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Acknowledgement: WACPRU is indebted to the management and staff of Cancer Council WA for their many contributions to the outputs listed in this report. A special thank you to Ashleigh Parnell for managing the preparation of this report.

Photography of WACPRU staff courtesy of Dr Nadine Henley.
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Introduction

This report describes the various projects undertaken by the WA Cancer Prevention Research Unit (WACPRU) in collaboration with Cancer Council WA and a range of other organisations and individuals during 2017. This document serves as both a reporting requirement and a notification to stakeholders of the Unit’s activities. We look forward to building on existing relationships and extending WACPRU’s research networks in 2018.

Research productivity in 2017 can be summarised as follows:

- 37 journal articles were published or in press
- 18 manuscripts remain under review at journals
- 33 research reports were produced
- 7 WACPRU-led applications for grant funding were submitted, four of which were successful
- 6 external research consultancies were undertaken
- 15 invited presentations were delivered
- 38 presentations were delivered at conferences
- 6 PhD students were supervised
- 3 health advocacy submissions were submitted
- 77 instances of media coverage were recorded, reaching an estimated 2,352,512 audience members

About WACPRU

WACPRU was established on 1st September, 2014. As per contractual arrangements between Curtin University and Cancer Council WA, the aim of WACPRU is to:

*Increase our understanding of individual and societal factors that increase the risk of cancer in the community, and through this understanding develop more effective policies and programs to reduce cancer risk in the community.*

WACPRU is funded by the School of Psychology at Curtin University, Cancer Council WA, various grants from research funding bodies, and research consultancy income earned for research services commissioned by a range of government and not-for-profit organisations. We are very grateful for the opportunities provided by this funding to engage in health promotion research that can be translated into policy and practice in Western Australia and beyond. We are committed to conducting our work as efficiently and effectively as possible to maximise the health benefits for society.

The skillsets represented by WACPRU staff include the following:

- Health promotion
- Health psychology
- Clinical psychology
- Organisational psychology
- Behaviour change
- Social Marketing
- Consumer research
- Communications and campaign evaluation research
- Medical practice
- Dietetics
- Qualitative and quantitative research methods
Cancer prevention research

As detailed throughout this report, the main cancer risk factors addressed by WACPRU include the following lifestyle behaviours (in alphabetical order):

- Alcohol consumption
- Cancer screening
- Diet
- Physical activity
- Smoking
- Sun exposure

This report is structured to provide accounts of WACPRU’s activities and outputs in relation to each of these research areas in 2017, along with other research activities.

In the first instance, research projects aligned with each of Cancer Council WA’s major program areas within the Education and Research Division are outlined. WACPRU’s four research priority areas are then reported, followed by additional areas of research activity. The appendices provide summaries of WACPRU’s new and active grants, journal articles, manuscripts under review, reports, conference activities, invited presentations, and media coverage during 2017. Outputs are listed according to their status at 31 December, 2017.
WACPRU Staffing

WACPRU staff members as of 31 December, 2017:

**Director**
Professor Simone Pettigrew

**Deputy Director**
Dr Michelle Jongenelis

**Research Assistants and Associates**
Roos Dekker
Dr Natalia Lizama
Gael Myers
Ashleigh Parnell
Rajni Rai
Dr Zenobia Talati

**Casual Staff**
Sophie Cronin
Kaela Farrier
Claire Hafekost
Isla Henriques
Greg Jongenelis
Caitlin Worrall

**Adjunct Staff**
Nicole Biagioni
Dr Severine Koch
Supporting Cancer Council WA’s Program Areas

A primary function of WACPRU is to support the cancer prevention program areas within the Education and Research Division of Cancer Council WA (CCWA). The five CCWA program areas for which WACPRU provides research services are Cancer Smart, Education and Research Services, Make Smoking History, Nutrition and Physical Activity, and SunSmart.

The support WACPRU provides to these program areas takes the forms of (i) exploratory research to guide program development and refinement, (ii) evaluation research to assess program performance, and (iii) the provision of ongoing advice relating to health promotion strategy. To provide these forms of support, WACPRU undertakes the following activities:

- Co-developing internal CCWA research projects to provide information to guide current and new programs and campaigns.
- Assisting the development and refinement of campaign evaluation instruments.
- Analysing current and historical campaign evaluation data.
- Producing timely reports to CCWA to inform program planning.
- Reporting research results in journal articles to articulate the outcomes of CCWA’s work into the international evidence base on cancer prevention.
- Disseminating the outcomes of CCWA’s programs to national and international audiences via presentations at public health and cancer prevention conferences.
- Engaging in research projects with other Cancer Council state organisations to share expertise and increase research capacity.
- Engaging in research projects with a broad range of other institutions in areas related to cancer prevention.
- Providing representation on a range of advisory boards and committees for organisations undertaking work of relevance to cancer prevention.
- Seeking funding from other sources to facilitate additional research that is of value to CCWA.
- Obtaining media coverage of cancer prevention research outcomes to enhance community awareness of relevant issues.
- Maintaining a regular presence in the CCWA offices to be available for consultation on an as-needs basis.

