The Australian Longitudinal Study on Women's Health

Report 8

The University of Newcastle
10 June 1998

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JUNE 1998 REPORT

INTRODUCTION

This is the eighth report on the Australian Longitudinal Study on Women's Health, provided by the University of Newcastle and the University of Queensland, due 10 June 1998, as agreed in the contract between the Commonwealth Department of Health and Family Services and the University of Newcastle.

The contract states that the content of report eight is to include:

A For the main cohort studies, a report on:

- the conduct of the second survey for the mid-life cohort, including attrition rate and a comparison of the demographic characteristics of respondents and those lost to follow-up;
- project operation (management issues, staff, students, visitors, performance indicators);
- the National Advisory Committee and reference groups;
- communications strategy;

B For the special cohort studies, a report on:

- the special cohorts (including new baseline and follow-up data);
- project operation (management issues, staff, students, visitors, performance indicators and communications strategy);

This report is presented in three parts:

PART A - Progress at the University of Newcastle

PART B - Progress at the University of Queensland (included separately)

PART A: UNIVERSITY OF NEWCASTLE

EXECUTIVE SUMMARY

1. The first follow-up survey for the mid-age cohort was conducted during March-June 1998. To date, the response rate is 79%. Non-respondents (n=3000) are currently being telephoned and it is expected that at least 60% of those contacted will respond, bringing the response rate to >85%. A further 500 women who did not enclose a consent form with their baseline survey will also be contacted to confirm their willingness to participate in the study.

2. Comparison of demographic characteristics for those who have and have not responded at this stage suggests that early respondents are more likely to be from rural areas, married, Australian born, have post-school education, and be in managerial, professional, trade or administrative occupations. The respondents to date are also more likely to have had a Pap test in the last two years, and to score >50 on the SF-36 physical and mental component summary scores.

3. The foundation PhD students are making good progress with their nested sub-studies. Data collection for the eating disorders, iron and tiredness, and health service utilisation sub-studies is now completed and data analysis is ongoing. Brief reports from each of the sub-studies are included in this report.

4. During January-June 1998, the researchers have presented papers at 4 national and international conferences and meetings. Six abstracts have been submitted for conferences which will be held in the second half of this year.

Seven papers previously accepted for publication have now been published, seven papers previously submitted for publication have now been accepted and are 'in press'. A further 11 papers have been submitted, bringing the total number of publications prepared to 35 (main cohorts).

5. This is the final report to the Commonwealth under the current agreement, which covers the first three and a half years of the Australian Longitudinal Study on Women's Health. During the last six months there has been a formal NHMRC style review of the project. This review strongly recommended that core funding be continued for another 5 years. At the time of writing however, future plans for the project have not been finalised. In view of this, there has been no meeting of the National Advisory Committee during this period.

1. ADMINISTRATIVE ARRANGEMENTS

1.1 PROJECT STAFF

The following staff are now working with the research team at the University of Newcastle. Unless otherwise stated, staff are based at the University of Newcastle.

Investigators

Professor Annette Dobson, BSc, MSc, PhD (Study Director; Professor, Biostatistics)

Dr Wendy Brown, BSc(Hons), DipEd, MSc, PhD (Project Manager & Senior Research Academic)

Professor Lois Bryson, BA, DipSocStud, DipEd, PhD (Emeritus Professor, Sociology & Anthropology)

Dr Julie Byles, BMed, PhD (Senior Lecturer, Clinical Epidemiology & Biostatistics)

A/Professor Christina Lee, BA, PhD (Associate Professor, Psychology)

Dr Gita Mishra, BSc, MSc, PhD (Statistician & Research Academic, WHA)

A/Professor Margot Schofield, BA, DipSc, MClinPscych, PhD (Honorary Associate, WHA, now based at the University of New England)

Dr Justin Kenardy, PhD (Department of Psychology, University of Queensland)

Associate Investigators

Ms Susan Feldman, BA, MA (Alma Unit on Women & Ageing, University of Melbourne)

Mr John Germov, MA, PhD Candidate (Department of Sociology & Anthropology)

Dr Helen Jonas, MSc, PhD (Department of Public Health, University of Melbourne)

Dr Julia Lowe, MBChB, FRCP (UK), MMedSci. (John Hunter Hospital)

Ms Sue Outram, BA, RN, MSc Candidate (University of New South Wales)

Dr Rhonda Reynolds, BA(Hons), PhD (University of Western Sydney Macarthur)

Dr Penny Warner-Smith, BA, PhD (Department of Sociology & Anthropology)

Dr Deidre Wicks, BA, MA (Senior Lecturer, Sociology & Anthropology)

Ms Lauren Williams, BSc(Hons), Grad Dip Diet, Grad Dip Soc Sci, PhD Candidate (Department of Nutrition & Dietetics)

Post-graduate students

PhD candidates

Ms Kylie Ball, BA (Psych) (University of Newcastle)

Ms Julie Brookes, Dip App Sc (Nursing), BA (Hons) (University of Newcastle)

Ms Pauline Chiarelli, Dip Physio (University of Sydney), Grad Dip H Soc Sci (HProm), MMEdSc(HProm) (University of Newcastle)

Ms Amanda Patterson, BSc (University of Newcastle), MND (University of Sydney)

Ms Anne Young, BMath (HonsI), Dip Med Stat (University of Newcastle)

Ms Margrette Young, BA(HonsI) (University of Sydney), MSc (Keele University)

Mr Brendan Goodger, BSW(Hons), Grad Dip Hlth Soc Sci (Med Soc Sci) (University of New South Wales)

Office Staff

Mrs Lyn Adamson	Research Assistant/Publicity Officer
Mrs Jean Ball, B.Math, DipMedStat	Data Manager
Mrs Judy Connelly	Administrative Assistant
Mrs Joy Goldsworthy, BA(Hons)	Research Assistant
Ms Yvette Miller	Research Assistant
Ms Jenny Powers, (BSc)	Statistician

1.2 PROJECT OPERATION

There have been no major changes to project operation or staffing in the period of January-June 1998. The statistician position remains unfulfilled, pending the outcome of the review and development of a new contract.

1.3 1998 BUDGET

Table 1: ALSWH – Budget for 1998

2 FIRST FOLLOW-UP SURVEY OF THE MID-AGE COHORT (MARCH-JUNE 1998)

2.1 SURVEY, PROTOCOL AND INITIAL RESPONSE RATES

The first follow-up study of the mid-age cohort was commenced in March 1998. The survey form was similar to that used for the pilot survey in 1997, with the following changes:

- Addition of a question "do you have a serious illness, condition or disability (Q16) No Yes (Please state);
- Addition of more detailed questions about health insurance (Q's 18 & 19);
- Addition of gastroscopy/colonoscopy to list of procedures in Q 21;
- Changes to smoking questions (Q's 33-38);
- Addition of question about height (Q43);
- Changes to questions about body weight and dieting (Q's 45-49);
- Changes to Q50 made on basis of responses to pilot survey (Q51);
- Changes to format of physical activity questions (Q's 51-53);
- Changes to responses to questions about working more/fewer hours on basis of pilot responses (Q's 58-59);
- Addition of exact job title and industry instead of category (Q 63-64).

The survey booklet was designed so that responses could be scanned for data entry, thus eliminating errors due to manual entry. The successful tenderer for the mailing and data entry contract was the University of New South Wales Educational Testing Centre.

A consent form was included with the invitation letter and survey booklet as consent is required for linkage of data from this 1998 survey with that collected in 1996. On the reverse side of the consent form was a space for recording change of contact details and the name and address of a person who could be contacted in the case of "losing" the participant.

A copy of all survey materials is included in Appendix A.

The protocol (planned and actual) for the survey, with response rates for each stage (to date) is shown below:

	Planned date	**Actual date**	**Number sent**	**Response rate**
Mail out of surveys	9 March	9 March	13,468	-
Thank you/reminder	16 March	16 March	13,468	64.4%
Second reminder card	14 April	24 April	4795	76.5%
Telephone reminders	From 11 May	From 26 May	3159	
Completion of data collection	End May	End June		

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Due to problems with processing returns, there was an unforeseeable delay in sending out the second reminder card, and in beginning the reminder telephone calls. Reminder telephone calls are now expected to be completed by 30 June.

2.2 DEMOGRAPHIC CHARACTERISTICS OF WOMEN WHO HAVE RESPONDED TO THE FIRST FOLLOW-UP, COMPARED WITH THOSE WHO HAVE NOT (AS AT 4 JUNE 1998)

Demographic characteristics of the respondents and non-respondents (4 June 1998), are shown in the following tables.

Table 2.1: Respondent vs non-respondent comparison for area

	Respondent		Non-respondent		Total
	n	%	n	%	n
Urban	3631	35.2	1219	38.6	4850
Rural	5900	57.2	1687	53.4	7587
Remote	667	6.5	230	7.3	897
Missing	111	1.1	23	0.7	134
Total	10309		3159		13468

Table 2.2: Respondent vs non-respondent comparison for state

	Respondent		Non-respondent		Total
	n	%	n	%	n
NSW	2953	28.6	882	27.9	3835
VIC	2418	23.5	741	23.5	3159
QLD	2236	21.7	713	22.6	2949
SA	888	8.6	249	7.9	1137
WA	918	8.9	314	9.9	1232
TAS	443	4.3	121	3.8	564
NT	177	1.7	72	2.3	249
ACT	165	1.6	45	1.4	210
Missing	111	1.1	22	0.7	133
Total	10309		3159		13468

Table 2.3: Respondent vs non-respondent comparison for marital status

	Respondent		Non-respondent		Total
	n	%	n	%	n
Married	8548	82.9	2491	78.9	11039
Separated/divorced/widowed	1276	12.4	629	16.8	1805
Never married	334	3.2	99	3.2	433
Missing	151	1.5	40	1.3	191
Total	10309		3159		13468

Table 2.4: Respondent vs non-respondent comparison for country of birth

	Respondent		Non-respondent		Total
	n	%	n	%	n
Australia	7809	75.8	2228	70.5	10037
Other English speaking	1410	13.7	381	12.1	1791
Europe	575	5.6	279	8.8	854
Asia	214	2.1	141	4.5	355
Other	79	0.8	57	1.8	136
Missing	222	2.2	73	2.3	295
Total	10309		3159		13468

