend and Deborah Loxton.

Scope

Mental health conditions, such as depression and anxiety, are very common. They are often associated with physical health problems (comorbidity). The National Mental Health and Suicide Prevention Plan¹ provides a framework for coordinated government programs for prevention and treatment. Data from the Australian Longitudinal Study on Women's Health (ALSWH) can provide evidence to inform these programs. For example, in 2013 an ALSWH Major Report on Mental Health² presented the findings up to that date. This brief highlights key findings since the National Women's Health Policy in 2010. Related topics such as violence and abuse, reproductive health, and pregnancy and maternal health are covered in other ALSWH Policy Briefs.

Research Findings

Prevalence and trends

- All ALSWH cohorts have completed a general measure of mental health, in which higher scores reflect better health. Women aged 85-97 reported the best mental health (with an average score of 78)^{3,4}, followed by women aged 65-70 (average score of 77)⁵, then women aged 37-42 (average score of 72)⁶, and then women aged 22-27 (average score of 63).⁷
- As well as the differences between the cohorts, mental health improved within each cohort over time as the women aged, although a small group of women experienced chronically poor mental health in later life.^{6,8}
- Anxiety symptoms were more prevalent than depressive symptoms across the 1973-78, 1946-51 and 1921-26 cohorts.²

- Women in the 1989-95 cohort (aged 18-23 in 2013) had the worst mental health of the ALSWH cohorts. Specifically, they reported:
 - Higher levels of psychological distress and stress than women in the same age group in 1996, with the women who were younger and those with less than year 12 education indicating the highest distress and stress levels.
 - Around half (49%) reported high to very high levels of psychological distress.⁹
 - 59% reported feeling that life wasn't worth living at some point in their lives. While this was highest among women with less than year 12 education (78%), 48% of those with a university education also reported suicidal thoughts.⁹
 - 45% of women reported ever having self-harmed. Self-harm was more common among women with less than year 12 education, however one third of those with a university education reported self-harm.⁹
 - More than one in three women (35%) had been diagnosed with or treated for depression, and 28% had been diagnosed with or treated for anxiety. These diagnoses were most common among women with less than year 12 education, although the prevalence was still high among those with a university education.⁹

Associated factors

- Experiences of violence, abuse, and bullying in childhood and adulthood were associated with depression, anxiety, suicidal thoughts, and self-harm. More details are provided in the Violence and Abuse Policy Brief.
- Smoking, lower levels of physical activity, excessive alcohol consumption, and not being a healthy weight were associated with poor mental health across the 1973-78, 1946-51 and 1921-26 cohorts.^{2,10}
- Among women born in 1973-78, psychological distress was a predictor of subsequently taking up smoking. Smoking was also a predictor of subsequent psychological distress.¹¹
- Lower education, income stress, being unemployed, and not having a partner were associated with poor mental health in women born in 1946-51 and 1973-78.^{2,10,12}
- Continuing education up to the age of 40 was protective against depressive symptoms.¹³
- Poor social support increased risk of poor mental health, and poor mental health increased risk of poor social support.^{2,14}

- Among women born in 1946-51, caring for others was associated with poor mental health.²
- Pregnancy loss was associated with poor mental health during subsequent pregnancies.¹⁵
- Depression was associated with poor quality diet.¹⁶⁻¹⁹

Mental health and physical health

- Frequent sleep difficulties were predictive of depression.¹⁷
- A history of comorbid depression and anxiety was associated with the new onset of heart disease.¹⁸
- Among middle aged women, depression was found to predict stroke.¹⁹
- Stress and depression were found to play a role in the onset of arthritis among women born in 1946-51.¹⁰
- Infertility was associated with depressive symptoms.²⁰
- Psychological distress was found to precede and co-occur with diagnoses of polycystic ovary syndrome and endometriosis.²¹
- Depressive symptoms and a history of depression were associated with urinary incontinence among women born in 1973-78.²²

Mental health and health service use

- Poor mental health was associated with more GP consultations.¹⁰
- Uptake of Medical Benefits Schedule items for 'Better Access to Psychiatrists, Psychologists and General Practitioners' for mental health services (the Better Access scheme) increased over time. For women in the 1973-78 cohort, use of these items increased from 5% in 2007 to 11% in 2015. Even for women born in 1989-95, use of these items increased during their teens from 7% in 2009 to 13% in 2012.¹⁰
- Women with poor mental health living in regional and remote areas were less likely to use Better Access items than women living in metropolitan areas.²³
- Women with depression were less likely to have sought medical advice for fertility issues.²⁰

Recommendations

- Screening for mental health problems should be routine practice in all clinical settings because of the strong links with unhealthy behaviours, sexual and reproductive issues, and many chronic conditions.
- The high prevalence of mental health problems among young women underscores the importance of the Better Access MBS items. The availability of these items and other mental health support services should be improved for disadvantaged women, especially those living outside major cities.
- Updates of the current National Tobacco Strategy (2012-2018) should continue to recognise the social and health inequalities associated with tobacco use, especially the need to reduce smoking dependence among people with mental health problems.

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Violence and Abuse Policy Brief

Authors: Deborah Loxton and Natalie Townsend

Scope

Prior to 2008, ALSWH research had documented robust associations between domestic violence and health service use¹, physical health² (including reproductive health³) and psychological health.⁴ Adversity in childhood includes experiencing abuse (including psychological, physical, and sexual abuse) and living with household dysfunction (including exposure to substance abuse, mental illness in the home, having a household member incarcerated, and witnessing domestic violence). These experiences had lifelong health implications for women. In addition, elder abuse was associated with a decline in mental health.⁵ This brief includes ALSWH research conducted in the past decade that has examined abuse across the life course and provided sufficient evidence to warrant policy recommendations.

Research Findings

- Women rarely, if ever, disclose abuse when it has not occurred, but they may not disclose abuse when it has occurred if they perceive the costs of doing so outweigh the benefits.⁶
- A history of any type of abuse either in childhood or adulthood was related to the subsequent onset of cardiovascular disease²² for women born in 1946-51.

Childhood adversity

- 41% of women born 1973-78 reported adversity during childhood. These women had higher GP, allied and specialists healthcare costs (Medicare and out of pocket costs) in adulthood than women who did not experience adversity.⁷
- Bodily pain, poor general health, and depression were associated with childhood sexual abuse. Women who experienced childhood sexual abuse visited their GPs

frequently but were less likely than other women to report satisfaction with their GP services.⁸

Bullying

- Approximately three in four women (72%) in the 1989-95 cohort reported having been bullied. Bullying was associated with adverse health behaviours, poor physical health, psychological distress, suicidal thoughts and self-harm.⁹

Sexual abuse

- Around one in five women born in 1989-95, 9% of women born in 1973-78, and 13% of women born in 1946-51 reported being forced to take part in unwanted sexual activity.^{10,11,12}
- Women who experienced forced sex were more likely to have sleeping difficulties and take prescription sleep medication than women who had not experienced forced sex. Experiences of forced sex were also associated with illicit drug use, depression, anxiety, and self-harm.¹¹

Domestic violence

- 16% of the 1989-95 cohort, 26% of the 1973-78 cohort, 16% of the 1946-51 cohort and 5% of the 1921-26 cohort reported having been in a violent relationship with a partner or spouse. When domestic violence was measured by asking about abusive acts (such as being hit by their partner), the prevalence was higher.^{10,13}
- Women who had experienced domestic violence were less likely to have adequate cervical cancer screening and more likely to have experienced cervical cancer than those who had not experienced domestic violence.² Good access to a physician of choice significantly improved cervical cancer screening among women who had experienced domestic violence.¹⁴
- Women with poorer health were at greater risk of entering into a violent relationship, although their health was better than that of women who had already experienced domestic violence.¹³
- Women who experienced domestic violence had consistently poorer mental health than women who had never experienced domestic violence. For example, 75% of women in the 1989-95 cohort who had experienced domestic violence had felt that life was not worth living at some point in their lives, compared with 53% of women who had not experienced domestic violence.¹⁵

