Promoting Physical Activity to Children and Young People in Rural Western Australia

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ABSTRACT

Physical inactivity is estimated to be responsible for about 7% of the total burden of disease in Australia, second only to tobacco in a list of risk factors that includes high blood pressure, alcohol, nutrition, obesity, illicit drugs, occupation and unsafe sex. The protective effect of physical activity has been demonstrated in all cause mortality, coronary heart disease, cancer mortality (particularly colon cancer), mental health, diabetes mellitus and injury prevention. By encouraging children and adolescents to participate in physical activity we can optimise physical fitness, health and well-being, and growth and development; develop active lifestyles that can be maintained throughout adult life and reduce the risk of chronic diseases of adulthood.

Aim

To describe methods for formative research on the promotion of physical activity amongst children and adolescents in the region that may of themselves contribute to the commitment of the development and sustainable implementation of a plan to promote physical activity to children and adolescents.

Methods

A multi method phased research design is described. This requires co-ordination of effort across a broad range of agencies. A reference group comprising of key stakeholders in the community formed to advise investigators on: the literature review (published and unpublished literature); key informant interviews; focus groups (to identify predisposing enabling and reinforcing factors) and a questionnaire (on community capacity) that was sent out to all sporting associations.

In addition to the above sources of information, data are also being collected and analysed from the Western Australian Health and Physical Education Survey. Observation is being used to test the validity of data from questionnaires.

Results

Modifiable barriers to participation in physical activity for young people in the region and predisposing and enabling factors on which to base a sustainable program for the promotion are being investigated. The identification of partners and key stakeholders who can contribute to the promotion of physical activity in the region is being undertaken as part of the methods that are being applied and their likely commitment to the plan are being ascertained.
Conclusions

Rural research needs to focus on methods that lead directly to sustainable programs to promote the health of rural community. Key stakeholders and target group members need to be included from the earliest stages.

BACKGROUND

Physical inactivity is estimated to be responsible for about 7% of the total burden of disease in Australia, second only to tobacco in a list of risk factors that includes high blood pressure, alcohol, nutrition, obesity, illicit drugs, occupation and unsafe sex. The protective effect of physical activity has been demonstrated for all cause mortality, coronary heart disease, cancer mortality (particularly colon cancer), mental health, diabetes mellitus and injury prevention. In a survey of Western Australian children, those adolescents (12–16 year-olds) who regularly exercised had less frequent mental health problems (17% versus 30%) than inactive adolescents. Inactive children are more likely to be obese than their active counterparts.

In order to capitalise on the positive benefits of physical activity, the Commonwealth Government launched the Active Australia concept in 1996 as a multi-sectoral initiative. Within Active Australia, children and adolescents are identified as a priority group because of the critical role that early experiences play in establishing the foundations, skills and attitudes for being active for life. The National Physical Activity Guidelines for Australians indicate that children and teenagers under the age of 18 years should both put together at least 30 minutes of moderate-intensity physical activity on most, preferably all, days and in addition enjoy regular, vigorous activity (so they “huff and puff”) on 3–4 days each week for 30 minutes or more each time.

Whereas it is not possible to ascertain precisely the extent to which Western Australian children and adolescents comply with the guidelines, useful indicative information is available from the child health survey conducted in 1993. This survey showed that just over half (52%) of all adolescents engaged in moderate exercise during the day prior to the survey, with males being slightly more likely to participate (54%) than females (50%). Adolescent boys engaged in regular, vigorous activity (ie, four or more days per week) more frequently than girls (50% versus 37%). Country students were more likely to participate in two or more coached sports in the previous year than metropolitan students (53% compared with 40%). This survey did not include rural Aboriginal children, but an Aboriginal child health survey is underway. Australian and international reviews suggest that participation in physical activity declines with age during adolescence. From the available information, therefore, a large proportion of Western Australian children and adolescents do not meet the National Physical Activity Guidelines.

There is evidence for effective interventions. A Western Australian study is one of many that has demonstrated the effectiveness of a school-based fitness intervention for children. The natural environment, public open spaces, and facilities for organised and informal sport are important enabling factors. Multi-component interventions that address both the individual and their environment are emphasised in the literature.
The importance of physical activity for health, the proportion of inactive children and adolescents, and the evidence for effective interventions, provide justification for undertaking formative research on the promotion of physical activity to children and adolescents in rural areas.

**AIM**

In this paper, we aim to discuss the use of methods that may of themselves contribute to the development and sustainable implementation of a plan to promote physical activity to these groups.

**METHODS**

**Choosing the research topic and location**

The Wills report strongly advocated for the development of priority-driven research aimed at the short-to-medium term needs of the health system.\(^\text{13}\) The report also emphasised the importance of engaging and involving the community as stakeholders in the research effort. However, from the perspective of the Review Committee, this community involvement was more for the purposes of shoring up support for the research effort rather than involving the community as collaborators in the research.

