The Australian Rural Health Research Collaboration: building collaborative population health research in rural and remote NSW

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Abstract: The health problems faced by rural and remote communities are complex and not amenable to simple or short-term solutions. The Australian Rural Health Research Collaboration, which comprises rural research centres, area health services and policy makers in NSW, investigates these problems. Founded in 2002, it has grown to become the leading rural research collaboration in Australia. It aims to: conduct high quality research; build the capacity of researchers and clinicians; and encourage the translation of research evidence into practice for the benefit of rural and remote communities. The success of the Collaboration is illustrated by the increase in research outputs, funds generated, the strength of the relationships between partners and the ability to address complex research problems such as the mental health of rural and remote communities often deemed too difficult or expensive to include in metropolitan-based research. Keys to success have been the inclusive public health ethos, the participation of senior researchers and service managers, the critical mass of researchers achieved through collaboration and effective leadership and governance. This demonstrates the value of supporting cooperative research and capacity building in rural and remote areas where the size of research groups is small and where effective multi-disciplinary and co-operative research can pay dividends.

Rural communities have complex health needs, and these are not fully understood.[1] These needs are often exacerbated by poor access to medical specialists, and in some communities to general health care providers. University-based research groups working with these communities face challenges including distance, physical and professional isolation, relatively small research teams, skill shortages and recruitment difficulties, with limited access to the infrastructure support services provided in metropolitan universities. One response to these challenges is to work in partnership with health service providers and other research centres.

This paper describes the Australian Rural Health Research Collaboration (the Collaboration), its major achievements and the factors which have underpinned these achievements for the researchers, health services and communities it serves.

Structure and governance

The Collaboration was established in 2002 and has focused on conducting research, building research capacity within research units and amongst clinicians, and encouraging the translation of research into practice. The Collaboration comprises: four rural research centres from two universities and three associated former area health services in New South Wales (NSW), the Rural Division of the Clinical Education and Training Institute, and the NSW Department of Health Mental Health and Drug and Alcohol Office. Each research centre has different core specialties including: agricultural health and safety (The Australian Centre for Agricultural Health and Safety, Moree); remote health (The Centre for Remote Health Research, Broken Hill); rural health (The Centre for Rural

Health Research, Lismore); and rural mental health (The Centre for Rural and Remote Mental Health, Orange). They serve diverse populations including coastal communities, remote desert communities and regional cities, each with distinct economies and cultures.

The Collaboration aims for 'sustained improvement in the health of rural communities through strengthened capacity in research and development'.[2]

It is governed by a Board which receives advice from a community-based Advisory Council. This Governing Board is chaired by an honorary director drawn from one of the research centres. The local area health services are represented by their Directors of Population Health, Planning and Performance (DPPP) who participate as full members of the Board. The Board meets on a quarterly basis with two teleconferences and two face-to-face meetings each year which are attended by the Centre or Research Directors, DPPPs and other members.

The Advisory Committee is chaired by a senior public health figure and includes industry and community members drawn from the Area Health Service Advisory Councils (each of the former area health services in NSW had an Advisory Council), ensuring that advice is informed by awareness and knowledge of local health issues, policy and practice.

The Collaboration employs a part-time executive officer who is responsible for the management of the Collaboration and taking action on decisions.

The Board, informed by the Advisory Committee, undertakes medium-term planning and annual research needs assessments led by an area health service DPPP. This planning identifies research priorities and capacity building needs for Collaboration members and clinician researchers in rural NSW.

The Board recognises three categories of research:

- the 'flagship' project which involves all Collaboration members, both research and service partners
- collaboration-supported research which draws on limited Collaboration resources, expertise or funds
- research centre or local research which is of local interest conducted by a particular centre. Local research projects may develop to become collaboration-supported or flagship projects.

Collaboration achievements

Since 2002 the Collaboration has been awarded three NSW Capacity Building Infrastructure Grants (in 2003, 2006 and 2010) in an environment of increasing competition with other NSW research groups. Infrastructure funds that are not tied to particular projects are rare outside those for laboratory settings and these three grants each of $1.5 million over 3 years have provided resources to undertake high quality research and increase research capacity.