Examples of these activities are provided throughout this report. In the following sections, specific areas of collaboration with each Program Area are detailed. For each output listed, the names of authors who were WACPRU staff members during 2017 are **bolded** and the names of Cancer Council staff members are **bold italicised**.
CCWA Program Area: Cancer Smart

The Cancer Smart team members manage projects across a diverse range of areas including cancer screening, workplace health, GP and cancer specialist education, and asbestos harm minimisation. WACPRU staff provide ad hoc assistance across these projects. In particular, WACPRU is involved in the ongoing evaluation of the Healthier Workplace WA program.

Healthier Workplace WA

In collaboration with the WA Division of the National Heart Foundation, CCWA delivers the Healthier Workplace WA (HWWA) program. This program is sponsored by the WA Department of Health and supports organisations in their efforts to provide healthy workplaces for their employees. WACPRU provides assistance with program evaluation by advising on instrument design, performing data analyses, and generating outcomes reports.

Evaluation reports


Conference presentations


Bowel Cancer Screening

The following conference presentation related to formative research undertaken in 2016 to assist in developing the “Stick it to Number 2” campaign.

Conference presentation

CCWA Program Area: Education and Research Services

Find Cancer Early

The Find Cancer Early program is delivered by the Education and Research Services and Cancer Smart teams to regional areas of Western Australia. The aim of the program is to reduce mortality from cancer by encouraging early detection. Congratulations to CCWA for securing additional funding to enable the Find Cancer Early program to expand over the coming years. WACPRU staff have provided advice on the evaluation instruments and assisted with data analysis.

Manuscript under review


Public opinion survey

As part of the analyses undertaken for CCWA’s 2017 public opinion survey, the following report provides an overview of the general public’s understanding of cancer risk factors.

Research report

CCWA Program Area: Nutrition and Physical Activity

The Nutrition and Physical Activity team at CCWA administers the Crunch&Sip and LiveLighter programs throughout Western Australia. These are evidence-based programs that have been developed and implemented using formative and evaluation research to optimise their effectiveness. WACPRU assists with these research processes as described below.

Crunch&Sip

CCWA has implemented the Crunch&Sip program in WA since 2005. In 2015, a research program commenced to inform the modification of Crunch&Sip to feature a stronger focus on vegetables. This change was made in recognition of the deficit that remains in children’s vegetable consumption compared to adequate levels of fruit consumption. The following outputs have resulted from the formative and evaluation research conducted to facilitate the modification of the Crunch&Sip program.

Journal articles


Manuscript under review


Conference presentation


Practitioner publication


LiveLighter

In collaboration with the WA Division of the National Heart Foundation, CCWA administers the LiveLighter healthy lifestyle campaign. WACPRU has undertaken research projects to inform aspects of the campaign and continues to be available for ad hoc assistance.

Conference presentation


FOODcents

As part of a longitudinal evaluation of the FOODcents approach to adult nutrition education, follow-up research was conducted with participants who had attended a FOODcents course between two and four years previously. The study results demonstrate that adult nutrition education has the potential to make long-lasting changes to individuals' food choices.

Journal article


Conference presentations


Campaign evaluation

As part of the regular scheduled evaluations of the Make Smoking History advertising campaigns, the following reports were completed in 2017:

**Evaluation reports**


In addition, ad-testing projects were undertaken to assist the Make Smoking History team identify the potential effectiveness of alternative campaign messages and target audiences.

**Research reports**

*Jongenelis, M.* and *Pettigrew, S.* (2017), “‘We Lied’ Ad testing results.” Report prepared for Cancer Council WA by the WA Cancer Prevention Research Unit (WACPRU), November.


Evaluation and ad testing results were presented at the Oceania Tobacco Control Conference. The dissemination of results in this manner allows other jurisdictions to learn about the development and execution of the ‘From Every Quitter’ advertisement to inform decisions about their own campaigns.