Much has been written about misplaced allocation of funding to research, from the global to the local level. For example, the Global Forum for Health Research has estimated that less than 10% of research funds are spent on the diseases that account for 90% of the global burden of disease.\(^\text{14}\) From the local perspective of rural health, even though there is good evidence that the health status of rural Australians is poorer than their metropolitan counterparts and health status gets worse with increasing rurality,\(^\text{15,16}\) the amounts of money invested in rural health research is very small. Patterson has found that only $11 m of the total research funding of the National Health and Medical Research Council of $767 m between 1994–95 and 1998–99 were spent specifically on rural health research.\(^\text{17}\) In her study of funding for rural and remote health research, even though she found that approximately 40% of research funding from conventional sources was focused on the National Health Priority Areas, very few research grants were allocated to investigation of physical activity in rural areas, even though this is an important risk factor for a number of the National Health Priority Areas. There are good reasons, therefore, for focusing research on the promotion of physical activity in rural children and adolescents.

We did not, however, choose the research topic using this rational deductive approach. We recognised the importance of tailoring research to the needs, and social and political climate of the community.\(^\text{18}\) We also recognised the importance of “place” as the product of people’s intentions and the setting for human activities that is also central to the development of social relationships.\(^\text{19}\) We believed that the concept of “place” was particularly important to the development of effective public health interventions. It was therefore a priority for us that our project was located in a community, and arose from the consideration of community stakeholders.
The project is located in our community, the Midwest of Western Australia. The Combined Universities Centre for Rural Health covers an area of almost 1.5 million square kilometres including the Pilbara, Central West (of which the Midwest is part), and the Goldfields.

Figure 1 Location of the research project

The local Public Health Unit had already established the “Be Active” Working Party of stakeholders in recognition that physical activity was an important risk factor for a number of chronic diseases affecting rural and remote residents in the Midwest. The stakeholders include, in addition to the Public Health Unit, doctors, a community nurse, a community physiotherapist, a health promotion officer, representatives from the City of Geraldton, the Shire of Greenough, Roadwise, the Ministry of Sport and Recreation, the Aquarena, the Geraldton Aboriginal Sporting Corporation, the Police and Citizens Youth Club, and the Combined Universities Centre for Rural Health (CUCRH). The Midwest Education District also agreed to support the research and participate in developments that may arise from it, within available resources and policies. We sought from the beginning to establish collaborative relationships with our community stakeholders.

The objectives of the research are as follows.

♦ To review the Australian and global evidence on effective interventions to promote participation in physical activity amongst children and adolescents for application in Geraldton and the Midwest.
To gather and analyse all available data from all relevant sectors on the distribution of children and adolescents in the region and their participation in physical activity.

To develop a profile of community capacity and resources (human and physical resources) available for the promotion of physical activity amongst children and adolescents in the Region.

To identify the factors in the Region that would:
- lead children and adolescents to contemplate increasing their participation in physical activity;
- enable them to do so; and
- reinforce their active behaviour.

To identify the modifiable barriers to participation in physical activity for children and adolescents in the Region.

To identify partners and stakeholders who would contribute to the promotion of physical activity in the target group in the Region, and their likely commitment.

To develop a plan for the promotion of physical activity amongst children and adolescents in the region in collaboration with the “Be Active” Working Party and other key stakeholders.

Involving community stakeholders

The methods we have used for our study have involved community stakeholders in a number of ways. First, two of the three chief investigators are members of the “Be Active” Working Party and seek input from and provide feedback to the Working Party. Second, we have established a reference group for the project. The membership of the reference group includes: representatives from the Ministry of Sport and Recreation, the Midwest Education District, local government, schools, the Geraldton Aboriginal Sporting Corporation, and the Police and Citizens Youth Club. The terms of reference of the reference group are to advise the chief investigators on:

- individuals and organisations that should be contacted as part of the literature review to identify grey, unindexed literature on the promotion of physical activity amongst children and adolescents and for information to determine community capacity and resources;

- key informants and the composition, number and geographic distribution of focus groups to assist with the identification and prioritisation of predisposing, enabling and reinforcing factors for, and barriers to, the promotion of physical activity amongst children and adolescents in Geraldton and the Midwest;

- the questions that are used in the key informant interviews and focus groups; and

- review of the progress and outcomes of the project.

We acknowledge that a useful framework to recognise the relationship between organisational partners relates to the analysis of decision-making power. The power of
a group can range from being advisory to having full authority. As the project is externally funded by Healthway, we chose an advisory role for the reference group as it was the Chief Investigators, not the participants in the reference group that were accountable to Healthway for the conduct of the research. An important area to explore in future is whether involving a wider range of collaborators much earlier in the process of developing a research proposal with the power to make decisions would have a positive impact on the uptake of the research findings.

The involvement of community stakeholders as key informants and participants in focus groups is discussed in the next section.

**Figure 2  Involvement of community stakeholders in the conduct of the research**

Using multiple methods and phases

In undertaking rural research, we have to be cognisant of the small populations with which we as researchers engage. Small populations are served by small bureaucracies, small voluntary organisations and small health services. As a result, officials, health professionals and volunteers are spread thinly, often across a number of subject areas. Communities can feel “over-researched”. As part of building trust in the value of rural research, it is important that communities experience positive benefit from the research effort in which they freely give of their time. For that reason, we consider that the last two objectives of our study that relate to identifying partners and stakeholders, and preparing a plan for the promotion of physical activity amongst children and adolescents to be particularly important.