- There was a lifetime deficit in mental health associated with domestic violence. This health deficit remained even after the abuse had ceased.¹⁶
- Women who had experienced domestic violence were more likely to experience menopause at a younger age. They were also more likely to smoke, and the relationship between domestic violence and menopause was mitigated by smoking.¹⁷
- The association between domestic violence and poor physical health and bodily pain persisted over a 16 year period for women born in 1973-78, 1946-51 and 1921-26.¹³
- Domestic violence in the previous 12 months was associated with domestic relocation among women born in 1973-78.¹⁸
- For women born in 1946-51, when domestic violence was combined with other stressful activities such as caregiving, health was found to be poorer than when domestic violence was considered alone, suggesting a cumulative health impact.¹⁹
- Among women born in 1973-78, those who lived in major cities were less likely to experience domestic violence than those living in inner regional and rural areas.²⁰

Elder abuse

- Of women aged 70-75 in 1996, 8% reported vulnerability, 6% reported coercion, 18% reported dependence, and 22% reported dejection, the four components of the Vulnerability to Abuse Screening Scale (VASS).²¹
- Women aged 70-75 in 1996 who reported vulnerability or dejection were at greater risk of needing help with daily tasks (due to disability or illness) over the following 12 years than women who did not report these components of the VASS.²¹
- Women aged 70-75 in 1996 who reported coercion or dejection were at a greater risk of dying during the following 12 years than women who did not report these components of the VASS.²¹
- A history of abuse was related to the subsequent onset of cardiovascular disease²² for women born in 1946-51.

Recommendations

- Results from the ACES and domestic violence research strongly suggest the need for more information about the pathways from early adversity into adult experiences of abuse. A more detailed and nuanced understanding of the mechanisms that lead from childhood adversity to poor health behaviours is needed. The healthcare costs associated with adversity in childhood further support the need for this research.

- Prevention of domestic violence is a priority for improving women's health. However, even if domestic violence ceases, many Australian women will continue to experience health problems associated with past domestic violence. We need to determine how we can implement and augment existing programs using a strengths-based approach.
- Women who have lived with domestic violence have been found to have a consistent risk of income stress. Domestic relocation will contribute to this and warrants further investigation.
- Evidence from ALSWH has suggested a cumulative impact of abuse and stressful events on health over the life course. These preliminary findings have laid the foundation for future research which is urgently needed in order to design effective interventions and to determine the life stage where these are best implemented.
- The higher prevalence of domestic violence in non-metropolitan areas suggests the potential inequity for women living with violent partners in rural Australia, highlighting the need to assess service availability for these women.
- The impact of abuse in childhood is apparent in adulthood. Similarly, abuse experienced in early- and mid-adulthood continues to impact on health as women age. Furthermore, abuse may continue into older age or occur for the first time as women experience decline in physical or mental functioning. There is a need for increased recognition of the very long term impact of adversity in childhood and abuse experienced in adulthood at the population level.

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Sexual Health Policy Brief

Authors: Hsiu-Wen Chan and Gita Mishra

Scope

The *National Women's Health Policy 2010* identified sexual health as a priority issue for women. The aim of this policy brief is to outline important research findings on sexually transmitted infections and contraceptive use based on data from the Australian Longitudinal Study on Women's Health.

Research Findings

Sexually Transmitted Infections (STIs)

- Chlamydia was the most common STI affecting young Australian women: 8.3% of women aged 18-23 years in 2013 reported ever having had chlamydia and this increased to almost 12% by the time they were aged 22-25 years in 2017.¹
- The prevalence of chlamydia in young Australian women increased by more than four-fold between 1996 and 2013, from 1.7% to 8.3%.²
- Young women were more likely to first report an STI if they were not married or cohabiting with a partner, had multiple sexual partners, did not use condoms, had never been pregnant, were current smokers or risky drinkers.³
- Bisexual and mainly heterosexual women were more likely to report STIs than lesbian or exclusively heterosexual women.⁴
- Approximately 1% of women aged in their 50s and 60s reported being diagnosed with chlamydia, genital herpes or genital warts in 2016.⁵ However, women in this age group might not undertake routine STI screening.

Other infections of the reproductive system

- In 2017, approximately 50% of young Australian women aged 22-27 years reported ever having had thrush and 24% reported that they had thrush in 2017.¹

Contraception use and sexual behaviour

- In 2017, the most commonly used method of contraception among Australian women aged from their late teens to mid-20s was the oral contraceptive pill (52-54%), followed by condoms (39-42%); 12-15% of women used long-acting reversible contraception.¹
- One in five women aged in their late teens and early twenties reported that they used both the oral contraceptive pill and condoms the last time they had vaginal sex.²
- Approximately one in ten sexually-active women aged 22 to 23 did not use contraception the last time they had vaginal sex.²
- Barriers to use and access to contraception included concerns about side effects, lack of or inability to access information, and negative experiences with health services during attempts to obtain birth control.⁶
- The type of contraception used by women changes with age and life-stage: use of long acting reversible contraception increased as women aged from their early 20s to early 30s, then decreased during the years when they were having children. Women with older children were most likely to use permanent methods of contraception.⁷

Recommendations

- The increase in prevalence of chlamydia in the last two decades means that additional and better campaigns are needed to increase knowledge of STIs and STI prevention among young women.
- Healthcare providers should be made aware that women at-risk of developing STIs include those not in a long-term sexual relationships³ and who identify as bisexual or not exclusively heterosexual.⁴
- Additional training on contraceptive-specific GP consultations is recommended to improve women's health care experiences and to ensure GPs are adequately informing women about the range of contraception available and the potential side-effects.⁶

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Reproductive Health Policy Brief

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Scope

The *National Women's Health Policy 2010* identified reproductive health as a priority health issue for women. This policy brief highlights research findings from the Australian Longitudinal Study on Women's Health that were published from 2010. The topics that are covered include polycystic ovarian syndrome, endometriosis, fertility, hysterectomy, natural menopause, menopausal symptoms, and the use of hormone therapy. Maternal health, pregnancy, and the impact of abuse and violence on women's reproductive health are covered in separate policy briefs.

Research Findings

Polycystic Ovarian Syndrome (PCOS)

- In 2017, up to 10% of young Australian women aged up to 27 years reported ever having had PCOS.¹
- PCOS was associated with higher body mass index (BMI) and greater 10-year weight gain.^{2,3}
- PCOS was also associated with infertility⁴, pregnancy complications (such as gestational diabetes^{2,5}), chronic diseases (including asthma⁶, type 2 diabetes⁷, hypertension⁸, and psychological distress⁹).
- Women with PCOS reported better diets, but higher energy intake, and more sitting time compared to women without PCOS.^{3,10}

Endometriosis

- In 2015, up to one in ten women aged up to 42 years reported ever having had endometriosis.¹¹

- Endometriosis was associated with infertility¹² and psychological distress.⁹
- Women with endometriosis were also more likely than non-sufferers to use complementary and alternative medicines and therapies.^{13,14}

Cervical cancer

- 12% of women aged 45-50 years in 1996 reported having had an abnormal pap test result in the previous 5 years¹⁵ and at least 4% of women aged 28-33 years in 2006 reported having had an abnormal Pap test in the previous 3 years.¹⁶
- Only 2.4% of women aged 31-36 in 2009 reported having been vaccinated for HPV, the cause of most cervical cancers.¹⁶
- Following the implementation of HPV vaccination through the National Immunisation Program in 2007, 83% of women aged 18-23 in 2013 reported having been vaccinated.¹

Fertility and infertility

- 18.6% of women reported a history of infertility by their early-to-mid 30s.¹⁷
- Infertility was associated with endometriosis¹⁷, and PCOS.⁴
- Women who had a history of fertility problems had higher rates of pregnancy complications and were more likely to experience preterm birth¹⁸ and give birth to babies of low birthweight.¹⁷

Hysterectomy

- More than 20% of women had had a hysterectomy (with or without bilateral oophorectomy) by their mid-to-late 40s and this increased to more than 30% by their 60s.¹⁵
- Women who had a hysterectomy and bilateral oophorectomy before their mid-to-late 40s were more likely to have substantial physical functioning limitations¹⁹ and increasing depressive symptoms over time.²⁰
- Hysterectomy and bilateral oophorectomy were also associated with poorer health²¹, increased risk of type 2 diabetes²², depressive symptoms^{20,23}, and use of prescribed medications for sleep.²⁴