Conference presentations


Media scheduling research

The speed at which the media environment is changing constitutes an ongoing challenge for health promotion. CCWA and WACPRU are continuing to investigate the effects of increasing media fragmentation on health campaign effectiveness. The results of this work can assist CCWA in determining appropriate media type selections and scheduling.

Manuscripts under review


Conference presentations


Slevin, T., Pettigrew, S., Strickland, M., Minto, C., Jardine, L., Beasley, S., and Jongenelis, M. (2017), “‘Did the campaign work?’ What is a benchmark for a cancer prevention social marketing campaign in the fragmented media age?” 13th Behavioural Research in Cancer Control Conference, Melbourne, Australia, 2-5 May.

Make Smoking History team member and Curtin Master of Public Health student Sarah Beasley developed an important study examining the effects of different forms of social media advertising. The results of Sarah’s work have been disseminated as follows:

Conference presentation


Practitioner publication

Community-based smoking cessation programs

An area of focus for the Make Smoking History team is the development and implementation of community-based programs that provide quitting assistance to smokers. Of particular concern are disadvantaged smokers who bear a disproportionate proportion of the harm from tobacco use. WACPRU is involved in formative research projects to assist CCWA develop smoking cessation programs to be delivered in community organisations servicing disadvantaged Western Australians.

Research funding

Pettigrew, Bonevski, Coffin, Slevin, and Anwar McHenry, “Developing effective smoking cessation programs for the disadvantaged for delivery via community service organisations,” Healthway, 2016-2017, $75,000.

Research reports


Conference presentations


Box, E., and Pettigrew, S. (2017), “To be smoke free or not to be – that is the question,” 13th Behavioural Research in Cancer Control Conference, Melbourne, Australia, 2-5 May.

Other tobacco research projects

WACPRU conducts ad hoc services across other areas of tobacco cessation research. This includes public opinion poll surveys, smoker surveys, and focus group research with particular groups.

Research reports


Campaign evaluation

In the summer of 2016/2017, CCWA aired the “Wes Bonny (The sun is a killer. Defend yourself)” media campaign. The campaign outcomes were reported in the following output.

Evaluation report


UV meters in schools

Funding has been secured for an exploratory research study that will assess the potential for UV meters in school grounds to increase students’ engagement in sun protective behaviours. The study will be conducted in Western Australian secondary school in an attempt to address the deterioration in sun protection behaviours that occurs as students move from primary to secondary school.

Research funding

Other SunSmart research activities

WACPRU assists CCWA by conducting formative research to assess public attitudes to sun protection. This work continues to be disseminated in the form of internal research reports and journal articles that extend the evidence base relating to potentially effective strategies to reduce the harms of excessive sun exposure.

Journal article


Research report

WACPRU Priority Research Areas

Alongside the work undertaken to support the cancer prevention programs delivered by CCWA, WACPRU has four main priority research areas that mirror and complement CCWA’s program areas. These research areas are alcohol, e-cigarettes, healthy ageing, and nutrition. Multiple research projects are being undertaken in each of these areas, many of which involve collaborators from CCWA and other Cancer Council organisations from around the country.

Alcohol

WACPRU works closely with other research groups to extend the evidence base relating to alcohol consumption and alcohol marketing. These groups include CCWA, the Centre for Behavioural Research in Cancer (Cancer Council Victoria), the National Drug Research Institute (Curtin University), the McCusker Centre for Action on Alcohol and Youth (Curtin University), and the Centre for Health and Social Research (Australian Catholic University). Current projects are funded by the following grants and research consultancies awarded in recent years:

**Research funding**


Wakefield, Brennan, Durkin, Pettigrew, Hoek, and Slater, “Can systematically developed alcohol health warnings reduce drinking intentions and behaviours?” *NHMRC Project Grant*, 2017-2021, $782,617.


Alcohol and young people

Young people are especially vulnerable to alcohol-related harms. Several projects were progressed in 2017 relating to the factors influencing teenagers’ and young adults’ alcohol consumption behaviours.
**Journal articles**


**Manuscripts under review**


**Research report**


**Conference presentation**


**Submission**

Communicating about the risks of alcohol consumption

A research priority for WACPRU is the identification of appropriate ways to communicate with drinkers about reducing their alcohol-related risk. Various studies have been undertaken to investigate methods by which health-related information can be effectively communicated to drinkers to improve their knowledge of alcohol-related risks and encourage them to modify their consumption. CBRC has led major projects in this area as outlined below, and other work has also been undertaken with our CCWA colleagues and collaborators from the National Drug Research Institute and UWA.