The Collaboration has recorded significant achievements in: research productivity; capacity building; and the translation of findings into policy and practice.

There has been one flagship project to date involving all the research centres and area health services. The Australian Rural Mental Health (Cohort) Study[3] has been awarded two National Health and Medical Research Council project grants (2005 and 2009) (NHMRC Projects 401241 and 631061) and is discussed in greater detail later in this paper.

The number of published research papers by Collaboration partners has been substantial with some variation from year-to-year due to the timing and completion of projects. Smaller research centres such as Broken Hill have seen an increase from one paper published in 2002 to 10 in 2009, indicating a developing research capacity. Figure 1 shows the growth of the number of peer-reviewed publications since the inception of the Collaboration. Reports and other outputs are listed in the research centre websites. The increase in publications in 2004–2005 corresponds with the award of University Department of Rural Health status and funds to the Northern Rivers University Department of Rural Health.

The value of research funds across the Collaboration varies from year-to-year and with the timing of large grants. Initially there was little involvement in Category 1 peer-reviewed grants with $250 000 reported in 2002 but this has increased to a peak of $3.5 million reported in 2009.

Capacity building activities include: providing or contributing to research methods courses for novice researchers; courses and mentorship for more experienced centre researchers, such as biostatistical training or advanced

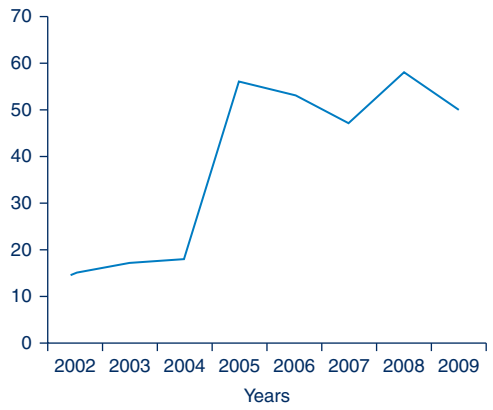

Figure 1. Number of papers published in peer-reviewed journals and book chapters by researchers in Australian Rural Health Research Collaboration research centres, by year. Source: Australian Rural Health Research Collaboration.

writing and publication skills; and a bi-annual research colloquium in which centre researchers and rural clinicians present their findings to a rural audience with international keynote speakers, senior state policy makers and managers. This symposium is structured on the strategic objectives of NSW Health to maximise opportunities for policy dialogue and research translation. Close collaboration over a number of years with the Rural Division of the Clinical Education and Training Institute led to it becoming a full member of the Collaboration in 2009. Senior researchers within the Collaboration regularly contribute to Institute courses in qualitative and quantitative research skills and to mentorship and supervision of rural clinicians and researchers. A feature of the Collaboration has been the support of rurally-based doctoral students through a training and support network and occasional small grants.

Examples of Collaboration research

Australian Centre for Agricultural Health and Safety (Moree)

The aim of the Centre is to 'assist rural Australians to attain improved levels of health and wellbeing by action to reduce the incidence and severity of injury associated with life and work in agriculture'. The Centre maintains national registers of farm deaths and injuries, and conducts major studies on: farm health and safety of children, young people and older farm workers; the development and promotion of safety strategies; and the causes of death, injury and illness on farms. Membership of the Collaboration has provided the Centre with access to a wider range of investigators and research expertise than could be maintained in a small rural town. This has enabled successful collaborative research on: drought and mental health with colleagues from the Northern Rivers University Department of Rural Health and the Centre for Rural and Remote Mental Health;[4–6] farmers' health service use, employing innovative social network analysis;[7–9] programs to promote farmers' mental health in association with the Centre for Rural and Remote Mental Health in partnership with farm organisations;[10] and research on psychiatric epidemiology using the Australian Rural Mental Health Study's flagship cohort addressing the relationship of health and place, family, occupation and environmental events.[3]

The Australian Rural Mental Health (Cohort) Study

Each research centre in the Collaboration has one or more chief investigators working on the project and conducts centre-based data collection activities. Directors of Mental Health and Drug and Alcohol from the former area health services are associate investigators in the study. The study aims to provide a better understanding of patterns of mental health problems in rural communities and their relation to household, community and environmental factors such as drought. The project is beginning to provide data to address problems such as the link between occupation and mental health in rural communities.[11] The involvement of Directors of Mental Health underpins a key objective of the study: to examine patterns of mental health service use and plan improvements to these.