Natural menopause

- The mean age of natural menopause was 51.4 years; 2.5% of women had early menopause (<45 years) and 8.1% had late menopause (56 years and over).²⁵
- Early menopause was associated with being underweight²⁵, early menarche²⁶, smoking²⁷, and not having had children²⁶. Later menopause was associated with obesity.²⁵
- Women with natural menopause were more likely to use complementary and alternative medicine than women who had undergone hysterectomy or oophorectomy.²⁸

Menopausal symptoms

- Women going through the menopausal transition (i.e. in the peri-menopausal period) and postmenopausal women were more likely to report vasomotor symptoms (hot flashes, night sweats, or both) than no symptoms.²⁹
- Approximately 11% of mid-aged women reported at least one of the vasomotor symptoms while still premenopausal.³⁰
- More than one in four mid-aged women (29%) experienced severe vasomotor symptoms during menopause, and for some women the symptoms persisted for more than a decade after menopause.³⁰
- Almost one in five mid-aged women had moderate vasomotor symptoms that peaked during menopause and declined thereafter.³⁰
- The remaining 40% of mid-aged women reported only occasional symptoms.³⁰
- Women with vasomotor symptoms were more likely to subsequently report depressed mood compared with those without these symptoms²¹. Additionally women with depressed mood were more likely to experience subsequent vasomotor symptoms. In both situations this association was also related to sleep difficulties.³¹
- Smoking and obesity were associated with a higher risk of symptoms³² and experiencing both night sweats and hot flashes.²⁹
- Women with severe menopause symptoms from pre-menopause to 4 years post-menopause were more likely to have diabetes compared with women with mild symptoms, even after adjustment for BMI.³³
- Women with menopausal symptoms were more likely to use self-prescribed complementary and alternative medicines.^{28,34}

Hormone therapy

- Use of hormone therapy was associated with use of medication for depression, anxiety, stress and sleep, after controlling for mental health and menopause status.²⁴
- Women aged 47-52 years who had a hysterectomy or oophorectomy or used hormone therapy had higher depressive symptom scores than women of the same age group with natural menopause.²⁰

Recommendations

- Women who have had a hysterectomy should be carefully monitored by their doctors as they are at increased risk of chronic conditions.

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Pregnancy and Maternal Health Policy Brief

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Scope

The Australian Longitudinal Study on Women's Health (ALSWH) has investigated factors associated with the development of pregnancy complications, preconception and antenatal maternal nutrition, anxiety and depression during and after pregnancy, and pregnancy-related healthcare costs. Key findings from the ALSWH are outlined here.

Research Findings

Preconception health

- Many women of reproductive age were not nutritionally prepared for pregnancy - 9 out of 10 Australian women reported consuming fewer than 5 fruit and vegetables portions per day.¹
- 63% of women trying to conceive took at least one dietary supplement; 51% took supplements containing folic acid and 13% took folic acid as a single nutrient supplement.²
- Higher diet quality before or during pregnancy was associated with a lower risk of adverse pregnancy outcomes, such as gestational hypertension for the mother and low birth weight for the infant.³ High intake of red and processed meat, snacks, and sweets was associated with higher risk of gestational diabetes; the Mediterranean diet was associated with lower risk of gestational diabetes and hypertension during pregnancy.^{4,5}

- However, pre-pregnancy BMI contributed substantially to the association between the Mediterranean diet and gestational diabetes and hypertension.⁶
- Women who had their first menstrual period early (at age 11 or younger) were at higher risk of developing gestational diabetes compared with women who had their first menstruation at the average age of 13 years, partly because women who started menstruating early had a higher BMI when they became pregnant.⁷
- Children born to 'chronically overweight' and 'chronically obese' mothers were more likely to be overweight or obese than normal weight relative to children born to women with a 'normative' BMI trajectory.⁸
- Second-born children of mothers with high weight gain between pregnancies (≥ 4 BMI units) were also at higher risk of being overweight or obese compared with children of mothers with stable inter-pregnancy weight.⁸
- Women who were trying to conceive or had had previous fertility issues were more likely to consult an acupuncturist or naturopath.⁹
- 82% of women who drank alcohol before pregnancy continued to consume some alcohol during pregnancy (especially if they were risky drinkers before pregnancy). Even after the abstinence guidelines were introduced, 78% of women continued to drink during pregnancy.^{10,11}

Mental health during pregnancy

- There were disparities in access to routine perinatal depression screening and psychosocial assessment programs. For example, women who gave birth in the private maternity sector were less likely to be assessed across various domains of psychosocial health during pregnancy.¹²
- Women who were asked by a health professional about their emotional health during the perinatal period were more likely to seek help and be referred for additional support than women who were not asked.^{13,14}
- Women who reported a history of depression and anxiety were more likely to report experiencing postnatal depression.¹⁵

Health care in pregnancy

- Caesarean delivery was the major driver of maternal hospital costs for public patients.¹⁶
- Other predictors of government-funded maternal out-of-hospital costs were IVF, specialist use, GP use, private health insurance status, area of residence¹⁷, adverse

birth outcomes and mental health factors (including anxiety, intense anxiety, postnatal depression and stress about their own health).¹⁶

- A history of poor mental health was associated with an average increase in costs of over 11% during the perinatal period.¹⁸

Recommendations

- Changes to Australia's Medical Benefits Schedule (MBS) items for obstetric services (including MBS items 16950, 16951 and 16407)¹⁹ to prioritise perinatal mental health alongside physical health and help drive practice change in the private sector. These changes should be accompanied by adequate training and resources, structured referral pathways for women and supportive systems for staff.
- Data items on depression/anxiety screening in the antenatal period, psychosocial referral in the antenatal period, presence or history of a mental health condition (as well as items on alcohol use and domestic violence) should be included in the Perinatal National Minimum Dataset.
- Prevention, detection and treatment of poor mental health prior to child bearing and during pregnancy are recommended to reduce the incidence of postnatal depression.
- Pre-pregnancy and antenatal health care consultations should be used to increase women's understanding of risks associated with overweight and obesity, poor diet and alcohol use for the woman and her baby.

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Weight and Weight Gain Policy Brief

Authors: Leigh Tooth and Annette Dobson

Scope

The aim of this policy brief is to outline research findings on weight and weight gain from the Australian Longitudinal Study on Women's Health published since the National Women's Health Policy, 2010.

Research Findings

Prevalence and trends of weight and weight gain

Body weight relative to height is measured by body mass index (BMI) (calculated as weight (kg) divided by height (m)² and classified as Underweight BMI <18.5 kg/m², Normal (healthy) weight BMI 18.5–24.99 kg/m², Overweight BMI 25–29.99 kg/m², and Obese BMI ≥30 kg/m²).¹ The percentages of women who were overweight or obese are shown in Figure 1.²⁻⁵

There are clear patterns of increasing weight at all ages and among all cohorts, except for the oldest cohort.²⁻⁵

- Women born in 1989-95 were more likely to be obese (13%), or overweight or obese (32%) at the average age of 20 than women born in 1973-78 when they were aged 20 (6% and 22% respectively).
- Among women born in 1989-95, from 2013 to 2017 the prevalence of overweight and the prevalence of obesity each increased by about 1 percentage point per year.
- Among women born in 1973-78, from 1996 to 2015 respectively the prevalence of overweight increased from 15% to 27%, and obesity from 6% to 26%.

- When their average age was 39 years, women born in 1973-78 were more likely to be obese (26%), or overweight or obese (53%) than women born in 1946-51 when their average age was 47 (obese 18%, overweight or obese 47%).
- Each successively younger cohort experienced a greater rate of BMI increase than the older cohorts.