Table 2.5: Respondent vs non-respondent comparison for level of education

	Respondent		Non-respondent		Total
	n	%	n	%	n
Uni/higher degree	1518	14.7	336	10.6	1854
Trade/certificate	2054	19.9	495	15.7	2549
< = HSC	6542	63.5	2263	71.7	8805
Missing	195	1.9	65	2.1	260
Total	10309		3159		13468

Table 2.6: Respondent vs non-respondent comparison for occupation

	Respondent		Non-respondent		Total
	n	%	n	%	n
Manual	1339	13.0	545	17.3	1884
Trade/admin	4336	42.1	1198	37.9	5534
Manager/professional	3857	37.4	1015	32.1	4872
Other	777	7.5	401	12.7	1178
Total	10309		3159		13468

Table 2.7: Respondent vs non-respondent comparison for manage on income

	Respondent		Non-respondent		Total
	n	%	n	%	n
Impossible	213	2.1	109	3.5	322
Difficult always	1163	11.3	438	13.9	1601
Difficult sometimes	2858	27.7	963	30.5	3821
Not too bad	4286	41.6	1226	38.8	5512
It is easy	1630	15.8	374	11.8	2004
Missing	159	1.5	49	1.6	208
Total	10309		3159		13468

Table 2.8: Respondent vs non-respondent comparison for Pap smear test

	Respondent		Non-respondent		Total
	n	%	n	%	n
In last 2 years	7359	71.4	2057	65.1	9416
Not in last 2 years	2950	28.6	1102	34.9	4052
Total	10309		3159		13468

Table 2.9: Respondent vs non-respondent comparison for SF-36 physical health summary score

	Respondent		Non-respondent		Total
	n	%	n	%	n
<25	233	2.3	100	3.2	333
25-<50	3218	31.2	1086	34.4	4304
50-<74	6165	59.8	1662	52.6	7827
Missing	693	6.7	311	9.8	1004
Total	10309		3159		13468

Table 2.10: Respondent vs non-respondent comparison for SF-36 mental health summary score

	Respondent		Non-respondent		Total
	n	%	n	%	n
<25	166	1.6	81	2.6	247
25-<50	3182	30.9	1125	35.6	4307
50-<74	6268	60.8	1642	52.0	7910
Missing	693	6.7	311	9.8	1004
Total	10309		3159		13468

Comparison of demographic characteristics for those who have and have not responded at this stage suggests that early respondents are more likely to be from rural areas, married, Australian born, have post-school education, and be in managerial, professional, trade or administrative occupations. The respondents to date are also more likely to have had a Pap test in the last two years, and to score >50 on the SF-36 physical and mental component summary scores.

While it appears that the attrition rate for women from non-English backgrounds is higher than for Australian born women, telephone interviews in languages other than English are not yet completed.

2.3 DATA BOOK FOR MID FOLLOW-UP SURVEY

A data book with frequency of responses for the first mid follow-up will be produced as soon as data are available from the scanning company.

3. REVIEW OF PROGRESS

In March 1998, the DHFS announced that there would be a review of the study, to be undertaken in the style of a full NHMRC review. This was conducted by Professor Christine Ewan (University of Wollongong) and Professor Adele Green (Queensland Institute of Medical Research) during March/April 1998. Following preparation of detailed documentation of the study's progress and outcomes, site visits were conducted at the University of Queensland on Friday 20 March and at the University of Newcastle on Thursday 26 March.

Five additional external reviewers were invited to send comments to the two senior reviewers for inclusion in the final report.

At the time of writing this report, the researchers have not seen a copy of the review document which was submitted to the DHFS during the first week of May 1998.

4. REPORTS ON SUB-STUDIES

4.1 IRON DEFICIENCY IN WOMEN OF CHILDBEARING AGE

PhD candidate: Amanda Patterson
Supervisors: Dr Wendy Brown (principal supervisor); Professor David Roberts (associate supervisor)

This project includes three studies which encompass the development, effect and treatment of iron deficiency for Australian women. The aims and design for each study have been outlined in previous reports, and subsequent progress is detailed below.

4.1.1 Analysis of Women's Health Australia Baseline Data

The Women's Health Australia baseline data for women in the young and mid age groups, supports a link between iron deficiency and reduced well-being. Women who report "ever" having had low iron scored lower on all scales of the SF-36 General Health and Well-being scale.

The first follow-up questionnaire for the middle age group, asked women about their experience of iron deficiency in the last 12 months. These data will be analysed to provide stronger support for reduced health and well-being in iron deficiency.

4.1.2 General Practitioner Survey

This survey examined knowledge, attitudes and behaviours of General Practitioners with regard to diagnosis and treatment of iron deficiency in Australian women. As expected, the response rate was low at 25.4%, and respondents were more likely to be those GP's who had a particular interest in iron deficiency. However, this is the first time that Hunter GP's have been surveyed about iron deficiency, and the results provide a basis for further examination of these issues among GP's.

The major points of interest from this survey are outlined below:

Development of Iron Deficiency

GP's were quite good at identifying those groups in the community who are at particular risk of iron deficiency (98.4% identified women of reproductive age, 90.5% identified teenage girls and 65.1% identified athletes). Significant proportions also identified menorrhagia (100%), weight reduction diets (86.4%), alcohol abuse (84.0%), blood donation (80.2%) and poor dentition (76.2%) as factors increasing the risk of iron deficiency.

Diagnosis

89.8% and 82.8% of GP's would order a serum ferritin and full blood count respectively as their initial investigation of iron deficiency. However, 50.0% of GP's incorrectly identified a serum ferritin of 14μg/L as 'probable iron depletion', while only 33.3% identified it correctly as 'iron deficiency'.

Most GPs agreed that iron deficiency was a significant problem among their female patients (83.5%), that diet was a significant factor in the development of this iron deficiency (85.2%), and that their patient's general well-being improve with the restoration of iron status (98.4%).

Treatment
When asked, in an open-ended question, what treatment they would initiate for latent iron deficiency, 75.8% mentioned dietary counseling , while 75% said they would also prescribe iron supplements. Only 2.3% would refer the patient to a Dietitian. 31.3% said that they would also check for secondary bloods loss, while 25% specifically mentioned taking a menstrual history.

Dietary Knowledge
With so many GP's offering dietary advice, it is important to know their level of knowledge with regards to iron in the diet. In general, GP's were aware that flesh foods contained significantly more iron than plant foods, and that this was in a far more absorbable form. They knew that Vitamin C enhanced iron absorption from plant foods, but incorrectly thought that this was the case for flesh foods. They were also unsure about the effect of other enhancers and inhibitors of iron absorption, such as tea coffee, fibre, calcium and meat protein.

4.1.3 Intervention Study
The intervention phase of this study was completed in December 1997 (for details see previous report). Data collection for the six month follow-up will be complete by the end of June 1998.

Attrition
At baseline, 26 iron deficient women were enrolled in each of the diet and supplement intervention groups, and 24 iron replete women were enrolled as controls. During the three month intervention phase of the study, three women from the diet group and one from the supplement group decided to discontinue their involvement. One woman from the diet group moved overseas, another discontinued due to other health complaints, while the third felt that she was gaining weight by following the high iron diet. The woman from the supplement group discontinued due to extreme gastrointestinal symptoms from the iron supplements.

The numbers for each of the three groups (24 control, 23 diet, 25 supplement) remain above the required calculated sample size of 21 per group.

Dietary Analysis
As outlined in the previous report, a Microsoft Excel program was written to allow the calculation of bioavailable dietary iron (BDI) intake using 7-day weighed food records. A paper on the development of this method was presented at the Nutrition Society conference in Brisbane in November 1997. An RMC grant was awarded to allow further development of this program, and work commenced on this in early 1998. The program currently calculates BDI in a far more useable manner, and will be modified further to allow calculation for BDI for varying levels of body iron stores.

Statistical Analysis
Univariate analysis has been performed on pre and initial post test data from the intervention study. From the results of this, a regression model is currently being developed to explain the relationship between iron status and dietary and lifestyle variables

4.2 HEALTH SERVICES UTILISATION

PhD candidate: Anne Young
Supervisors: Professor Annette Dobson; Dr Julie Byles

As detailed in previous reports, the purpose of this sub-study is to identify factors which are important in explaining the use of health services by Australian women. Three sources of data are being used in this sub-study: baseline data from the WHA study, an additional postal survey of almost 5,000 WHA participants which collected information about availability and use of health services (described in the December 1997 report) and thirdly, data from the Health Insurance Commission (HIC) relating to claims for medical services during 1995 and 1996. In accordance with the Privacy Act 1988, individual information held by the HIC can only be released to researchers whose work has been approved by appropriate ethics committees and who have the permission of the people to whom the information relates. Around 19,500 women in the WHA study gave written permission for the release of information.

In December 1997, a file was received from the HIC containing 507,551 records of services provided to 19,397 women in the two year period. In addition, a further 207 women who gave consent had no claims in the period. These records are currently being summarised and linked, for each woman, to the baseline survey data. Summary measures defined from the HIC data include the number of claims in each broad type of service category (eg GP attendance, specialist attendance, pathology), the proportion of services direct billed and several characteristics of general practitioner service use such as the use of multiple practitioners and the proportion of visits to female practitioners. A comparison of these measures of health service use is being made according to the age of the women (young, mid, older) and area of residence (capital city, other metropolitan, large rural centre, small rural centre, other rural, remote).

The question of whether health services are used according to need or not will be studied more fully when the information for each woman is linked. The HIC data provide a measure of patterns of use of health services and the survey data provide measures of health and sociodemographic factors which may influence service use. The additional survey data contain measures of other factors which may predispose or enable women to use health services, such as their ease of access to general practitioners. The importance of these factors in explaining the use of health services will be determined, as well as comparing the relative importance of these factors across the three age groups.

4.3 SOCIAL SUPPORT, HEALTH STATUS AND HEALTH CARE UTILISATION IN WOMEN AGED 70-76

PhD candidate: Brendan Goodger
Supervisor: Dr Julie Byles & Dr Gita Mishra

4.3.1 Background and Progress

Low social support amongst older women has been shown in a numerous overseas studies to have a strong negative impact on the health outcomes of older women. Research in Australia has been limited by, a reliance on cross sectional research designs (with small samples) and difficulties in measurement and identification of those people who are at risk of low social support. A major objective of this substudy is to look at how social support changes over time in Australian older women and to assess how these changes impact on quality of life and health care utilization.