Journal articles


Manuscript under review


Conference presentations

Alcohol promotion and availability

Efforts to reduce alcohol consumption in the community must compete with extensive alcohol promotion and other forms of alcohol marketing. Along with our collaborators, WACPRU staff have assessed various ways by which alcohol consumption is encouraged in the community and potential methods of reducing the influence of alcohol-sodden environments.

Journal articles


Research report


Conference presentation


Invited presentation

E-cigarettes have been identified as a challenge to current tobacco control efforts. Several leading health authorities have raised concerns about their safety and the potential for their use to result in the renormalisation of smoking behaviours. Despite these concerns, e-cigarettes are growing in popularity and recent years have seen substantial and rapid increases in ever and current use of e-cigarettes among both smokers and non-smokers. To inform the development of future health promotion and prevention strategies, WACPRU (in collaboration with colleagues at CCWA, CBRC, and the University of Western Australia) is assessing young adults’ attitudes towards e-cigarettes and their perceptions of the harms associated with e-cigarette use compared to traditional tobacco cigarette use. Young adults were chosen as a population segment in need of particular attention because e-cigarette use is most prevalent in this age group. Further, the use of e-cigarettes may serve as a gateway to traditional cigarette smoking potentially resulting in an increase in smoking rates and undermining decades of successful tobacco control efforts.

Research funding

Manuscript under review

Invited presentations


Research report
Several studies relating to healthy ageing were progressed in 2017. Some of these studies built on the very large dataset accumulated as part of the ARC-funded randomised controlled trial of the effects of volunteering on older people’s health and well-being.

Research funding
Pettigrew, Newton, Warburton, and Jackson, Investigating the health benefits of volunteering by seniors, ARC Discovery, 2014-2016, $360,000.

Journal article

Manuscript under review

Conference presentations

Physical activity in later life

Other work focused on seniors’ engagement in physical activity and methods of encouraging higher levels of participation. Physical activity is a key determinant health, and low levels of activity constitute a substantial contribution to the national burden of disease. Older people exhibit particularly low levels of physical activity, and hence are an important target group for interventions focusing on increasing incidental and programmed activity.

Journal articles


Manuscript under review


Invited presentation


Healthy eating in later life

Related to the broader section to follow on Nutrition, WACPRU’s healthy ageing research has included work on older people’s dietary beliefs and behaviours. This work resulted in the following outputs in 2017.

Journal articles


Book chapter

In addition to the CCWA nutrition projects and the seniors’ nutrition project described above, WACPRU is involved in numerous other research projects that involve developing methods of communicating with the public about healthy eating and building evidence relating to the need for effective regulation of food advertising. Many of these projects are being led by collaborators at CBRC and the South Australian Health and Medical Research Institute (SAHMRI) in conjunction with the University of Adelaide. Collaborators on other projects are from CCWA, Cancer Council NSW, the George Institute, National Heart Foundation, the Institute for Physical Activity and Nutrition (Deakin University), and Wollongong University.

Various projects relate to population-level nutrition policies and programs, including those involving food service and food labelling. Other projects are segment-specific, with a strong focus on nutrition among children and young people.

Food labelling

Through prior involvement in a federal food labelling review¹, WACPRU has long-standing and ongoing involvement in food labelling policy in Australia. The following ARC linkage grant is continuing to yield outputs that are contributing to the food policy debate in Australia and beyond.

Research funding

Pettigrew, S., Kelly, B., Ball, K., Neal, B., Hughes, C., Miller, C., and Dixon, H. “The independent and combined effects of front-of-pack food labelling systems and health claims on consumers’ food-related beliefs


**Journal articles**


**Manuscripts under review**


**Conference presentation**


**Invited presentation**


**Practitioner Publication**

Submissions


School canteens

The WA School Canteen Association (WASCA) and WACPRU are conducting evaluations of the WA Healthy Food and Drink Policy for government schools. This work provides comparison points to work undertaken around 10 years ago when the policy was first introduced in Western Australia. The results have been reported as follows:

Research reports


Journal article


Manuscript under review


Conference presentation

Associate Professor Caroline Miller (SAHMRI and the University of Adelaide) is running multiple NHMRC-funded projects to identify potential means of reducing soft drink consumption in Australia to reduce obesity and improve health outcomes at a population level. WACPRU is fortunate to be represented on these projects and will continue to contribute in the coming years.