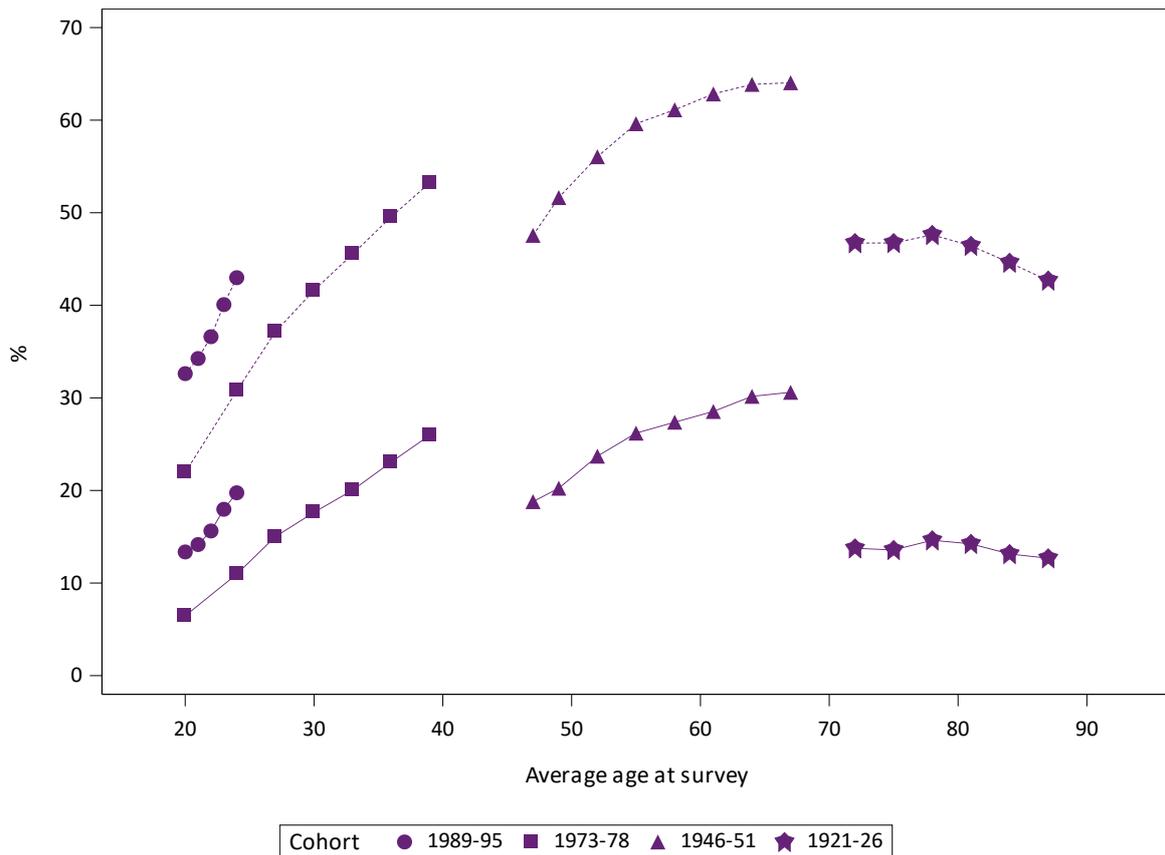


Figure 1. Percentage of ALSWH participants who were obese (solid lines), or overweight or obese (dotted lines) by average age at each survey (for women born in 1989-95, 1973-78, 1946-51, and 1921-26).

Sociodemographic, socioeconomic and lifestyle factors associated with weight and weight gain

Factors associated with high BMI and most weight gain included:

- Having less education⁶⁻⁹, having no paid job⁷, and lower perceived social class.¹⁰
- Already being overweight or obese.^{6,9}
- Being inactive or spending relatively more time sitting.^{6,9,11,12}

- Working full-time.^{13,14}
- Experiencing higher perceived stress.¹⁵
- Being depressed.¹⁶
- Going through menopause.⁹
- Using more harmful weight control strategies (for example, use of laxatives, diuretics, diet pills, fasting, smoking).¹⁰
- The least weight gain was by women who followed the national guidelines for diet and physical activity and who did not regularly diet.¹⁷

ALSWH has produced mixed findings for some factors

- Diet and weight gain. While higher dietary variety, especially fruit and vegetables, was associated with lower weight gain over 6 years in women in their 20s and 30s¹⁸, no association was found in women in their 40s and 50s.^{9,19}
- Having children. Some analyses have shown higher weight gain after having a child but this finding may be confounded by marital status⁶, age at childbirth²⁰ and educational attainment.²⁰ Others found no association between parity and long-term weight gain.⁷

Weight and chronic conditions

- Compared with healthy weight women at the age of 75 years: overweight women had similar **total life expectancy** but fewer **years of healthy life**; obese women had a shorter total life expectancy and more unhealthy years; and underweight women had the lowest total life expectancy and the fewest years of healthy life.²¹
- Overweight and obesity were associated with higher risk of:
 - hypertension and heart disease;^{12,22,23}
 - back pain;^{24,25}
 - foot problems;²⁶
 - type II diabetes;²⁷
 - asthma;²³
 - urinary incontinence.²⁸
- Higher BMI was associated with lower the risk of osteoporosis.¹²
- Weight cycling (repeatedly losing and gaining weight) was associated with more depressive symptoms.²⁹

- Women who were obese before becoming pregnant, and those who gained weight before pregnancy had increased risk of gestational diabetes³⁰ and hypertensive disorders of pregnancy³¹ compared with healthy weight women.
- Women with long-term obesity prior to becoming pregnant were at higher risk of having children with greater childhood body weight³² and poorer physical and cognitive development.³³
- Overweight and obese mid-age women were more likely to have a hysterectomy than healthy weight women³⁴ and those who gained more than 5kg over 3 years reported more menopausal symptoms.³⁵
- Younger women with polycystic ovary syndrome (PCOS) had both higher weight and higher weight gain.³⁶ There was a bi-directional relationship between PCOS and obesity with the risk of reporting PCOS increasing with higher BMI.

Use and cost of health services³⁷

- The average number of MBS claims and costs per year were higher for obese women than for non-obese women until at least 78 years of age.
- Women who were obese had almost double the number of PBS prescriptions filled and higher PBS costs than non-obese women.
- Younger and mid-age women who were obese had higher hospital costs than non-obese women.

Recommendations

- Despite a plethora of weight and physical activity public health endeavours, obesity and overweight remain among the greatest threats to health in Australia. More effective strategies are needed, focusing not just on childhood obesity, but on women and men of all ages. Based on experience with other campaigns that have been effective, these strategies should include substantial inter-sectoral actions in education, legislation and taxation.
- Public health policies to control weight gain, overweight and obesity should include actions that target groups at greatest risk, including socioeconomically disadvantaged women.
- Following national guidelines for diet and physical activity should be better promoted as being among the best methods to reduce weight and weight gain.

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Nutrition Policy Brief

Authors: Hsiu-Wen Chan and Gita Mishra

Scope

Diet, including total energy intake, is a major determinant of body mass, overweight and obesity and hence women's risk of reproductive problems and chronic disease. The *National Women's Health Policy 2010* identified nutrition as a key target for the prevention of chronic diseases. Specifically, it addressed the factors associated with unhealthy eating and the barriers that prevent women from adhering to the current Australian Dietary Guidelines. In the last decade, the Australian Longitudinal Study on Women's Health (ALSWH) has published findings on (i) adherence to Australian Dietary Guidelines by Australian women, (ii) the association between specific foods and diets and health conditions, and (iii) the impact of preconception and antenatal diet on pregnancy outcomes. This policy brief focuses on the first two topics and the third is included in the Policy Brief on Pregnancy and Maternal Health.

Research Findings

Australian women generally fail to meet the guidelines

- Fewer than 2% of women met the guideline recommendation of five daily servings of vegetables, with the majority needing more than two additional servings.¹
- For women in their early-to-mid 30s, less than one-third consumed the recommended 2 serves of fruit (32%) and 2-3 serves of meat and alternatives (28%) per day, while only a small minority did so for dairy (12%; 2.5 daily serves) and cereals (7%; 6 daily serves).¹
- Fifty per cent of pregnant women met guidelines for fruit (2 serves/day), but fewer reached guidelines for dairy (22%; 2.5 serves/day), meat and alternatives (10%; 3 serves/day) and cereals (2.5%; 8.5 serves/day).¹

- For women in their early-to-mid 50s, adherence to guidelines was higher for meat and alternatives (41%; 2-2.5 serves/day), fruit (48%; 2 serves/day) and cereals (45%; 4-6 serves/day), whereas only 1% had the suggested dairy intake of four daily servings.¹