A subsample of two groups of 500 older women who completed the baseline survey in 1996 were selected for further follow up in 1997 and 1998. These two groups of women were selected from the upper and lower quartiles of an index measuring social support. The first follow up in 1997 was very successful with an 84% response rate. The final follow up in this substudy will occur in August this year and this will complete a three-year data collection period. This should be enough time for differences in the levels of social support and health care utilization to become apparent. The data from the follow up survey in 1997 has been cleaned and entered on to a computer with logic checks performed.

4.3.2 The Next Step(s)

Preparation for the last follow up in 1998 is beginning with some extra questions on health care utilization and health status being added to the questionnaire. After this data has been collected and data punched the sample will be checked against records of the Registry of Births, Death and Marriages to assess if there is any relationship between mortality and social support. The results of this longitudinal study will be available next year.

Analysis of the baseline data in relation to social support is well under way and almost completed. These analyses are focussing on determining what constitutes a low social support score for older Australian women and what are the significant factors of association, which contribute to social support. It is planned for these results to be presented at the Australian Association of Gerontology Conference which is to be held in Melbourne this year.

4.4 DISORDERED EATING, PSYCHOLOGICAL STRESS AND COPING IN YOUNG WOMEN

PhD candidate: Kylie Ball
Supervisor: A/Professor Christina Lee

This longitudinal study aims to investigate relationships between psychological stress and disordered eating in a cohort of young women (aged 18-24 years). To date, several smaller substudies have been conducted, including a preliminary analysis of WHA pilot data; three focus groups; and a cross-sectional analysis of WHA baseline data collected from approximately 14,800 young women (described in last report).

Incorporating a five-month period of leave of absence from studies, the two main phases of data collection for this study took place in July 1997 and February 1998. This involved the development of two questionnaires, assessing such factors as psychological stress, coping, body dissatisfaction and disordered eating behaviours and attitudes. The first questionnaire was mailed to 1000 women from the WHA young cohort, 500 of whom had reported engaging in disordered eating at the time of the baseline study ("disordered eating" group) and 500 who had not ("control" group). Questionnaires were completed and returned by 553 women (representing a response rate of approximately 57%, taking into account questionnaires which were returned to sender). Of these women, 258 were from the disordered eating group, and 295 the control group. These women were sent a follow-up questionnaire six months later, and 411 completed and returned this (response rate approximately 75%). Data from both questionnaires have been entered and are currently being analysed. Preliminary analyses have shown some cross-sectional associations between disordered eating and psychological stress. Further analyses of data over three time points (baseline, first and second follow-up) will permit an examination of possible causal relationships between stress, disordered eating, and various possible mediating variables (e.g. coping, body dissatisfaction, dieting history and general psychopathology).

Several substudies of this project have been written up and submitted for publication. These include a literature review, submitted to *Psychology and Health*, and the preliminary analyses of pilot data, submitted to *Women and Health* (accepted subject to revisions).

It is anticipated that the remainder of 1998 will be spent analysing in depth, the data collected from all three questionnaires, focusing particularly on longitudinal analyses, and writing up the findings of these analyses. Findings will also be presented at the International Conference of Behavioural Medicine, to be held in Copenhagen, Denmark, in August 1998. The synthesis of these results with those of the earlier pilot and focus group substudies will be undertaken early in 1999, with the write-up and submission of the final report anticipated to occur in June 1999.

4.5 THE USE AND EFFECTIVENESS OF LEGAL PROTECTION AS A SECONDARY PREVENTION STRATEGY TO REDUCE FREQUENCY AND SEVERITY OF REPEAT DOMESTIC VIOLENCE IN WOMEN'S LIVES

Phd candidate: Margrette Young
Supervisors: Professor Annette Dobson; Dr Julie Byles

4.5.1 Aim

The main aim of this study is to inform policy and practice on the effectiveness of legal protection and other factors in preventing repeated violence by a partner. The research involves a longitudinal study of changes in partner violence following legal protection compared to changes in partner violence in a group of women without legal protection.

The baseline survey for this substudy provides cross-sectional data on characteristics of violence and associated social and health factors and retrospective data on use of legal protection and changes in violence associated with legal protection. The study data will also be analysed to identify factors which might differentiate young women who obtain legal help (either reporting violence to the police or taking out a Protection Order), from those who do not.

The study is supported by a grant of $37,500 from the Criminology Research Council, as well as by the ALSWH and an NHMRC scholarship.

4.5.2 Progress

Two chapters of the Ph.D thesis have been written. They report results presented at the 29th Public Health Association conference in 1997 on the prevalence and incidence of physical aggression in the three age cohorts and the relationships between health and violence.

Legal Issues

Section 316 of the NSW Crimes Act makes it an offence for a person who believes that a serious offence has been committed and that he or she has information that might be of material assistance in securing the apprehension of the offender or prosecution of the offender to fail, without reasonable excuse, to bring the information to the attention of the police or another appropriate authority. The Ethics Committee was concerned that there should be no potential under Section 316 in connection with the study. After some changes, the NSW Legislation was amended and approval was then given to proceed with the survey.

The Survey

The survey is being conducted by NSW Health Survey Programs (a section of NSW Health) using a Computer-Assisted-Telephone-Interview (CATI) system.

The sampling frame comprised 1505 women identified from the 1996 baseline survey of the Women's Health Australia. They met the following criteria - they answered 'yes' to the question "have you ever been in a violent relationship with a partner or spouse?" AND 'yes' to one of a series of questions about being pushed, grabbed, shoved, kicked or hit in the last 12 months, being afraid of someone in the family, someone close to them

having tried to hurt them recently or being very stressed or extremely stressed about their relationship with their boyfriend or partner. Among these women, 112 were excluded from the final sample because material posted to them recently by Women's Health Australia had been returned to sender and we were unable to trace their whereabouts. This left 1393 women of whom 33 were part of the pilot study to test the interview schedule.

Letters were sent to all 1393 women in the sample prior to commencement of interviews, explaining that they would be phoned and invited to answer questions on the social experiences and health of young women. Domestic violence was not referred to in the letter. This was a safeguard in case someone else saw the letter. The letter provided a 1800 number for women to ring if they did not wish to be telephoned.

The questionnaire is made up of closed questions requiring answers of yes/no or a number, so that anyone overhearing does not know what it is about. Developing and testing the CATI interview program took several months.

A pilot study with 33 women from the sample was supplemented by interviews with more than 20 women from other sources including women's refuges, to identify any problems in the interview schedule.

The interviewers employed by NSW Health Survey Programs are all women experienced in using CATI for health and welfare surveys. They received additional training on specific issues in domestic violence.

The survey was conducted during May and data analysis will commence shortly.

We are seeking further funds to do a 12 month follow-up survey of the sample to provide additional data on violence and health outcomes.

5 RESEARCH ACTIVITIES

During the first half of 1998, researchers presented four papers at conferences and have submitted abstracts for six more presentations in 1998. Three papers have been presented at public lectures. Seven papers have been published, seven papers have been accepted and are 'in press', and researchers have also prepared 11 papers for submission to journals for publication. Abstracts of presentations and papers submitted are included here.

5.1 PRESENTATIONS

Title: **IS LIFE A PARTY FOR YOUNG WOMEN IN AUSTRALIA?**

Authors: Wendy Brown and Jean Ball

Name of Conference: Australian Council on Health, Physical Education & Recreation 21st Biennial National/International Conference, Adelaide. January 1998

During 1996, baseline data for the Australian Longitudinal Study on Women's Health (now known as the Women's Health Australia or WHA project) were collected from women in three age groups (18 - 23; 45 - 50; 70 - 75). The project aims to explore how changes in biological, psychological, social and lifestyle factors impact over time on women's physical and emotional health. Participants in the study were randomly selected from the HIC/Medicare data base, and represent women from all walks of life, from every State and Territory of Australia.

This paper will report baseline findings from the young cohort (N=14600), focusing on lifestyle issues which may impact over time on health outcomes. Descriptive data on self-reported lifestyle variables, as well as causes of, and methods of coping with stress, will be included. One third of the cohort are current smokers (mean (± sd) age of starting smoking, 15.4 ± 2.35 years); 17.4% drink 5 or more drinks at least once a week; 27% use condoms to protect against STD's; 29.2% had a BMI <20 kg/m^2 and 40.8% do little or no exercise. Only 1.6% said they were happy with their weight, and more than half the cohort (57%) had (ever) dieted to lose weight. The mean (sd) age when first dieted was 15.4 ± 2.50 years. The most common causes of stress in this group are money, employment and study, and the most common method of coping was talking to a good friend. These cross-sectional data provide insights into the health behaviours of young Australian women, and highlight issues which could be addressed in health education and/or health promotion programs.

Title: **PHYSICAL ACTIVITY, WELL-BEING AND SYMPTOMS AMONG THREE AGE GROUPS OF WOMEN**

Authors: Christina Lee

Name of Conference: Fifth New Zealand Health Psychology Conference, Palmerston North, New Zealand. 18-20 February 1998

Data from Women's Health Australia, a longitudinal survey of the well-being of over 42,000 Australian women, were used to examine the relationship between an index of physical activity and several measures of physical and psychological well-being. Increasing levels of vigour, mental health, and physical well-being, and decreasing levels of back pain, tiredness, and other symptoms, were associated with increasing physical activity in three age groups, although the relationship with body mass index differed across age groups. Although cross-sectional, these data support the argument that any increase in physical activity will be associated with improvements in well-being. The greatest benefits, however, are associated with a shift from minimal to moderate physical activity. Since the majority of women in both Australia and New Zealand have low levels of physical activity, promotion of moderate activity will have a major impact on women's health.