The Study has provided an opportunity to fill a knowledge gap regarding rural and remote mental health and its determinants by combining the research skills of the members with the understanding of service provision provided by health service investigators. A wide range of questions are being investigated including: the relationship between mental health and injury; rural mental health and occupation; mental health and service utilisation; the factors that predispose mental health problems in rural populations;[12] questions of family structure and child health; and topical issues such as perceptions of water availability and their significance for health in various rural populations. Findings from some of these lines of inquiry have been published and others are in train. The Collaboration has enabled the partners to work together on matters of national and international significance in ways that would otherwise be impossible.

Reasons for the success of the Collaboration

The positioning of the Collaboration in a public health framework and its infrastructure funding has been propitious since it enables research in population health, environmental health, agricultural health and safety, primary health care and mental health care. This has further enabled research that crosses boundaries such as the mental health problems experienced by people who live and work on farms and the implications for health and health services of environmental adversity.

The Collaboration has been supported by senior staff from each partner, both academic researchers and service providers. The governance arrangements have been adequate but not over-elaborate. An Advisory Committee has been an important part of the Collaboration governance mechanism and has been a source of advice on the critical health problems and concerns of rural and remote communities.

The Collaboration has enabled the development of a large and flexible team of researchers which could not be achieved at any of the rural or remote centres alone. This has enabled the members to become increasingly competitive for research funding, which draw upon larger numbers and a broader range of experienced staff. This is very important since the health problems faced by rural and remote communities are complex and not amenable to simple or short-term solutions.

The Collaboration has had four directors from three research centres who have given time to the leadership and management of the Collaboration. It has funded a

part-time administrator, and other costs of collaboration such as meeting and travel costs for Advisory Committee members and to and reporting costs. This combination of leadership and administration to action decisions has been critical to performance and progress.

The provision of NSW Health infrastructure funding to the Collaboration has been vital to complement the costs borne by Collaboration partners. The competitive funding process has sharpened strategic thinking on a regular basis and in considering the needs and priorities of the funder and the rural constituency.

The Collaboration has been viewed by its partners as an opportunity. Each of the research centres have other collaborators in their specialist disciplines within NSW, across Australia and internationally. It has provided an effective means to identify collaborators for research proposals and to reinforce skills that are in short supply or absent within a particular centre.

The Collaboration has acted as a catalyst and assisted the member centres to grow in a number of ways. It has provided a mechanism for senior researchers, service managers and policy makers to work together in rural settings where there are shortages of experienced staff and skills unlike the large research groups in metropolitan centres. It has enabled the sharing of expertise that would be much more difficult without the regular association and joint working facilitated by the Collaboration.

Within the Collaboration the research centres remain as autonomous entities with their own capabilities, goals and activities but membership provides a mechanism for sharing skills and participating in larger activities than would otherwise be possible.

The research centres still have different strengths in the fields of research, capacity building and translation. This is demonstrated by the balance of outputs between investigator-driven research papers, guidelines and publications designed for end users rather than other researchers. It is the sharing of these strengths that has underpinned the performance and value of the Collaboration to its members and to the rural communities of NSW. These activities have demonstrated that research can be embedded in rural settings and that a culture of enquiry is not limited to larger metropolitan communities.

Conclusion

The Australian Rural Health Research Collaboration, supported by infrastructure funds from NSW Health, has enabled the growth of rural research centres that have active relationships with their area health services and are able to address some of the major health problems faced by rural communities. Rural research groups are never likely to reach the size of their metropolitan competitors and so will increasingly need to work in partnerships to balance the benefits of scale with those of local knowledge, responsiveness and credibility. The Collaboration faces new challenges with the health system reforms and new structural entities but the most important priorities are researching the health of rural populations in ways that will produce new and viable solutions sufficiently robust to meet population health needs in conditions that are often challenging due to natural and man-made adversity.

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