Dietary patterns, specific foods and micronutrients that affect health

- Young women (those in the 1973-78 cohort) were more likely to consume a Mediterranean-style diet than the mid-aged women (born in 1946-51). But mid-aged women had some healthier dietary practices than the younger women, including higher consumption of cooked vegetables, fruit, and reduced fat dairy, and lower consumption of processed meat, and takeaway food.²
- Consumption of a 'Mediterranean-style' or anti-inflammatory type of diet reduced women's risk of depression or depressive symptoms.^{3,4}
- Fruit intake at the recommended level of two pieces/day and eating 5 serves of vegetables per day had a protective effect on depressive symptoms in mid-aged women.⁵
- Dietary zinc intake was associated with lower risk of developing depression.⁶
- A pro-inflammatory diet characterised by low intake of fish, vegetables, fruit, nuts, potatoes, pasta and rice and a high intake of high-fat dairy and was associated with a 24% higher risk of hypertension⁷, but had no association with total cardiovascular disease and its subgroups⁸ when compared to an anti-inflammatory diet.
- Muesli and oat-based cereal consumption (but not porridge) and All-Bran cereal (but not other high fibre cereals) were associated with lower odds of developing diabetes in mid-aged women.^{9,10}
- High dietary zinc intake and zinc:iron ratio was associated with lower risk of type 2 diabetes¹¹ and higher incidence of cardiovascular disease.¹²
- Consumption of a fruit or Mediterranean-style diet in midlife decreased the risk of reporting vasomotor symptoms, whereas consumption of a high-fat and high-sugar diet increased the risk.¹³
- Healthy weight women with the highest diet quality had fewer Medicare claims and lower health care costs.¹⁴

Barriers to healthy eating

- Women starting a family or living with children had high consumption of high-fat and high-sugar foods and cooked vegetables whereas women not living with children were more likely to have a Mediterranean-style diet.¹⁵
- Sociodemographic factors are associated with unhealthy eating, including living in rural and regional areas², lower education levels², and being unemployed.²

Recommendations

- To help women meet the recommended dietary guidelines, changes applicable at every meal could be advocated, e.g. the dietary guidelines for vegetable intake could be achieved for most women by incorporating one extra serving at each of three daily meals.
- Policies and interventions to improve diet should focus on social and economic factors and general health-related behaviour, for all age groups.
- Improving access to healthy foods in rural and regional areas, and for those with low incomes, could improve healthy eating and contribute to better health.
- Pre-pregnancy planning, pregnancy and parenthood provide key opportunities and motivation for women to improve their diet.
- Dietary advice should be part of preventive health care to reduce weight gain, and risk of overweight and obesity, diabetes, cardiovascular disease, and other chronic conditions.

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Physical Activity and Sedentary Behaviour Policy Brief

Authors: Leigh Tooth and Annette Dobson

Scope

The aim of this policy brief is to outline findings from the Australian Longitudinal Study on Women's Health (ALSWH) on the health benefits of physical activity (PA) and on women's adherence to the Australian Government 'Physical Activity and Sedentary Behaviour Guidelines'.¹

Research Findings

Adherence to national guidelines

The 2014 recommendations for adults aged 18-64 are 150-300 minutes per week of moderate intensity PA or 75-150 minutes of vigorous intensity PA, or a combination of both, and muscle strengthening activities at least 2 days each week. People aged 65 years and older should accumulate at least 30 minutes of moderate intensity PA on most, preferably all, days. Figure 1 shows the percentages of women in the four ALSWH cohorts who did not meet the PA guideline of at least 150 minutes/week by to the average age of women at each survey.²⁻⁵

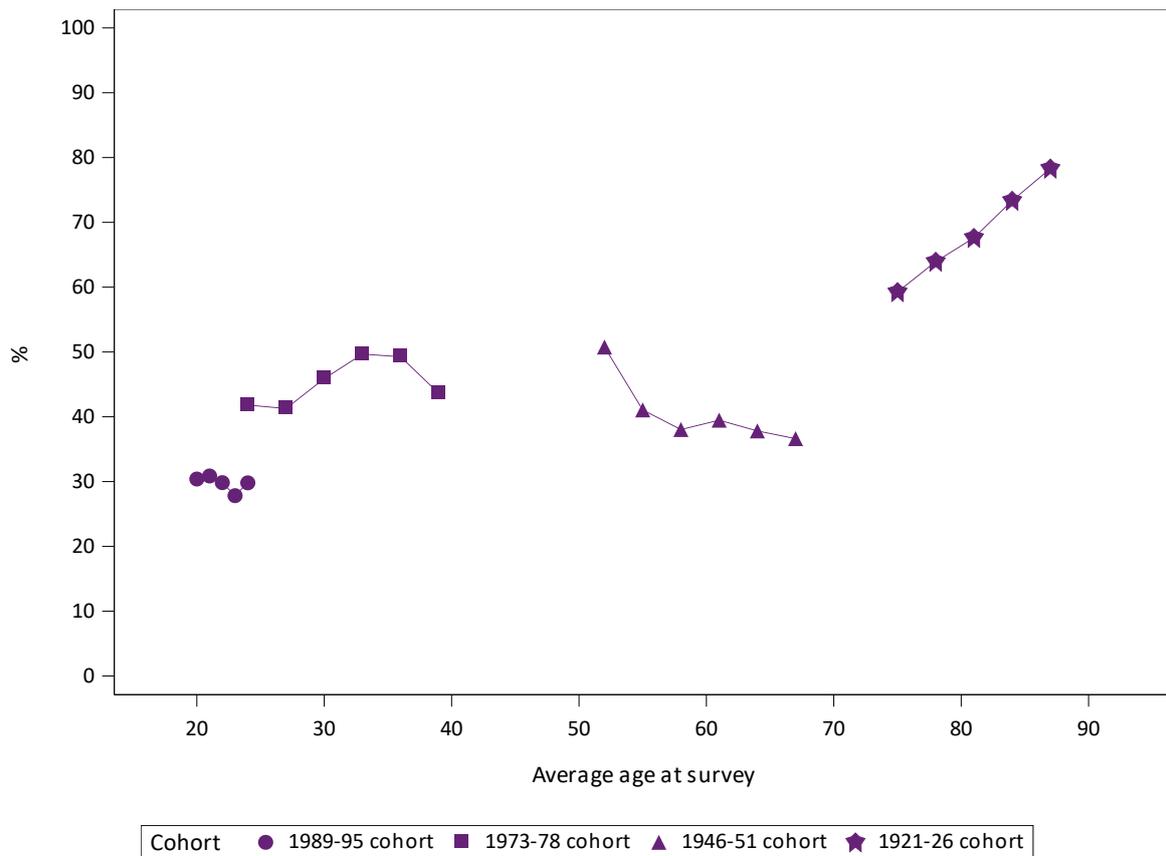


Figure 1. Percentage of ALSWH participants at each survey who did not meet the physical activity guideline of at least 150minutes per week (women born in 1989-95, 1973-78, 1946-51 and 1921-26)

Failure to meet the guidelines was lowest among youngest and highest in oldest women. Over time, failure to meet guidelines increased among the 1973-78 cohort as they moved through the stages of early motherhood, but there is evidence of increasing levels of PA from the most recent survey. Over time, levels among the 1946-51 cohort the percentage failing to meet the guidelines decreased. In the 1921-26 cohort, failure to meet the guidelines increased steadily as the women aged. Adherence to PA guidelines by ALSWH participants who were pregnant was also poor.⁶

Sociodemographic, socioeconomic and lifestyle factors associated with adherence to national guidelines

- Among women in the 1989-95 and 1973-78 cohorts, factors associated with meeting the PA guidelines included healthy body mass index, sociodemographic characteristics (being single, not having children, higher education, working full-time,

higher occupational status, not being born in Asia), and lifestyle factors (low risk drinking, not smoking).⁷⁻⁹

- For the 1946-51 cohort, meeting and/or exceeding the PA guidelines was associated with higher education, higher perceived social class, retirement, low risk drinking, less sitting time, healthy BMI, fewer than 3 chronic conditions, fewer than 3 children living at home, not smoking, not being born in Asia, and reporting less stress.^{8,10}
- For the 1921-26 cohort, factors associated with high sitting time and low PA levels were obesity, having 3 or more chronic conditions, having more symptoms of anxiety and depression and not having caring or volunteer duties.¹¹