Title: **CURRENT PATTERNS OF ALCOHOL CONSUMPTION AND ALCOHOL-RELATED HARMS FOR WOMEN IN VICTORIA: IMPLICATIONS FOR HARM MINIMISATION**

Authors: Helen Jonas, Cathy Banwell, Annette Dobson & Margaret Hamilton

Name of Conference: Victorian Women's Health Conference, Melbourne, 9 – 10 June 1998

Introduction: In Australia, increasing attention is being focused on the vulnerability of women to long term health problems **associated** with harmful and hazardous drinking, the more immediate harms that may arise from heavy drinking episodes, and the increased rates of alcohol consumption by younger women. This paper will present current information on the drinking patterns of Victorian women, and the associates of drinking with lifestyle, emotional health, stress and life events, hospital admissions and serious casualty road accidents.
Methods: Data were obtained from the Australian Longitudinal Study on Women's Health (ALSWH), where more than 10,000 randomly selected Victorian women in three age groups (18-22 years, N=3729; 45-49 years, N=3293; 70-74 years, N=3221) which explored the place of alcohol in the lives of 525 women residing in an inner-city suburb; the Victorian Inpatient Minimum Database; and Vic Roads.
Results: In the ALSWH study, less than 5% and 1% of the women in all three age groups drank at hazardous and harmful levels. However, "binge drinking" was far more prevalent in the younger women (weekly or more: 19%; monthly or less: 58%) than in the older age groups. The rates of higher risk drinking varied with demographics and lifestyle, and were associated with higher levels of mental and physical health problems; stress and stressful life events. In the Carlton study, 21% of the women were judged to be at risk of having problems associated with their drinking. During the 1995-1996 fiscal

year, there were 4439 female hospital admissions attributable to hazardous/harmful drinking, and 24% of female drivers killed in road accidents had blood alcohol levels >0.05%.
Conclusions: These results reinforce the need for integrated approaches to the prevention and treatment of alcohol-related problems which take into account the impact of social and environmental factors on individual drinking practices and alcohol-related problems.

Title: **THE WOMEN'S HEALTH AUSTRALIA PROJECT AND POLICY DEVELOPMENT**

Authors: Lois Bryson

Name of Conference: Victorian Women's Health Conference, Melbourne, 9 – 10 June 1998

The aims of this presentation are to outline the nature of the Women's Health Australia (WHA) project and discuss some key findings that are of relevance for the development of a Victorian Women's Health Plan. The WHA study is planned to follow for 20 years the health of a national sample of around 42 000 women who in 1996 were in the age cohorts of 18-22, 45-49 and 70-74 years. The study involves a multi-disciplinary team, adopts a social approach to health, and focuses on biological, psychological, social and lifestyle factors and their relationship to women's physical health and emotional well-being, as well as examining the use of, and satisfaction with, health care services.
The base-line survey data indicate important differences between the three age cohorts and these do not always seem to be primarily associated with life course stage. Differences for example are marked in relation to stress, responses to services and attitudes to weight and shape. On each of these issues the young women responses are the most problematic: they experience more stress, are more dissatisfied with services and with their bodies. Contrasting findings for the age groups highlights the fact that here we have three generations born into very different eras, with different cultural experiences and different responses to social life. In turn this diversity is reflected in the health problems, needs and attitudes to health issues of the three age-groups. While some differences will no doubt, over the life of the study be shown to be associated with life course stage, the patterns are sufficiently distinct to suggest that this generational diversity will remain a fundamental issue for policy development. Our data suggest that in dealing with young, mid-aged and older women we must effectively deal with 'three worlds of women's health'.
Of importance for health policy too, are findings about the association of employment and health. This association is generally positive, though some forms of employment are problematic and a lack of access to employment is a key issue particularly for mental health. Not unexpectedly, tensions are evident between employment and family responsibilities, and these too are reflected in measures of mental health. The evidence to date suggests that as employment becomes increasingly normalised for women, the best health outcomes will be achieved through policies which facilitate access to employment and ease the tensions between paid work and family responsibilities.

Title: **PREDICTORS OF BODY DISSATISFACTION AND DISORDERED EATING IN A COMMUNITY SAMPLE OF YOUNG AUSTRALIAN WOMEN**

Authors: Kylie Ball

Name of Conference: 5th International Congress of Behavioural Medicine, Copenhagen, 19 – 22 August 1998

The majority of young women in developed countries are discontented with their bodies, and a significant minority of these women develop serious eating disorders. This paper draws on a large-scale community survey to examine predictors and correlates of body dissatisfaction and of disordered eating.

Data from a nationally representative sample of 12,614 women aged 18-23 years, collected as part of the Women's Health Australia longitudinal survey, demonstrated significant correlations between self-reports of body dissatisfaction and disordered eating, and levels of stress, major life events, and depression. Following this, a sample of 500 women who reported disordered eating and 500 who did not was selected, and these women were surveyed on two occasions six months apart. Analysis demonstrated both cross-sectional and longitudinal relationships between stress, life events, depression, and symptoms of disordered eating.

These findings add to existing evidence, much of which has been based on small samples and has used exclusively cross-sectional designs, suggesting that women at risk of developing eating disorders may be identified and preventive measures taken.

Title: **GYNAECOLOGICAL PROCEDURES AMONG WOMEN IN URBAN, RURAL AND REMOTE AREAS OF AUSTRALIA: A VIEW FROM THE AUSTRALIAN LONGITUDINAL STUDY ON WOMEN'S HEALTH**

Authors: Julie Byles & Gita Mishra

Name of Conference: Royal Women's Hospital 60 Year Anniversary Conference, Brisbane, 10-12 September 1998

The Australian Longitudinal Study on Women's Health (Women's Health Australia) is a national study of factors affecting the health of three cohorts of women (aged 18-23, 45-50l 70-75 years at baseline). One key issue is women's access to and choice of health care. Issues for women in rural and remote areas are of particular interest, and women from these areas have been deliberately over-represented in the study.

Among the 14200 women in the middle cohort, 22% had had a hysterectomy prior to the baseline survey. Hysterectomy was more common among women in rural and remote areas. Women in remote areas were 25% more likely to have had a hysterectomy than women in urban areas, even after adjustment for differences in education level, parity and other health care factors. There was also a strong association between hysterectomy and other gynaecological surgery (Adjusted OR: 6.36; 95% CI: 5.69-7.11).

Follow-up data collected in March 1998 will allow exploration of factors that predispose women to have a hysterectomy including menstrual symptoms, health related quality of life, and health care utilisation. Analysis of the relationship between these factors and women's area of residence will provide a much clearer index of access to gynaecological care for women in all parts of Australia.

Title: **THE AUSTRALIAN LONGITUDINAL STUDY ON WOMEN'S HEALTH**

Authors: Wendy Brown, Annette Dobson, Lois Bryson & Julie Byles

Name of Conference: 30th Annual Conference of the Public Health Association of Australia, Hobart, 13-16 September 1998

This longitudinal study began in 1996 with collection of baseline data from more than 42,000 women in three age cohorts (18-23 (N= 14762); 45-50 (N=14072) and 70-75 years (N=12767). Follow-up surveys are planned for three yearly intervals over the next twenty years, so that over a period of twenty years, we will have data from women aged 18-95 years. The central aim of the study is to identify those factors that promote and those that reduce good health for women, while a primary goal is to direct the findings towards the development of more appropriate and effective health policies for women. This paper will review early progress with the study and results which indicate that social, economic and technological change since the birth of the women in the oldest cohort has resulted in the three groups effectively living their lives within very different social contexts, with distinctive health impacts.

Title: **LEISURE TIME PHYSICAL ACTIVITY IN AUSTRALIAN WOMEN: RELATIONSHIP WITH WELL-BEING AND SYMPTOMS**

Authors: Wendy J Brown, Christina Lee, Gita Mishra & Adrian Bauman

Name of Conference: 30th Annual Conference of the Public Health Association of Australia, Hobart, 13-16 September 1998

Cross-sectional baseline data from the Australian Longitudinal Study on Women's Health (N = 14,762 young women (18-23 years); 14,065 mid-age women (45-50 years), 13,023 older women (70-75 years)) were used to assess associations between a physical activity (PA) score (derived from self reported (mailed survey) vigorous and less vigorous exercise), and indicators of health and well-being.

There were significant positive associations between PA score and SF-36 physical and mental health summary scores in each cohort ($p<0.001$). Odds ratios for reporting a range of symptoms were lower for women who reported low/moderate activity (eg for young women, OR for constipation = 0.76 (CI 0.65-0.89), for mid-age women, OR for tiredness = 0.70 (0.63-0.78), for older women, OR for clumsiness = 0.72 (0.64-0.81)) than for sedentary women. There was no threshold level of PA above which health benefits appeared to increase significantly. The findings suggest that low/moderate levels of exercise are associated with a range of health benefits for women of all ages.

Title: **LEAKING URINE – PREVALENCE AND ASSOCIATED FACTORS IN AUSTRALIAN WOMEN**

Authors: Pauline Chiarelli, Wendy Brown & Patrick McElduff

Name of Conference: 30th Annual Conference of the Public Health Association of Australia, Hobart, 13-16 September 1998

The prevalence of leaking urine and associated variables were examined in three large cohorts of Australian women aged 18- 23 ('young' N= 14761), 45 - 50 ('mid-age' N=14070) and 70 - 75 ('older' N= 12893) years (participants in the Women's Health Australia project). The proportion of women reporting leaking urine was 12.8% (95% CI: 12.2 - 13.3), 36.1% (35.2 - 37.0) and 35% (34.1 - 35.9) in each of the three cohorts respectively. Logistic regression analysis showed significant associations between leaking urine and parity in the young and mid-age women, and between leaking urine and constipation, other bowel symptoms, body mass index and urine that burns or stings, in all three groups. In the mid-age and older cohorts, women who reported having both hysterectomy and prolapse repair, or prolapse repair alone, were also more likely to report leaking urine. Lower scores on the physical and mental component summary scores of the SF36 suggest lower quality of life among women who report leaking urine, compared with those who do not.

Title: **WOMEN AND LEISURE: DOES ALL WORK AND NO PLAY MAKE JILL UNWELL?**

Authors: Peter Brown & Wendy Brown

Name of Conference: World Leisure and Recreation Association Conference, Sao Paulo, Brazil, October 1998.

Leisure time is characterised by liberation from the constraints of employment, domestic work and other social obligations. It affords time and space to relax and recuperate from the stresses and fatigue of daily activities; offers opportunities to express individuality and creativity; and provides an important context for the establishment and maintenance of social networks. It is also an avenue for the promotion of health, through physical activity and the psychological benefits of social leisure activities.