Research funding


Conference presentations


Sports sponsorship

Colleagues at CBRC are undertaking innovative projects relating to the manner in which unhealthy foods are promoted using sports sponsorship. As well as providing information of use to policy makers when they are considering various food promotion regulatory options, these projects are investigating the potential for healthy foods and healthy eating messages to be promoted via sports sponsorship. Through involvement in these projects, WACPRU can contribute to advances in knowledge in this area and assist in the dissemination of research outputs to policy makers and practitioners in Western Australia.

Research funding


Journal articles


Conference presentations


Other nutrition-related projects

Journal articles


**Research reports**


**Invited presentation**


**Practitioner Publication**


**Conference Presentation**

Other current projects

Autonomous vehicles

![Image of autonomous vehicles and researchers](image_url)

**Research funding**


**Research reports**


**Manuscript under review**

Conference presentations


Invited presentations


Body Image

Manuscript under review


Cannabis

Journal article


Conference presentation


Gambling

Research funding

Conference presentations


Academic service

WACPRU staff contribute to the research community by:

(i) Performing manuscript and grant application reviews,
(ii) Sitting on journal editorial boards, advisory boards, and committees, and
(iii) Supervising research students.

Manuscript reviewing

In total, 32 manuscript reviews were completed for the following journals:

- Addiction
- Ageing & Society
- Alcohol and Alcoholism
- Appetite
- Australian and New Zealand Journal of Public Health
- BMC Public Health
- BMJ Open
- Body Image
- Consumption, Markets and Culture
- Drug and Alcohol Review
- European Journal of Marketing
- Food Quality and Preference
- Health Communication
- Health Promotion Journal of Australia
- International Journal of Behavioral Nutrition and Physical Activity
- International Journal of Public Health
- Journal of Nutrition Education and Behavior
- Journal of Public Health
- Journal of Sport and Health Science
- Nutrients
- Nutrition Reviews
- Pediatric Obesity
- Public Health Nutrition

Grant reviewing

Grant applications were reviewed for the following funding bodies:

- Australian Research Council (Discovery, Discovery Early Career Researcher Award, Laureate, and Linkage rounds)
- Health Research Council of New Zealand
- National Health and Medical Research Council (Centres of Research Excellence)

Journal editorial boards

Positions were held on the editorial boards of the following journals:

- Appetite
• Journal of Social Marketing
• Consumption, Markets, and Culture
• International Review on Public and Nonprofit Marketing
• Journal of Research for Consumers

Student supervision
The following PhD students were supervised during 2017:
• Catherine Archer (completed)
• Himanshu Gupta
• Regan Housley (completed)
• Julia Stafford
• Todd Subritzky
• Caitlin Worrall
Acknowledgements

Thank you to the wonderful staff at Curtin University and Cancer Council WA who provide administrative support for WACPRU’s activities.
Appendix 1: Grants secured in 2017


5. Pettigrew, Miller, Kypri, Chikritzhs, Jongenelis, Brennan, and Hasking, “Promoting responsible drinking practices to drinkers to reduce the risk of alcohol-related harm,” NHMRC project grant, 2018-2019, $271,000.


7. Wakefield, Brennan, Durkin, Pettigrew, Hoek, and Slater, “Can systematically developed alcohol health warnings reduce drinking intentions and behaviours?” NHMRC project grant, 2017-2021, $782,617.
Appendix 2: Active grants in 2017


7. Pettigrew, Medical Health & Infrastructure Research Fund (MHIRF), 2017, $21,399.


Appendix 3: Journal Articles


Appendix 4: Manuscripts under review


Appendix 5: Reports


Appendix 6: Conference Papers/ Presentations


5. Box, E. and Pettigrew, S. (2017), “To be smoke free or not to be – that is the question,” 13th Behavioural Research in Cancer Control Conference, Melbourne, Australia, 2-5 May.


Appendix 7: Invited Presentations


Appendix 8: Practitioner Publication Articles


Appendix 9: Submissions


Appendix 10: Media Coverage

<table>
<thead>
<tr>
<th>Media type</th>
<th>Number of media articles</th>
<th>Audience reach</th>
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</thead>
<tbody>
<tr>
<td>Radio</td>
<td>46</td>
<td>1,110,300</td>
</tr>
<tr>
<td>Newspaper</td>
<td>15</td>
<td>1,130,139</td>
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<tr>
<td>TV</td>
<td>2</td>
<td>103,000</td>
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<tr>
<td>Magazine</td>
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<td>Online News</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>77</strong></td>
<td><strong>2,352,512</strong></td>
</tr>
</tbody>
</table>
With thanks to our
collaborators and funders