Health effects of physical activity and sedentary behaviour

- A meta-analysis of data from more than 1 million people including ALSWH participants showed clear associations between PA, sitting time and death. High levels of PA (about 60–75 minutes/day) mitigated the mortality risk associated with long time spent sitting (more than 8 hours/day).¹²
- Higher PA was associated with better current and future health-related quality of life, particularly physical functioning and vitality. Even if walking was their only activity, women in their 70s to 80s had better health-related quality of life¹³ and mental health.¹⁴⁻¹⁷
- Throughout adulthood, participation in PA was more strongly associated with maintaining physical functioning than other lifestyle risk factors such as alcohol intake and smoking.¹⁸
- More time spent sitting and lower levels of PA were associated with poorer physical functioning in older women.¹⁹
- For women in their 20s, there was a dose-response relationship between PA, achieving or maintaining healthy body mass index, and reducing the risk of becoming overweight or obese.²⁰

- Low PA was associated with higher risk of developing back pain²¹ and joint pain/stiffness.²² Participation in vigorous PA (i.e. that make a person 'puff and pant') was protective of back pain in women aged 45 to 67 years.²¹
- Women in their 70's had lower risk of arthritis if they reported 75 -150 minutes/week of PA (less than the guidelines); meeting the guidelines did not reduce the risk further. Women who reported walking as little as 100-200 minutes/week also had a lower risk of arthritis.²³
- Meeting PA guidelines was associated with lower risk of hypertension in mid-age women²⁴, with even lower risk for women who were highly active.²⁵
- Not meeting PA guidelines was associated with an 8-23% higher risk of developing type II diabetes.²⁶
- There were clear associations between PA and better mental health in young²⁷, mid-aged^{27,28} and older women.^{15,29} Generally, higher levels of PA were associated with better mental health, and for older women even low levels of PA were associated with fewer symptoms of anxiety and depression.¹⁵
- The potential benefits of at least 150 minutes/week of moderate to vigorous PA, include:
 - For mid-aged women, a reduction in current and future depressive symptoms²⁸, hypertension²⁵, back pain³⁰, joint pain/stiffness²², and in incidence rates of conditions such as cancer and diabetes, and increased optimism.^{26,27}
 - For younger women, improved optimism²⁷, reduced risk of overweight or obesity²⁰, and risk of future back pain.²¹
 - For older women, maintaining higher levels of physical functioning for longer¹⁹
- If women who were currently inactive became more active (even if they still did not meet the PA guidelines) the potential benefits include a reduction in joint pain/stiffness in mid-age women, a reduction in arthritis treatment or diagnosis²³, and fewer depression and anxiety symptoms for older women.^{15,29}

Use and costs of health services

- Physical inactivity was associated with higher total annual costs for Medicare subsidised health services.³¹
- If the almost 3 million mid-age Australian women who were inactive became highly active nearly AU\$40 million/annum in healthcare costs potentially could be saved.^{29,31}

Recommendations

- There is evidence from ALSWH that strategies that aim to assist women not currently meeting the guidelines of 150 minutes of PA per week to do so ('middle of the road' approach) would be better for reducing the incidence of chronic conditions, rather than aiming for an increase of 30 minutes by everyone ('whole population' approach), or an increase of 60 minutes by the least active women ('high risk' approach).³²
- Public health policies geared towards increasing adherence to PA guidelines (or increasing PA levels generally) should prioritise women of lower socioeconomic status, Asian-born women, women with children, women at risk of developing chronic conditions, and women with poorer mental health.

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Chronic Conditions Policy Brief

Authors: Annette Dobson, Julie Byles and Gita Mishra

Scope

Chronic conditions contribute significantly to poor health, disability, health service use, and premature death. These conditions often have a long lead time and complex causes. They frequently occur together; this is termed multimorbidity. Physical conditions often occur with mental health problems (see the separate Policy Brief on Mental Health).

The 2017 National Strategic Framework for Chronic Conditions¹ “..moves away from a disease-specific approach and provides national direction applicable to a broad range of chronic conditions by recognising that there are often similar underlying principles for the prevention and management of many chronic conditions ... [it] will better cater for shared health determinants, risk factors and multi-morbidities ...”.

ALSWH undertakes research on chronic conditions across women’s life course to understand underlying health risks, and other factors that impact on women’s well-being and health care use. A Major Report on Chronic Conditions is available on the ALSWH website. This brief highlights key findings since 2010.

Research Findings

Prevalence of chronic conditions

The prevalence of many, but not all, chronic conditions increased with age.

- **Depression** and **anxiety** were more common among younger women than older women and declined with age within each cohort. (More details can be found in the Policy Brief on Mental Health).
- **Asthma** was also more common in younger women than older women, but increased over time in all cohorts.

- Other conditions increased with age, but were also more common in the younger cohorts. For instance, **diabetes** and **arthritis** were more common among women in the 1946-51 cohort at the age of 67, than among women in the 1921-26 cohort when they were aged 72.
- Prevalence of **dementia** increased rapidly with age to about 25% by ages 85-90.²
- Prevalence of **frailty** increased with age, with associated increases in the risk of serious falls, fractures, disability, and death.³
- Low socio-economic status was a strong predictor of frailty, although around 20% of women in the 1921-26 cohort remained at low risk of frailty up to the ages of 85-90.⁴
- Between the ages of 73-78 and 85-90, 30% of women had had an **injurious fall**, and 23% had a fall without injury. Those who had had a fall had worse physical and mental health prior to the fall, and further reductions in health-related quality of life after the fall.⁵ Other risk factors for falls included functional limitations in activities of daily living, **vision** and/or **hearing impairment**, and hazardous home environments.^{6,7}
- **Urinary incontinence** was reported by around 1 in 10 women in their 30s, 1 in 3 women in their 50s, and 1 in 2 women in their 80s. Incontinence was associated with depression among young women;⁸ and reduced social functioning in older women (largely due to underlying health problems).⁹

Multimorbidity

With increasing age, women were more likely to have increasing numbers of chronic conditions (see Figure 1 and Figure 2 below).

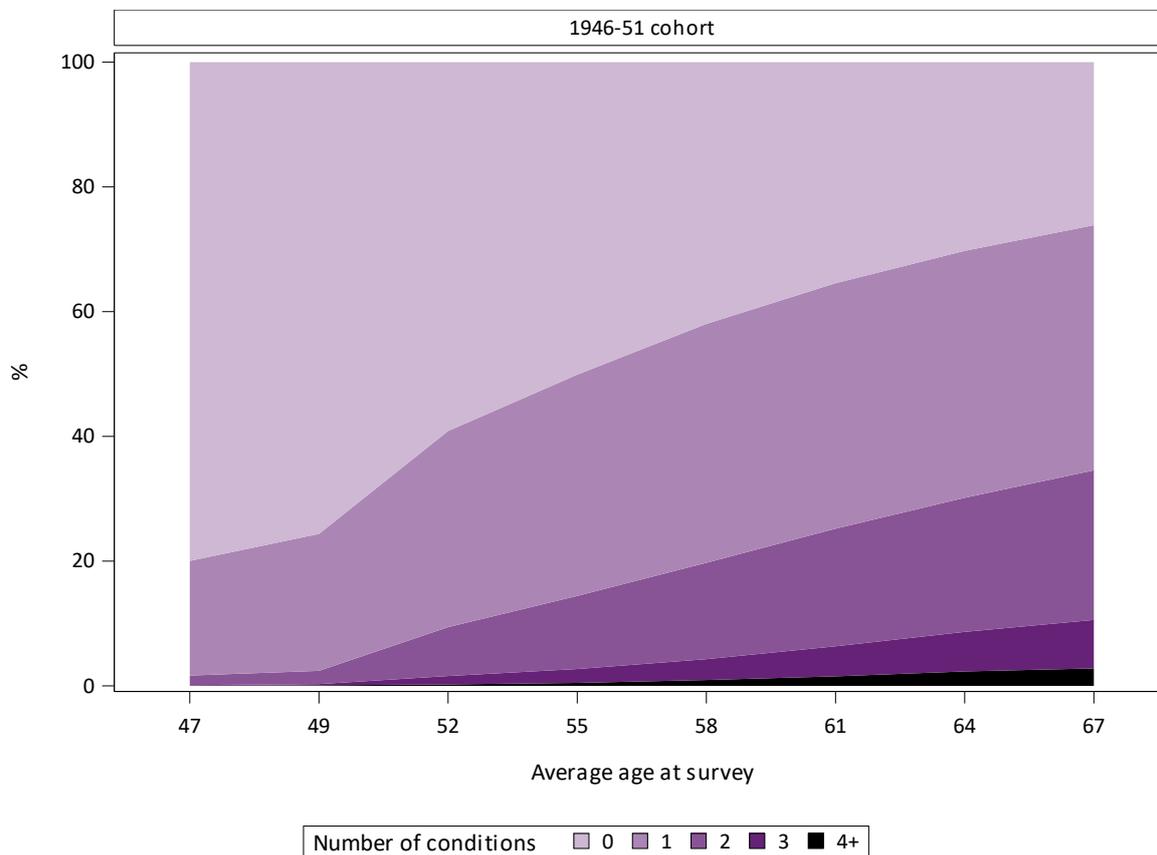


Figure 1. Number of chronic conditions reported by women in the 1946-51 cohort (asthma, heart disease, diabetes, arthritis, stroke and breast cancer) at each survey by average age at that survey.