The Australian Longitudinal Study on Women's Health aims to clarify the relationships between biological, psychological, social and lifestyle factors and women's physical health and emotional well-being. Baseline surveys were completed in 1996 by more than 41,000 young, mid-age and older women. Among the mid-age women (45-50 years, N=14,011) one in five felt rushed, pressured or too busy every day, and 38% felt more rushed than five years ago. About half the women said they would like more time for passive (43.7%) and active (51.9%) leisure; while only 2% reported no passive leisure, 15.7% reported no active leisure.

These findings will be reviewed in the context of interrelationships between work and leisure in women's lives and the practical and ideological significance of changes in patterns of labour market involvement on women's leisure and health.

5.2 PUBLIC LECTURES

Title: **WOMEN AND WORK AT THE END OF THE TWENTIETH CENTURY**

Authors: Lois Bryson

Name of Lecture: Inaugural Lecture for Weaving the Social Fabric Public Lecture Series, Institute for Social Research, University of South Australia, 29 April 1998

Work is a central and critical issue in contemporary society. For women the issue is compounded by the complex relationship between paid, market work and unpaid, family work. More than any other issue, the feminist the project of the late twentieth century has been concerned with paid work and the pursuit of equal opportunity for women, though feminists have remained committed to the proper recognition of unpaid family work. The end of the millenium provides an obvious vantage point from which to review the nature of the social fabric which has been woven from the issues of women's work. The lecture will review the resulting fabric, compare it with the past, consider the weaving processes which have produced it, and consider the likely nature of future cloth given political and economic changes which are taking place at the end of the twentieth century.

The increasing absorption, from the 1960s, of women into the paid workforce and associated changes to education, child care and working conditions will be examined. The implications of these changes for gender equality, family, the economy and women's health will be discussed. The issue of unpaid work and how and why it has gradually made its way into a more prominent, though still inadequate, place on the political agenda will also be considered. The most useful ways to understand all the changes and their contribution to more equal citizenship will be raised, by drawing on interpretations by feminist and non-feminist scholars. The lecture will conclude with an analysis of the recent worrying social policy trends, which threaten to seriously unravel this newly woven social fabric. Changes, including those to working conditions, child care, taxation and education, which have the potential to undermine the gains of past decades will be examined. Finally how we might go about preserving (and improving) a more gender equal social fabric will be canvassed.

Title: **THE AUSTRALIAN WELFARE STATE: A CENTURY ON**

Authors: Lois Bryson

Name of Lecture: Centre for Public Policy, University of Melbourne, Public Lecture Series, University of Melbourne, 6 April 1998

The Australian welfare state has undergone a major transformation since 1966 when I (with Faith Thompson) was involved in a community study of a suburb on the outskirts of Melbourne, which we called Newtown. The study was reported in the book *An Australian Newtown: Life and Leadership in a working Class Suburb* (Penguin, 1972). A return visit to the suburb in the 1990s has highlighted the extent of the change that has occurred, with decline of industry, high rates of unemployment and high rates of poverty the pressing issues in the 1990s. The fundamental pillars or principles which underpinned the Australian state at federation were all in place in 1966. By the 1990s these had all been dismantled, apart from states rights, and even this has been modified. Three principles in

particular were fundamental for the regulation of Australia's economy: tariff protection, wage arbitration and state intervention. This will be discussed and it will be shown how changes at the macro level, through processes of globalisation and deregulation of the economy have gradually reshaped these three historic principles of Australian society. A consideration of the history of industry, employment, housing and local social interaction patterns in Newtown illustrates how badly this locality has fared and how there is greater inequality between areas in the Australian welfare state a century on.

Title: **FEMINISM AND THE 'RESTRUCTURING STATE'**

Authors: Lois Bryson

Name of Lecture: The Feminist Health Movement in the 'Restructuring State: Taking Back the Agenda', La Trobe University Seminar/Workshop, 11 June 1998.

The presentation focuses on the way in which processes of economic restructuring and globalisation, embedded in a more conservative political ideology, have produced an environment which is far less friendly to active government intervention than probably at any other time in Australia's history. The significant implications of this change in the social climate for efforts to improve the situation of women in regard to health and other social policies will be discussed. Relevant history of the foundation of the Australian welfare state, forged at the beginning of the century, on the basis of active government intervention, will be examined for its capacity to illuminate today's predicament for feminists. The way in which male trade unionists drew benefits for male workers and their families from state interventions such as wage arbitration and tariff protection, will be considered in the light of later achievements by and for women through state intervention and the activities of femocrats. This will be examined for the lessons to be learned from this history to reorient us to the restructured state and help us address the question: now that enthusiasm for state intervention has waned, where does this leave the feminist health movement?

5.3 PUBLICATIONS

5.3.1 Papers published

Title: **FOOD HABITS OF YOUNG AND MIDDLE-AGED WOMEN LIVING OUTSIDE THE CAPITAL CITIES OF AUSTRALIA**

Authors: Dobson A, Mishra G, Brown W & Reynolds R

Abstract:

Young (18-22 years) and middle-aged (45-49 years) women living in urban and rural areas of New South Wales completed a brief food frequency questionnaire as part of a wider health survey. Urban women in both age groups consumed meat less frequently than women in rural areas and women in the less populated rural areas were more likely to eat green and yellow vegetables and least likely to eat dried beans. Otherwise there were few geographic differences in food habits. Middle-aged women consumed reduced-fat milk, fruit, vegetables, fish and biscuits and cakes significantly more frequently, and

rice, pasta, full-cream milk, fried and take-away food less frequently than younger women. Smokers in both age groups consumed fresh fruit, vegetables and breakfast cereals significantly less frequently than non-smokers, and women with low levels of habitual physical activity consumed fresh fruit and cereals less frequently than more active women. The findings suggest that strategies aimed at changing eating behaviours should be age group specific and targeted specifically for smokers and less active women.

Published: *Australian and New Zealand Journal of Public Health*, 1997; 21(7): 711-715.

Title: **WEIGHT DISSATISFACTION AND DIETING IN RELATION TO UNWANTED CHILDHOOD SEXUAL EXPERIENCES IN A COMMUNITY SAMPLE**

Authors: Kenardy J & Ball K

Abstract:

A study was conducted to examine the relationships among eating pathology, weight dissatisfaction and dieting, and unwanted sexual experiences in childhood. An unselected community sample of 201 young and 268 middle-aged women were administered questionnaires assessing eating behaviours and attitudes, and past and current sexual abuse. Results showed differential relationships among these factors for the two age cohorts: for young women, past sexual abuse predicted weight dissatisfaction, but not dieting or disordered eating behaviours, whereas for middle-aged women, past abuse was predictive of disordered eating, but not dieting or weight dissatisfaction. Current sexual abuse was also found to be predictive of disordered eating for these young women. These findings underscore the complexity of the relationships among unwanted sexual experiences and eating and weight pathology, and suggest that the timing of sexual abuse, and the age of the woman, are important mediating factors.

Published: *Journal of Psychosomatic Research*, 1998; 44(3/4): 327-337.

Title: **WOMEN'S SATISFACTION WITH GENERAL PRACTICE CONSULTATIONS**

Authors: Young AF, Byles JE & Dobson AJ

Abstract:

Objective: To describe the levels of satisfaction with general practice services among Australian women.
Design: Cross-sectional postal questionnaire conducted during April to September 1996, forming the baseline survey of the Australian Longitudinal Study on Women's Health.
Participants: A representative national random sample of women aged 18-22 (n=14,788), 45-49 (n=14,122) and 70-74 (n=12,540) years, selected from the Health Insurance Commission (Medicare) data base, with oversampling of women from rural and remote areas of Australia.
Outcome measures: Frequency of use of health services, satisfaction with the last visit to a general practitioner (GP), prevalence of symptoms, preference for a female doctor.
Results: Levels of satisfaction with most aspects of the last visit to a general practitioner were very high, with increasing levels of satisfaction with increasing age. The visit overall was rated as good, very good or excellent by more than 80% of women. Satisfaction was lower for the length of time in the waiting room and the cost of the visit.

One third of the young and middle aged women living in rural and remote areas rated the cost of the visit as fair or poor. Young women were more likely to prefer a female doctor. The most prevalent symptoms included headaches and tiredness and many women were not satisfied with the health services available to help them deal with these symptoms.
Conclusions: Australian women are reporting high levels of satisfaction with GP consultations. However, more effective strategies to improve communication with younger women may be needed. There is an unmet need for services to help women deal with common symptoms. The dissatisfaction with the cost of services and the women's preference for female doctors have clear implications for future health policy.

Published: *Medical Journal of Australia*, 1998, 168: 386-389..

Title: **DEVELOPMENT, PREVENTION AND TREATMENT OF IRON DEFICIENCY IN WOMEN**

Authors: Patterson AJ, Brown WJ & Roberts DCK

Abstract:

Iron deficiency is the most common nutritional deficiency in the world. Women of childbearing age are at particular risk of developing iron deficiency due to the iron losses associated with menstruation and childbirth. Women in less developed countries are often unable to obtain adequate dietary iron for their needs due to poor food supplies and inadequate bioavailable iron. In this situation, fortification and supplementation of the diet with extra iron is a reasonable approach to the prevention and treatment of iron deficiency. In Western countries however, food supply is unlikely to be an issue in the development of iron deficiency, yet studies have shown that many women in these countries receive inadequate dietary iron. Research has shown that the form of iron and the role of enhancers and inhibitors of iron absorption may be more important than total iron intake in determining iron status. Despite this, very little research attention has been paid to the role of diet in the prevention and treatment of iron deficiency. Dietary modification would appear to be a viable option for the prevention and treatment of iron deficiency in Western women, especially if the effects of enhancers/inhibitors of absorption are considered. While dietary modification has the potential to address at least part of the cause of iron deficiency in women of childbearing age, its efficacy is yet to be proven.

Published: *Nutrition Research*, 1998; 18(3): 489-502.