We developed a multi-phase, multi-method research design both to improve the validity of the findings and in recognition that our research should not burden participants and
further compromise the capacities of rural bureaucracies, voluntary organisations and health services to do their jobs.

The methods are shown in Figure 3.

<table>
<thead>
<tr>
<th>Observation</th>
<th>Literature review</th>
<th>Secondary data analysis</th>
<th>Primary data collection and analysis</th>
<th>Key informant interviews</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Published literature (hard copy and web)</td>
<td>• Census</td>
<td>• Survey of sports clubs</td>
<td>• Leaders</td>
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<tr>
<td></td>
<td>• Grey literature (including that identified through informal contacts)</td>
<td>• School health survey</td>
<td>• Pay facilities</td>
<td>• Disadvantaged groups</td>
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<td></td>
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<td>• Public open spaces</td>
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The methods are being used sequentially, so that the literature review, analysis of primary and secondary data form the basis for the question line for the key informants. This gives the key informants the opportunity to comment on the validity of the analysis done to date. Similarly, the focus groups are being used to set priorities for the elements of the plan that arise from the analysis of information from the literature review, analysis of secondary primary and secondary data and the key informant interviews. Observation is used to check the validity of the findings where possible. For example, an assessment of junior members of clubs participating in coaching activities can be observed.

The methods relate to the place in which the research is being conducted, such as the available pay facilities, public open spaces, and sports clubs. The outcome of the research thus provides specific information as the basis for planning.

RESULTS

Our research is ongoing and the results to date relate to application of the methods, rather than the outcome of the research.

Preparation of plan

The outcome of this formative research will be the development of a plan for the promotion of physical activity amongst children and adolescents in Geraldton and the Midwest which will include an evaluation strategy. The plan will be developed in collaboration with the reference group but will be subject to the approval of the “Be Active” Working Party. A key feature of the plan will be the sustainability of any program that may eventuate from the formative research. Sustainability will be dependent on commitments that key stakeholders are prepared to make, and also on the exploration of potential private sector partnerships. A memorandum of understanding may be developed to clarify the commitments of key stakeholders (eg, Ministry of Sport and Recreation and the Public Health Unit — programs, Midwest Education District — physical education and sport in schools, local government — cycleways, parks and facilities, CUCRH — evaluation).
In collaboration with the reference group, a list of potential private sector partners in the delivery of the promotion of physical activity to children and adolescents will be drawn up. The process of drawing up this list will be based on the National Public Health Partnership’s *Issues for consideration in industry partnerships for public health initiatives*.  

Potential private sector partners will be contacted to investigate their interest in a partnership arrangement in a potential program, and to determine their expectations and likely commitment to such a program.

**CONCLUSIONS**

Rural research needs to focus on methods that lead directly to sustainable programs to promote the health of rural communities. We have illustrated a series of methods that attempt to achieve this outcome. The key features are:

♦ taking an inclusive approach to choosing the research topic and location;
♦ involving community stakeholders; and
♦ using multiple methods and phases.

We believe that it would be useful to develop a network of rural researchers interested in participatory approaches to see whether any or all of the key features of these research methods contribute to improve research uptake to meet the short-to-medium term needs of communities and health services.

**ACKNOWLEDGMENTS**

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We would also like to thank all those who have given freely of their time either as advisors or participants.

**REFERENCES**


7. Education Department of Western Australia. Student achievement in health and physical education in Western Australian government schools 1998. Perth: Education Department of Western Australia; 1999.


Gillian Durham is a public health physician and is currently Deputy Director and Associate Professor at the Combined Universities Centre for Rural Health in Geraldton, Western Australia. She holds fellowships from the Australasian Faculty of Public Health Medicine, the Faculty of Public Health Medicine of the Royal Colleges of Physicians of the United Kingdom (elected through distinction), and the Royal Australian College of General Practitioners, and Membership of the Royal College of Physicians of the United Kingdom.

Gillian held the senior position in public health in New Zealand from 1992 to 1999 through various health reforms and changes of title. She has headed the New Zealand delegations to the World Health Assembly and to the Western Pacific Regional Committee of the World Health Organisation for a number of years, and has been elected to chair one of the two committees of the Assembly. Her roles and publications have spanned all of the functions of the health sector.

After this conference, Gillian is returning to New Zealand to take up the position of Deputy Director-General, Sector Policy. This position is responsible for the provision of strategic policy advice to the government across all aspects of the health and disability sectors, including the overall long-term funding requirements and the New Zealand Health Strategy. The position will enable her to integrate her two passions — public health and rural health — into mainstream health sector policy advice.

Nicole Edwards is a Health Promotion graduate from Curtin University of Western Australia. Now a research officer with the Combined Universities Centre for Rural Health in Western Australia, her interests are in the promotion of physical activity to young people in rural areas. Nicole is currently undertaking postgraduate studies in Health Economics at the University of Sydney.