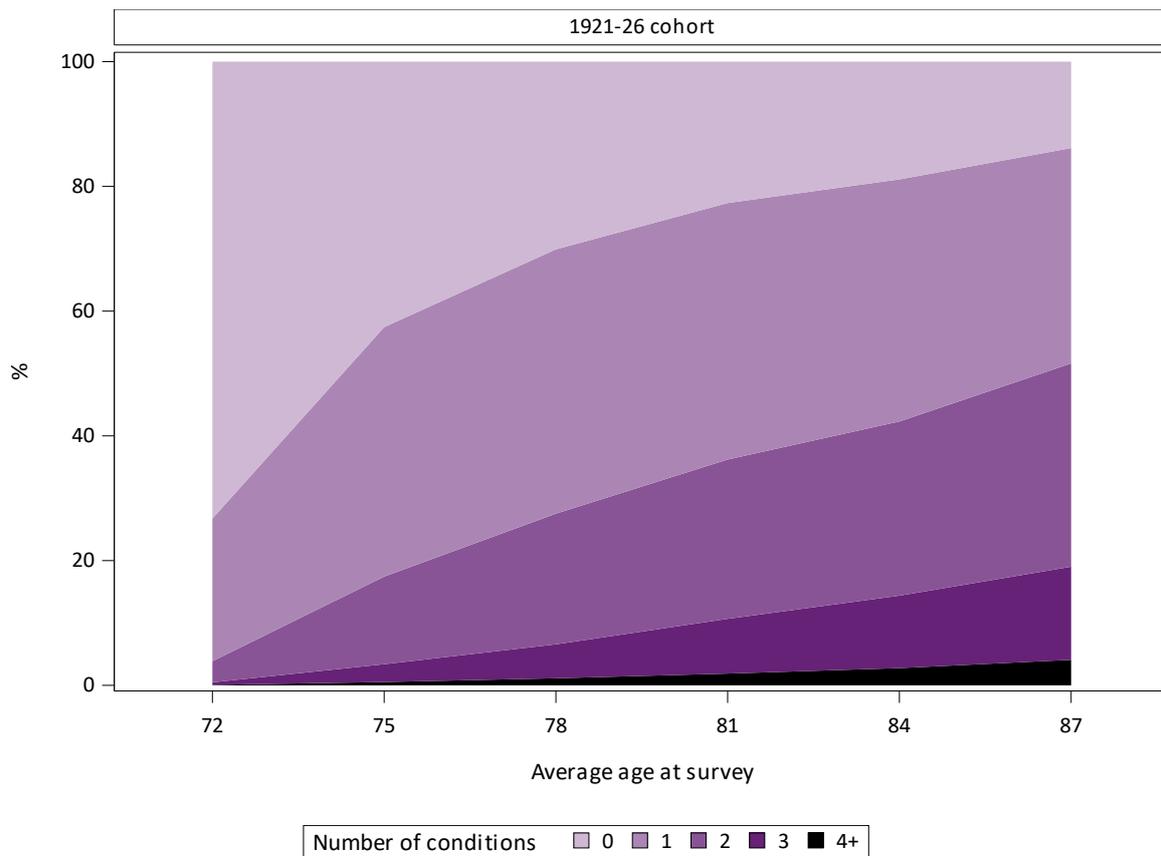


Figure 2. Number of chronic conditions reported by women in the 1921-26 cohort (asthma, heart disease, diabetes, arthritis, and stroke) at each survey by average age at that survey.

- Multimorbidity was most common among women who were overweight or obese, experienced short-term weight gain (over a 3 year period), and were socioeconomically disadvantaged.^{10,11}
- Musculoskeletal conditions were important contributors to multimorbidity.^{11,12}
- Having more coexistent conditions was associated with poorer quality of life, more disability and limitations to activities of daily living, higher use of health services, and earlier death.¹³

Common risk factors

- Many chronic conditions share common risk factors, especially tobacco smoking, being overweight or obese, poor nutrition, inadequate physical activity and harmful alcohol use.

- Prevalence of smoking decreased among younger women, but smoking remained a significant contributor to lung cancer risk.¹⁴ Women who smoked had the same risk of smoking-related deaths as men who smoked.¹⁵
- Obesity increased, especially among younger women. It was a risk factor for cardiovascular disease, diabetes and cancers¹⁶, as well as multimorbidity.¹⁰ (See the separate Policy Brief on Weight and Weight Change).
- Physical activity can prevent chronic conditions and reduce their impact. It can improve quality of life and mitigate the adverse effects of overweight and obesity.^{17,18} (See the separate Policy Brief on Physical Activity).
- Reproductive factors can affect the development of chronic conditions.¹⁹ For example, menopausal symptoms were associated with increased risk of diabetes and coronary heart disease.^{20,21}
- Alcohol use was a significant risk for breast cancer.²²
- Perceived stress and mental health problems increased the risk for several chronic conditions, including diabetes, stroke and arthritis.²³⁻²⁵
- Risk factors for chronic conditions increased with socioeconomic disadvantage.²⁶⁻²⁸
- Living in regional and remote areas of Australia was associated with increased risk of chronic conditions and poorer access to medical care.²⁹⁻³³

Effects of chronic conditions

- Women in their 50s with chronic conditions were less likely to be in paid work and had lower health-related quality of life than women without these conditions.^{34,35}
- Women with chronic conditions could live for many years with significant disabilities and functional limitations.³⁶
- Chronic conditions were associated with increased health care costs.^{28,37,38}

Prevention and management of chronic conditions

- More than 80% of women born 1946-51 reported screening for cervical cancer (Pap smears), breast cancer (mammography), and having their blood sugar, blood pressure and cholesterol levels checked. Smokers were less likely to have all screening tests. Women with who saw their GPs frequently and had good continuity of care, and those with chronic conditions were more likely to receive regular screening.^{39,40}
- Although physical activity provides protection against chronic conditions and may help with their management, a majority of women did not improve their levels of physical activity.⁴¹

- Medicare items such as complex care plans and annual cycle of care for diabetes or for asthma appeared to be underutilized even by women with multiple comorbidities.³³
- Most women did not have annual dental checks. Access to dentists, cost of consultations and poor health appeared to be significant factors influencing visits to a dentist.⁴²

Recommendations

- Prevention and reduction of factors, such as smoking and weight gain, that increase the risk of many different chronic conditions is very important. Public health measures to achieve these aims should receive increased attention as they are most likely to reduce the burden of chronic conditions now and in the future.
- There is a need to encourage more women to engage in cancer screening and testing for chronic disease risk factors.
- Multimorbidity requires increased emphasis on integrated person-centred health care, rather than multiple condition-specific management regimens. This is acknowledged in the National Strategic Framework for Chronic Conditions.
- Medicare items for chronic disease management need to be used more effectively.
- Women and their health care providers need to know more about the influence of reproductive factors and gender-specific issues, such as symptoms, in chronic conditions.
- Better access to health services, including dental care, could reduce the health disadvantage experienced by women living in regional and remote areas.

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Housing and Care for Older Women Policy Brief

Author: Julie Byles

Scope

Aged care policy emphasises “staying at home” with support services designed to help people remain in the community for longer. There are also expectations that older people will change their housing as they adapt to their changing needs, enabling better access to aged care and support. By moving, older people are also expected to realise the capital in their home, and free up housing stock for younger people. However, the majority of older women want to remain within their own homes, and don't wish to move from their familiar neighbourhoods.