Title: **WOMEN'S HEALTH AUSTRALIA: A HEALTH PROFILE OF MID-LIFE RURAL WOMEN**

Authors: Brown W, Young A and Byles J

Abstract:

More than 14,000 women aged 45-50 from every state and territory are participating in the Australian Longitudinal Study on Women's Health. This study is designed to track the health of Australian women for 20 years, and to understand lifestyle and health care factors that influence women's health. The study deliberately over-represents women from rural (N = 7955) and remote areas (N = 954). This early analysis of baseline data provided by the women compares responses for urban, rural and remote area women. The data show that while rural and remote women in this age group have similar levels of

self-rated health, they have significantly fewer visits to general practitioners and specialists ($p<0.001$) and more visits to alternative health care providers. Rural and remote women were also more likely to undergo gynaecological surgery than women living in urban areas ($p<0.001$). Other results suggest that drinking and overweight are more common among rural and remote women. In the main however, the results reflect the strength and independence of rural and remote women. Further follow-up will allow divergence in health and health care equity to be explored as these women move into their older years.

Published: *Rural Public Health in Australia. Canberra: National Rural Health Alliance, 1998.*

Title: **NORMS FOR THE PHYSICAL AND MENTAL HEALTH COMPONENT SUMMARY SCORES OF THE SF-36 FOR YOUNG, MIDDLE AND OLDER AUSTRALIAN WOMEN**

Authors: Mishra G & Schofield MJ

Abstract:

The SF-36 was developed in the US to provide an eight scale health profile and two component summary scores representing physical and mental health. The published norms and scoring procedures are based on data from the US general population. The Australian Longitudinal Study on Women's Health (Women's Health Australia) undertook a survey in 1996 of over 40,000 Australian women in three age groups: 18-22, 45-49, and 70-74 years and provided age and gender specific norms for the SF-36 health profile. From this data, factor weights and factor score coefficients were calculated for these age and gender specific populations of Australian women. Thus, component summary scores for physical and mental health can now be calculated using formula standardised to the relevant Australian population. This will facilitate interpretation of the physical and mental health component summary scores in the Australian context and will allow more meaningful comparisons within the young, middle-aged and older cohorts of Australian women in the Australian Longitudinal Study on Women's Health.

Published: *Quality of Life Research*, 1998; 7(3): 215-220.

Title: **WOMEN'S HEALTH IN RURAL AUSTRALIA: TOWARDS 2000**

Authors: Bryson L & Warner-Smith P

Abstract:

While the factors affecting women in rural and remote areas are recognised as often different from those which affect women in urban Australia, this factor is not consistently studied, nor are the intricate and varied processes which are involved for women of different ages in `juggling' their time. Data from the first stage of the Women's Health Australia longitudinal study provide a valuable opportunity to explore the links between these factors and health. Data on health, time use, age and urban/rural/remote location comes from a sample of over 40,000 women in three age groups, 18-22 years, 45-49 and 70-74, randomly drawn from all over Australia, but with deliberate over-representation of women from non-metropolitan areas. Data about actual time use (paid/unpaid work/study, family responsibilities, leisure) and self assessed feelings about time pressures are examined for their links to other health indicators. These include: self-

assessed health status, measures of current health (eg symptoms, medical conditions) and health history (eg past illnesses, health services usage).
By linking patterns of time use with health data against the background of geographical location, the analysis has the capacity to cast light on social issues which are of specific interest for women residing in rural and remote Australia, and to contribute to policy debates about appropriate responses to the reality of rural/remote women's lives and their health concerns.

Published: *Proceedings of Australian Rural Women Towards 2000 (edited by Robert Doyle – Centre for Rural Social Research, Charles Sturt University)*, 1998.

5.3.2 Papers accepted

Title: **WHAT IS A HEALTHY WEIGHT RANGE FOR MIDDLE AGED WOMEN?**

Authors: Brown WJ, Dobson AJ & Mishra G

Abstract:

Objective: To explore associations between body mass index (BMI) and selected indicators of health and well-being and to suggest a healthy weight range (based on BMI) for middle aged Australian women.
Design: Population based longitudinal study (cross-sectional baseline data).
Subjects: 13,431 women aged 45-49 who participated in the baseline survey for the Australian Longitudinal Study on Women's Health.
Results: Forty eight percent of women had a BMI>25 kg/m^2. Prevalence of medical problems (eg hypertension, diabetes), surgical procedures (cholecystectomy, hysterectomy) and symptoms (eg back pain) increased monotonically with BMI, while indicators of health care use (eg visits to doctors) showed a 'J' shaped relationship with BMI. Scores for several sub-scales of the MOS short form health survey (SF36) (eg general health, role emotional, social function, mental health and vitality) were optimal when BMI was around 19-24 kg/m^2. After adjustment for area of residence, education, smoking, exercise and menopausal status, low BMI was associated with fewer physical health problems than mid-level or higher BMI, and the nationally recommended BMI range of 20 – 25 was associated with optimum mental health, lower prevalence of tiredness and lowest use of health services.
Conclusions: Acknowledging the limitations of the cross-sectional nature of these data, the results firmly support the benefits of leanness in terms of reducing the risk of cardiovascular disease, diabetes and gall bladder disease. The findings are moderated however by the observation that both low and high BMI are associated with decreased vitality and poorer mental health. The optimal range for BMI appears to be about 19 - 24 kg/m^2. From a public health perspective this study provides strong support for the recommended BMI range of 20 - 25 as an appropriate target for the promotion of healthy weight for middle aged Australian women.

Accepted: *International Journal of Obesity*, 1998.

Title: **WOMEN'S HEALTH AUSTRALIA: RECRUITMENT FOR A NATIONAL LONGITUDINAL COHORT STUDY**

Authors: Brown WJ, Bryson L, Byles JE, Dobson AJ, Lee C, Mishra G & Schofield M

Abstract:

The Women's Health Australia (WHA) project is a longitudinal study of several cohorts of Australian women, which aims to examine the relationships between biological, psychological, social and lifestyle factors and women's physical health, emotional well-being, and their use of and satisfaction with health care. Using the Medicare database as a sampling frame (with oversampling of women from rural and remote areas), 106,000 women in the three age groups 18-22, 45-49 and 70-74 were sent an invitation to participate and a 24 page self-complete questionnaire. Reminder letters, a nation-wide publicity campaign, information brochures, a freecall number for inquiries, and the option of completing the questionnaire by telephone in English or in the respondent's own language, were used to encourage participation. Statutory regulations precluded telephone follow-up of non-respondents. Response rates were 41% (N=14,792), 54% (N=14,200) and 36% (N=12,614) for the three age groups. Comparison with Australian census data indicated that the samples are reasonably representative of Australian women in these age groups, except for a somewhat higher representation of women who are married or in a defacto relationship, and of women with post-school education. The most common reason for non-participation was lack of interest or time. Personal circumstances, objections to the questionnaire or specific items in it, and concerns about confidentiality were the other main reasons. Recruitment of three representative age-group cohorts of women, and the maintenance of these cohorts over a number of years, will provide a valuable opportunity to examine associations over time between aspects of women's lives and their physical and emotional health and well-being.

Accepted: *Women and Health*, 1998; 28(2):

Title: **LEAKING URINE IN AUSTRALIAN WOMEN: PREVALENCE, PROBLEMS AND PREVENTION**

Authors: Chiarelli P & Brown W

Abstract:

Objective: The paper aims to explore associations between leaking urine and a variety of other symptoms, conditions, surgical procedures and life events in three large cohorts of Australian women, who are participants in the Australian Longitudinal Study on Women's Health.

Participants: Young women aged 18-23 (N=13,754), mid-age women, 45-50 (N=13,738) and older women, 70-75 (N=11,444), were recruited randomly from the national HIC/Medicare database.

Findings: Leaking urine was reported by approximately one in eight young women [estimated prevalence 12.8% (95% CI: 12.2-13.3)] and one in three mid-age women [36.1% (CI: 35.2-37.0)] and older women [35.0% (CI: 34.1-35.9)]. Leaking urine was significantly associated with parity, conditions which increase the pressure on the pelvic floor such as constipation and obesity, past gynecological surgery and conditions which can impact on bladder control. The study showed that fewer than half the women had

sought help for the problem and that younger women were less likely to be satisfied with the help available for this problem.
Conclusions: Strategies for continence promotion, including opportunistic raising of the issue at the time of cervical screening and pregnancy care are suggested, so that the health and social outcomes of untreated chronic incontinence in women might be improved.

Accepted: *Women and Health*, 1998

Title: **YOUNG WOMEN AND SAFE SEX: TRANSITIONS IN CONTRACEPTIVE CHOICE**

Authors: Strazzari S, Bryson L & Brown W

Abstract:

The Australian Longitudinal Study on Women's Health research into women's patterns of contraceptive use and adoption of safe sex practices, shows a continuation of the trends evident from recent research. For middle aged women, there is a reliance on sterilization. The OCP remains the most common form of contraception chosen by young women, but use of condoms appears to have increased markedly since the 1980s, and a significant minority of young women is now using *both* the OCP and the condom. Like other research, this study demonstrates that choices of contraceptive and safe sex techniques are linked to life course stage. Choice between the OCP and condom has symbolic meaning with condoms more associated with early sexual activity and casual relationships. Adoption of the OCP often marks a transition to a more committed partnership and is most used by those in married or defacto relationships (66%). Those using both the OCP and condoms are most likely to be single and living on their own or with friends. The dominance of the OCP in an environment which stresses the risks of STDs, however raises the power of symbolic meanings associated with forms of contraception and safe sex practice, and issues of gender and control. Young women in casual relationships are able to opt for condoms, but this choice is far less frequent once the transition to a steady relationship has been made.

Accepted: *Women and Health*, 1998

Title: **FOR RICHER, FOR POORER, IN SICKNESS AND IN HEALTH: OLDER WIDOWED WOMEN'S HEALTH, RELATIONSHIPS AND FINANCIAL SECURITY**.

Authors: Byles JE, Feldman S & Mishra G

Abstract:

Aim: To provide a profile of widowed older women, to highlight the health and social needs of these women in the short and long term, and to contrast these with needs of ageing women in general
Method: 12,624 women aged 70-74 years across Australia completed baseline questionnaires for the Australian Longitudinal Study on Women's Health. 34.5% of the women were widowed, and 13.5% of these widowed women had lost their spouse within the past 12 months. The self-reported health, health care use, financial security, social support and quality of life profiles of these two groups of widows were compared with those of married women of the same age.