This brief looks at older women's housing, their changing needs, and the intersections between housing and aged care.

Research Findings

Changes to older women's housing

- As women in the 1921-26 cohort aged from their mid-70s (age 73-78) to their late 80s (age 85-90) proportionally fewer women were living in a house and more women moved into aged care (see Figure 1).

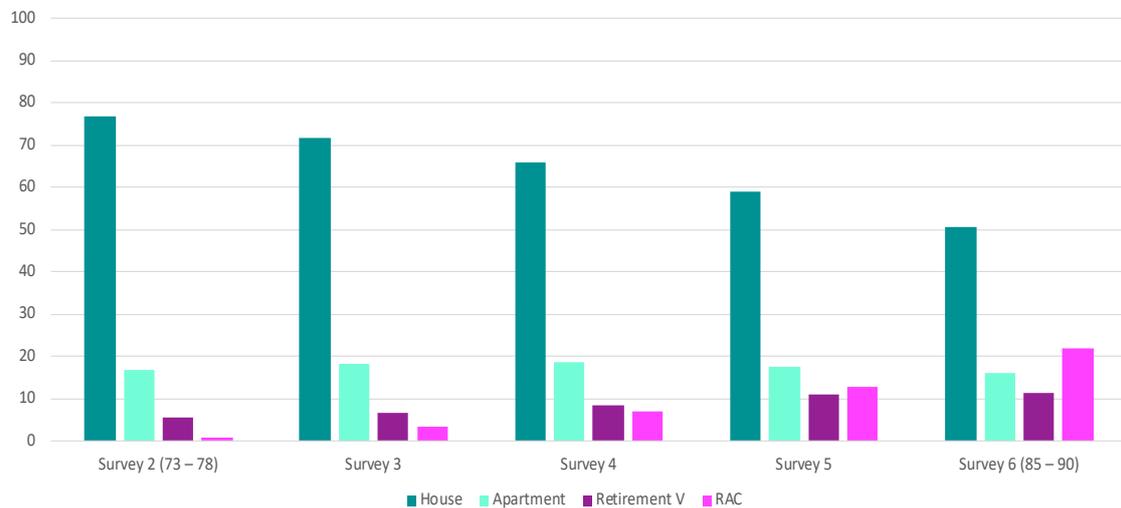


Figure 1. Changes in housing for women in the 1921-26 cohort from age 73-78 to age 85-90.

At Survey 2, 94% of women lived in a house or an apartment, with few women in retirement villages or aged care. By Survey 6, when the women were 85-90, 67% were still in a house or an apartment, 11% were in a retirement village, and 22% were in residential aged care.

A more detailed analysis looked at the transitions in housing over the course of the women's later lives, based on the type of housing women were living in at each survey, and whether they had survived to that survey point. Over time women showed seven patterns of change in housing.

- Four patterns represented 80% of women who remained most of their later life: in a **house** (61%), an **apartment** (13%), or a **retirement village** (6%).
- Three patterns represented transition in housing type, whereby: 7% **downsized** from a house to an apartment or a retirement village, 8% **transitioned** from an apartment to a retirement village to aged care, 6% of women moved from a house into **residential aged care** before age 85.

Women who remained in a house or an apartment until their 90s, and those who downsized, tended to be healthier than women in the other groups. Living in an apartment, or moving to one, was more likely in major cities than in rural and regional areas, and for women who lived alone. Those in retirement villages were also more likely to be in major cities, and living alone. However, these women had lower scores for physical function, reflecting more difficulties with daily activities¹. Living in a retirement village had highest risk of transition to residential aged care compared with women living in the general community².

Housing in the 1946-51 cohort (Survey 8, aged 65-70 years)

- 80% lived in a house; 15% lived in an apartment; 4% lived in retirement village/caravan; 1% in other accommodation.
- The dwellings had a mean of 3.3 bedrooms, and 75% were single storey.
- Women had lived in their home for a mean of 18.0 years.
- 78% owned the home outright, 10% owned the home with a mortgage, and 12% lived under some form of rental or other arrangement.

Expectations over the next ten years were to: remain in the same home (54%); downsize (18%), live in a retirement village (6%), live in a caravan (0.5%); live in residential aged care (0.6%). 21% had no idea what their housing arrangements would be.

Transport

- At Survey 3 (age 76–81 years), 55% of women were driving themselves: 86% of these women were still driving themselves at age 79-84 years, and 73% were still driving themselves at age 82–87 years. Women who stopped driving relied on someone else to drive them. Few used public transport or taxis.
- Women were least likely to continue driving if they lived in a major city and most likely to drive if they were in outer regional or remote areas. Driving was less likely if women reported diabetes, stroke, vision problems, and need for help with daily tasks, and if they had lower SF-36 Physical Function scores. Women who cared for someone who lived with them were 32% more likely to drive, and women who cared for someone who lived elsewhere were 69% more likely to drive, compared to women with no caring responsibility. Likewise, women who were single, divorced, or widowed were more likely to drive than married women³.

Need for help with daily tasks

- Need for help with daily tasks increased steeply with age, from less than 10% at aged 70-75 to over 20% at age 85-90.
- Most of this care was provided by partners, family and friends. Older women were also likely to care for other people. At age 70-75, women were twice as likely to be caring for someone else than needing care for themselves. Later in life this ratio was reversed first as women's own needs for help increased, and then as their role in caring for others diminished.

Help and support for 1921-26 cohort

- By the time they were aged 85-90, around 70% of women had used Home and Community Care (HACC).
- Factors associated with greater use of HACC were older age, living in an apartment (rather than a house), caring for others, not having a partner, difficulty managing on income, need for help with daily tasks, falls, more chronic conditions, and lower SF-36 physical function scores.
- Approximately 54% of women who used home care used only a few basic services. The remaining service users were grouped as using mostly low volume domestic services (16.5%, median 57 hours), home meals (5%), or higher volume and mix of services (25%) including combinations of domestic services, nursing, transport, and centre-based day care⁴.

Residential Aged Care (RAC) use in the 1921-26 cohort

- Over 13 years, from age 73-79 to 86-91, around 30% of women were admitted to permanent RAC, 23% died without entering care, and 47% were still living in the community. After adjusting for health-related needs, age was a major factor for moving into residential aged care, while living in a rural/remote area reduced admission to RAC (in part due to a lack of residential care facilities in rural areas). Women living in a house at the start of the observation period had the lowest rate of residential aged care admissions over the 13 years, and women living in retirement villages had the highest rate. Length of stay in RAC was around 2.2 years, but with some women living as long as 12 years in long term care. Around 28% of women admitted to residential aged care lived there for at least three years².

- Among women with dementia (29% of the 1921-26 cohort): over 80% were in RAC, around 20% used respite care, and 62% had one or more hospital admissions (median 3 admissions, 23 days stay) in the last two years of life. Among women who did not have dementia, 40% of women with stroke, 31% of women with heart disease, and 23% of women with chronic respiratory disease were in RAC at some time in the last two years of life⁵.

Aged Care use in the 1946-51 cohort

- Around 13% of women in the 1946-51 cohort had already used Home and Community Care prior to age 70, and around 3% had used Residential Aged Care or Transitional Care.

Recommendations

- Housing policy is important for women's health and wellbeing in later life, with most women remaining in their own homes. Moves may also be limited by few options or incentives to downsize.
- Women in the 1946-51 cohort may be at risk of housing stress (if don't own outright).
- Women living in retirement villages have higher rates of admission to RAC, but no higher use of home care. Strategies to increase use of community services in retirement villages may delay or prevent admission to residential aged care.
- Over a third of women are likely to enter RAC at some time, and to remain in care for around 2-3 years. RAC should be seen as an important stage in the women's life course, with attention to lifestyle, engagement and ongoing wellbeing.
- Dementia and stroke are major drivers of residential aged care, and most women with dementia will enter residential care and/or acute care in the last years/months of life. Full attention needs to be given to developing services to care for the needs of these older women in later life, anticipating their end of life needs and avoiding unnecessary hospital admissions and treatments.
- These findings highlight the importance of providing a range of services to meet the diverse care needs of older women, especially in the community setting.

- Driving remains the main means of transport for women in late life: strategies to enable driver safety and/or to enable women to transition to other transport options are important for women's wellbeing.

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