Results: *Health and health-related quality of life* - Compared to married women, women widowed in the past 12 months had the lower self-rated health and were more likely to report they were stressed about their health. Recently widowed women also scored significantly lower than married women on all 8 sub-scales of the SF-36. However sub-scales scores for women widowed longer than 12 months were no different from the scores for married women. Recently widowed women were also more likely to be taking medication for 'nerves' (28% reported use of these medications) and 'medication to help you sleep' (25% reported use) than other women. *Financial and structural issues* - Women who reported difficulty managing on their income were more likely to be widowed than women who said managing was "not too bad" or "easy"; women with health insurance were less likely to be widows than women who had no health insurance. These associations held for women widowed in the last 12 months and women widowed for more than 12 months. *Relationships* - Women were more likely to say they make their own decisions about their life if they were widowed than if they were married. However, stress with relationships with children or other family members was more likely to be reported by widows than other women and women who would like less time alone were also more likely to be widowed than married. Scores on the Dukes Social Support Instrument did not vary according to marital status and showed generally high levels of support for most women.
Conclusions: This study identifies women widowed in the last 12 months as having particular physical and mental health needs as well as financial and practical needs relating to managing on their income. These findings provide a framework for exploring the short and longer-term needs of women who are widows within the longitudinal study. More immediately, comments provided by the women provide further insights for the provision of appropriate health care and community support.

Accepted: *Women and Health*, 1998

Title: **PSYCHOLOGICAL STRESS AND DISORDERED EATING: AN EXPLORATORY STUDY WITH YOUNG AUSTRALIAN WOMEN**

Authors: Ball K, Lee C & Brown W

Abstract:

An exploratory study was conducted to examine whether the relationships between psychological stress and disordered eating, reported in many studies using American samples, would be found in a sample of young Australian women. A total of 212 women aged 18-22 years completed a questionnaire assessing a number of women's health issues, including life event stress levels, psychological distress, disordered eating behaviours, and concerns about weight and eating. While results showed few strong relationships between stress and eating variables for the sample overall, those women with high psychological stress levels appeared to be more likely to engage in disordered eating behaviours than women with low levels of stress. Results suggest that further investigation, targeting subgroups of women scoring highly on measures of psychological stress or disordered eating, may help clarify our understanding of the relationships between these factors in young Australian women.

Accepted: *Women and Health*, 1998

Title: **CHOICE OF GP: WHO DO YOUNG RURAL WOMEN PREFER?**

Authors: Bryson L and Warner Smith P

Abstract:

The demand for female medical practitioners by women in rural areas appears to be increasing and to be generational in character. However, the distribution of general practitioners in country Australia is heavily weighted to older men, and access to a women's health centre also decreases with distance from the metropolitan areas. Data from the Australian Longitudinal Study of Women's Health indicate that young women are significantly more likely than middle-aged or older women to prefer to see a female doctor. It is argued here that it is the 'culture of practice' exhibited by female doctors which young women find attractive, rather than an essentialising appeal of the gender of the practitioner. The findings suggest that restricted access to female practitioners may affect health outcomes if young rural women are reluctant to seek medical services provided by male doctors practising in traditional mode.

Accepted: *The Australian Journal of Rural Health,* 1998

5.3.3 Papers submitted

Title: **"IS ANYBODY LISTENING?": THE EXPERIENCES OF WIDOWHOOD FOR OLDER AUSTRALIAN WOMEN**

Authors: Feldman S, Byles J & Beaumont R

Abstract:

This paper discusses preliminary findings from a sample of women participants in The Australian Longitudinal Study on Women's Health who report their marital status as widowed. A total of 4355 widowed women, aged 70-74 years, completed a self-administered 260 item questionnaire and provided additional qualitative comments about their health, social and financial circumstances after the death of their spouse. This paper presents a thematic analysis of the qualitative comments and builds on the findings of the quantitative analysis of base-line data. The aims of this study are to examine the short and long term effects of widowhood on the health and wellbeing of older women and to explore the process of change that they experience after the death of a spouse. Preliminary findings suggest that, as a key life event, widowhood has an initial negative impact on the health and wellbeing of older women, but in the long term it may be accompanied by a positive shift into a new life phase.

Submitted: *Research on Aging, 1998.*

Title: **RISK OF MULTIPLE PRIOR MISCARRIAGES AMONG MIDDLE AGED WOMEN WHO SMOKE**

Authors: Schofield M, Mishra G & Dobson A

Abstract:

This paper presents retrospective self-reported data from the baseline survey of the Women's Health Australia (WHA) project on the relationship between smoking and history of miscarriages among 14,200 women aged 45 to 49 years at the time of the survey. The sample frame was the database of the national health insurance system. Participants were randomly selected, with over-sampling from rural and remote areas, and are broadly representative of Australian women in this age group. Polytomous logistic regression analyses were used to test the hypotheses that current smoking status and age of starting to smoke are associated with the number of miscarriages reported. There was a strong positive relationship between smoking status and number of reported miscarriages. Ex-smokers were 1.25 times more likely to have had two or more miscarriages, light smokers (1-19 cigarettes per day) were 1.39 times more likely, and women who smoked 20 or more per day were 1.78 times more likely compared with never smokers. A strong inverse relationship was also found between age of starting to smoke and history of miscarriages. The findings provide strong evidence of a link between smoking and history of miscarriages and suggest that new initiatives are needed to prevent smoking among women of childbearing age.

Submitted: *Proceedings of the World Conference on Tobacco or Health, 1997*

Title: **RISK OF EARLY MENOPAUSE AMONG AUSTRALIAN WOMEN WHO SMOKE**

Authors: Schofield M, Mishra G & Dobson A

Abstract:

This paper examines the relationship between smoking status and self-reported natural menopause among 14,200 women aged 45 to 49 years in the Australian Longitudinal Study on Women's Health. The sample frame was the database of the national health insurance system. Participants were randomly selected, with over-sampling from rural and remote areas and are broadly representative of Australian women in this age group. Polychotomous logistic regression analyses were used to estimate the association between current smoking status and early menopause and peri-menopausal status after adjustment for of potentially confounding factors. Light smokers (1-19 cigarettes per day) were 1.48 times more likely to be peri-menopausal, and women who smoked 20 or more per day were 1.74 times more likely to be peri-menopausal compared with never smokers. Both light and heavier smokers were 1.8 times more likely to report post-menopausal status than never smokers. For ex-smokers the risk of earlier onset of menopause declines rapidly after quitting. The results extend earlier evidence of a link between smoking and early menopause by estimating the effects of quitting and by controlling for a wide range of potential confounders.

Submitted: *Proceedings of the World Conference on Tobacco or Health, 1997*

Title: **CIGARETTE SMOKING, MENSTRUAL SYMPTOMS AND MISCARRIAGE AMONG YOUNG WOMEN**

Authors: Mishra G, Dobson A & Schofield M

Abstract:

Objective: To examine associations between cigarette smoking and menstrual symptoms and miscarriage among young women.
Design: Cross-sectional data from a population based longitudinal study.
Setting: Australia wide, 1996.
Subjects: 14,780 women aged 18-23 years who participated in the mailed baseline survey for the Australian Longitudinal Study on Women's Health.
Main outcome measure: Self reported menstrual symptoms and miscarriages.
Results: Current smokers and ex-smokers had an increased risk of menstrual symptoms and miscarriages compared with women who had never smoked; with the highest risk occurring in heavy smokers (adjusted odds ratios for those smoking ≥ 20 cigarettes per day): premenstrual tension 1.43 (95% confidence interval 1.27 to 1.60), irregular periods 1.31 (1.15 to 1.50), heavy periods 1.47 (1.28 to 1.69), severe period pain 1.39 (1.23 to 1.56), one or more miscarriages 4.27 (2.79 to 6.53). The risk of miscarriage for women who smoked compared with those who had never smoked was greater the earlier they started to smoke. The relative risk for most of the menstrual symptoms was the greatest for women who had started to smoke by the age of 13.
Conclusion: This study provides clear evidence that young women who smoke are at higher risk of a range of menstrual problems and miscarriage than those who have never smoked. The immediacy of this risk (in contrast to the longer term risks of chronic disease) can be used to improve the relevance of anti-smoking campaigns targeted to young women.

Submitted: *International Journal of Epidemiology*, 1998.

Title: **CONSTIPATION IN AUSTRALIAN WOMEN: PREVALENCE AND ASSOCIATED FACTORS**

Authors: Chiarelli P, Brown W & McElduff P

Abstract:

Background*:* The Australian Longitudinal Study on Women's Health (the Women's Health Australia or 'WHA' project) is a large scale national study of factors which affect the health of women. Baseline surveys, conducted in 1996, explored a range of physical, social, behavioural and environmental factors which impact on the health of women. This paper presents cross-sectional data relating to self report of constipation and factors which may have a long-term impact on pelvic floor function.
Objective: To establish the prevalence of constipation, haemorrhoids and associated factors, in three large cohorts of Australian women.
Design: Cross-sectional baseline data from a prospective longitudinal cohort study.
Subjects: 14762 young women aged 18-23 years; 14200 mid-age women (45-50 years); 12893 older women (70-75 years).
Measures*:* Self report (by mailed survey) of symptoms, procedures, medication use and socio-demographic characteristics.
Results: The prevalence of constipation was estimated to be 14.1% (CI: 13.5-14.7), 26.6% (CI: 25.9-27.4) and 27.7% (CI: 26.9-28.5) in the young, mid-age and older women

respectively, while the prevalence of haemorrhoids was 3.2% (CI: 2.9-3.4; young), 17.7% (CI: 17.1-18.4; mid-age) and 18.3% (CI: 17.6-19.0; older). Significant associations were found between constipation and haemorrhoids and other bowel problems in all three groups. In the mid-age and older women, those who reported gynaecological surgery were between 18 and 63% more likely to report constipation, while in the younger cohort women with one or two children were also more likely to report constipation (adjusted OR 1.43-1.46). Use of HRT (mid-age women, OR=1.26; CI: 1.12-1.42) and medication for 'nerves' (older women, OR=1.47; CI: 1.26-1.70) or sleeping difficulties (older women OR=1.88; CI: 1.66-2.12) was also associated with increased reports of constipation. One third of the young women and half of the mid-age and older women had sought help for constipation, and the majority indicated that they were satisfied with the help available to them.

Conclusions: Constipation is a common problem for Australian women. As all of the factors associated with constipation are also associated with pelvic floor function, the results suggest that women may benefit from preventive strategies which include pelvic floor conditioning exercises.

Submitted: *Journal of General Internal Medicine, 1998.*

Title: **SCREENING FOR CERVICAL CANCER: HEALTH CARE, ISOLATION AND SOCIAL SUPPORT**

Authors: Harris MA, Byles JE, Mishra G & Brown WJ

Abstract:

Issue addressed: This research explores associations between participation in cervical cancer screening and health care use, geographical isolation and social support in middle-aged women.

Method: Women aged 45-50 years, randomly selected from the Australian Health Insurance Commission Medicare data base, were surveyed by mailed questionnaire. These women were participants in the Australian Longitudinal Study on Women's Health (Women's Health Australia project).

Results: 81.4% (n=8791) of women were screened. Women with lower education and occupational status, non English speaking women and indigenous women were least likely to be screened ($p<0.001$). Rural women were more likely to be overdue for screening. There were significant associations between screening and the number of visits to the general practitioner, convenience of location of the general practitioner, preference for a female provider and use of oral contraceptives or hormone replacement therapy ($p<0.001$). Post menopausal women were less likely to be screened ($p<0.001$). Social support was a highly significant factor related to screening ($p<0.001$).

Conclusions: The promotion of stronger social networks may enhance participation in cervical cancer screening. Further exploration of the importance of social support as a facilitator of screening is warranted.

So what: Greater insight into the role of social support in cervical screening may open new avenues for promoting cervical screening among all women.

Submitted: *Health Promotion Journal of Australia, 1998.*

Title: **IS LIFE A PARTY FOR YOUNG WOMEN?**

Authors: Brown WJ, Ball K & Powers J

Abstract:

Baseline data for the Australian Longitudinal Study on Women's Health (now known as the Women's Health Australia or WHA project) were collected from women in three age groups (18 - 23; 45 - 50; 70 - 75) in 1996. The project aims to explore how changes in biological, psychological, social and lifestyle factors impact over time on women's physical and emotional health. Participants in the study were randomly selected from the HIC/Medicare data base, and represent women from all walks of life, from every State and Territory of Australia.

This paper focuses on lifestyle variables, as well as causes of, and methods of coping with stress, in the young cohort (N=14600). The most common causes of stress in this group were money, study and work/employment issues, and the most common method of coping was talking to a good friend. Almost 20% of the cohort reported eating (more or less) as a method of coping with stress, and 17% reported using exercise as a stress reduction strategy. One third of the cohort were current smokers and almost one fifth reported binge drinking (more than five drinks) at least weekly.

More than 60% of the sample reported more than one health 'risk' characteristic and multiple risks were associated with decreased physical and mental health scores on the SF-36. Mental health scores were very low for women who reported unhealthy eating practices and high levels of stress, and for women who reported three or more risk characteristics (33% of the cohort).

The data provide insight into levels of stress and strategies for coping with stress in young women. Associations between high stress levels, poorer mental health and multiple risk behaviours suggest that life is not a party for many young women in the transition between adolescence and adulthood. The findings, which will be the focus of future work in this longitudinal study, have implications for health education and health promotion programs for young women.

Submitted: *ACHPER Healthy Lifestyles Journal, 1998.*

Title: **WOMEN DRIVERS' BEHAVIOUR, SOCIO-DEMOGRAPHIC CHARACTERISTICS AND ACCIDENTS**

Authors: Dobson AJ, Brown WJ, Ball J & McFadden M

Abstract:

The purpose of this study was to examine factors which affect driving behaviour and accident rates in women in Australia. Two groups of women (18-23 and 45-50 years) participating in the Australian Longitudinal Study on Women's Health, completed a mailed questionnaire on driver behaviour and road accidents. Self reported accident rates in the last 3 years were 1.87 per 100,000km for the young drivers (n=1204) and 0.59 per 100,000km for the mid-age drivers (n=1565); most accidents involved damage only, not injury. Mean scores for lapses obtained using the Driver Behaviour Questionnaire, were similar in the two age groups and similar to those found in other studies. In contrast, scores for errors and violations for the young women were higher than for the mid-age group and previous reports using the same instruments.

The young women were particularly impatient and their driver behaviour scores were associated with stress and habitual alcohol consumption. In the mid-age group, poorer

driver behaviour scores were related to feeling rushed, higher habitual alcohol consumption, higher levels of education and lower life satisfaction scores. Accident rates in both groups were significantly related to lapses. Women born in non-English speaking countries had double the risk of accidents compared to Australian-born women: relative risk = 2.07, 95% confidence interval (1.47, 2.93) for the young drivers; relative risk = 1.95, 95% confidence interval (1.38, 2.77) for mid-age drivers.
These findings support the need for road safety campaigns targeted at young women to reduce dangerous driving practices, such as speeding, 'tail gating' and overtaking on the inside. There is also a need for further research to understand how lifestyle characteristics are associated with higher risk of accidents, and to explore factors which might account for the higher risk for women drivers who are born overseas.

Submitted: *Accident Analysis and Prevention, 1998.*

Title: **WEIGHT, SHAPE AND DIETING IN YOUNG WOMEN**

Authors: Kenardy J, Brown WJ & Vogt E

Abstract:

This paper examines the prevalence of dieting behaviours and correlates with physical and mental health in young Australian women who are participants in the Australian Longitudinal Study of Women's Health. 14,686 women aged 18-23, randomly selected from the National Medicare data-base, with over-sampling from rural and remote areas, responded to a questionnaire seeking dieting and health information. The results showed that while 66.5% of the women had a BMI within the healthy weight range (18- <25 kg/m2), only 21.6% of these women were happy with their weight and almost half (46%) had dieted to lose weight in the last year (also one in five who had a BMI <18.5 kg/ m^2). Both higher frequency of dieting and earlier dieting onset were associated with poorer mental health (including depression), more disordered eating (bingeing and purging), weight cycling, weight and shape dissatisfaction and more frequent general health problems. The results suggest that there is a need for programmes which will enhance self esteem and weight/shape acceptance and promote more appropriate strategies for maintenance of healthy weight.

Submitted: *Health Psychology*, 1998.

Title: **LEISURE TIME PHYSICAL ACTIVITY IN AUSTRALIAN WOMEN: RELATIONSHIP WITH WELL-BEING AND SYMPTOMS**

Authors: Brown WJ, Lee C, Mishra G & Bauman A

Abstract:

Context: The Australian Longitudinal Study on Women's Health (the Women's Health Australia or 'WHA' project). The study aims to determine the factors which promote and those which prevent good health for women.
Objective: To explore the hypothesis that exercise at a level which equates with moderate physical activity on most days of the week, will be associated with health benefits in terms of well-being and symptoms.
Design*:* Cross-sectional baseline data from a prospective longitudinal cohort study.
Setting*:* Baseline surveys of three cohorts of women, conducted in 1996.

Participants: 14,762 young women (18-23 years), 14,065 mid-age women (45-50 years), 13,023 older women (70-75 years), selected randomly from the national health insurance database.
Main outcome measures: Self reported (by mailed survey) vigorous and less vigorous exercise, used to determine a physical activity (PA) score, health and well-being (physical and mental component summary scores of the SF-36 (PCS and MCS)), symptoms (eg tiredness, back pain, constipation, menstrual symptoms, stiff joints, clumsiness) and medical conditions (hypertension, osteoporosis).
Results: There were significant associations between PA score and PCS and MCS in each cohort ($p<0.001$). Odds ratios for reporting a range of symptoms were lower for women who reported low/moderate activity (eg for young women, OR for constipation = 0.76 (CI 0.65-0.89), for mid-age women, OR for tiredness = 0.70 (0.63-0.78), for older women, OR for clumsiness = 0.72 (0.64-0.81) than for sedentary women. There was no threshold level of PA at which health benefits appeared to increase significantly.
Conclusions: The findings suggest that low/moderate levels of exercise are associated with a range of health benefits for women of all ages. These preliminary findings will be followed up during the course of the longitudinal study.

Submitted: *Journal of the American Medical Association, 1998.*

Title: **LEAKING URINE – PREVALENCE AND ASSOCIATED FACTORS IN AUSTRALIAN WOMEN**

Authors: Chiarelli P, Brown WJ & McElduff P

Abstract:

The Women's Health Australia project provided the opportunity to examine the prevalence of leaking urine and associated variables in three large cohorts of Australian women aged 18- 23 ('young' N= 14761), 45 - 50 ('mid-age' N=14070) and 70 - 75 ('older' N= 12893) years. The proportion of women reporting leaking urine was 12.8% (95% CI: 12.2 - 13.3), 36.1% (35.2 - 37.0) and 35% (34.1 - 35.9) in each of the three cohorts respectively. Logistic regression analysis showed significant associations between leaking urine and parity in the young and mid-age women, and between leaking urine and constipation, other bowel symptoms, body mass index and urine that burns or stings, in all three groups. In the mid-age and older cohorts, women who reported having both hysterectomy and prolapse repair, or prolapse repair alone, were also more likely to report leaking urine. Lower scores on the physical and mental component summary scores of the SF-36 suggest lower quality of life among women who report leaking urine, compared with those who do not.

Submitted: *Neurourology and Urodynamics, 1998.*

6 NATIONAL ADVISORY COMMITTEE

The main outcome of the last meeting of the National Advisory Committee in December 1997, was to suggest potential sources of funding from other divisions within the Department. As the outcome of review is not yet finalised, and the process of negotiating funding from different divisions is ongoing, we felt it was inappropriate to convene a meeting of the NAC during the last six months.

Two letters have been sent to the Committee members to keep them informed of the review process (see Appendix 2).

7 COMMUNICATION WITH PARTICIPANTS

The main communication in this period has been in connection with tracking all women whose newsletter mail (December 1997) was 'returned to sender' and with tracking non-respondents to the mid follow-up and nested sub-studies.