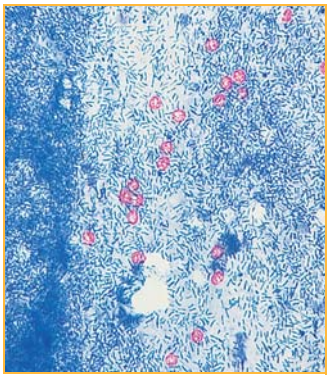
Parasite elimination programs: at home and away



A more coordinated, national approach to parasite control would have substantial benefits

In January 2000 the World Health Organization launched a program aimed at global elimination by 2020 of the lymphatic filarial parasites *Wuchereria bancrofti* and *Brugia malayi*. These parasites together infect in excess of 120 million people, and cause significant morbidity through elephantiasis. A major stimulus to the implementation of this and other programs, such as those aimed at the elimination of leprosy and Chagas' disease, was the successful global elimination of smallpox in 1977, and major advances in programs to control polio, measles, dracunculiasis (guinea worm) and onchocerciasis (river blindness). So, what of Australian parasite control programs?

In Australia, endemic malaria and lymphatic filariasis have been eradicated, and leprosy, a once feared and politically significant disease, is in decline through sustained control programs conducted by dedicated public health agencies over long periods using effective drugs. However, the same cannot be said for other common parasitic diseases which are still endemic in Australia, including scabies, giardiasis, cryptosporidiosis, hookworm, strongyloidiasis and trichuriasis. These parasite infections have remained highly prevalent among Indigenous Australians living in the tropical north of the country in areas where infrastructure development has lagged, and improvements in living standards have not matched those seen elsewhere.[1-3]

Leadership in Australian parasite elimination programs should come from both the Indigenous and medical communities . . .

Rather than being of trivial importance, such parasite infections cause substantial preventable morbidity. Secondary infection of scabies lesions with group A streptococci contributes to the exceptionally high rates of rheumatic fever and renal disease seen in Indigenous people, while enteric parasites cause a range of adverse health effects, including anaemia from hookworm, septicaemia from strongyloidiasis, and malabsorption and diarrhoea in children from giardiasis and cryptosporidiosis. Further, the merit of control programs for geohelminth infection is supported by studies suggesting benefits in educational outcomes among children treated for these infections.[4]

Despite the progress made in hookworm control during the course of the Australian Hookworm Control Program in the early part of last century, this infection has remained endemic in many Indigenous communities across our tropical north, and contributes to iron deficiency and anaemia in women and children. The limited success of attempts to control hookworm in one remote northern Australian Indigenous community of about 350 people has been published in the Journal (with rates of hookworm infection documented in 1992 of up to 93% in children 5–14 years of age).[2] Recently, our group has published the successful outcome of a 78-month hookworm infection control program in the same community.[5,6] This program's success was due to close liaison with the community, the setting of clear goals, and a commitment to improve environmental infrastructure and local health education, as well as regular targeted, population-based chemotherapy over a sustained period. The change of anthelmintic from pyrantel (to which parasite resistance had been demonstrated[7]) to single-dose albendazole was an additional significant factor in the success of the program.

Parasite control programs based on community-wide distribution of albendazole among school-age children have also been implemented in the Northern Territory, and a similar community treatment strategy using permethrin therapy for scabies has recently been shown to reduce the prevalence of scabies in one community from 35% to 3%.[3] Such successful programs are useful models for further community programs and national initiatives.

Could and should parasitic disease in northern Australia be controlled more effectively? While the determinants of parasitic disease in northern Indigenous communities are complex, there are common themes. Contributing factors include poverty, lack of health knowledge, poor environmental infrastructure and housing, remoteness from health services, family mobility across health regions, and haphazard opportunistic treatment of parasites as they are encountered in clinical practice. To be successful, parasite control programs must be consistent, coordinated and sustained, and accompanied by local health education and improvements in health infrastructure. At present, regional and State parasite control programs lack a consistent approach across primary and secondary sectors and across State borders, and in some regions are ignored or left largely to enthusiasts.

A more coordinated, national approach to parasite control would have substantial benefits:

- It would allow Aboriginal health organisations to fully participate and "own" the program from the national planning level through to the local community, thus facilitating rational debate on this emotive issue;
- Funding would be made available for nationally agreed strategies and continuing infrastructure improvements in affected communities;
- The use of standard surveillance techniques, reporting and targets would enable monitoring of progress;
- The reduction of parasite burden would be achieved through coordinated, programmed use of proven, safe drugs, including albendazole, ivermectin, tinidazole, and permethrin, at a community level; and

■ Programs would be monitored for the development of drug resistance (a problem already present in veterinary practice where related drugs are used[8]).

Two critical factors for the success of such a program are political will, and a will on the part of the communities themselves, together with local healthcare providers, and government and Indigenous health organisations. While the cost of the drugs is not the major barrier to the implementation of such programs, the positive publicity gained by two pharmaceutical companies from their leadership in donating ivermectin and albendazole to the WHO-sponsored filariasis program could have some local lessons. Leadership in Australian parasite elimination programs should come from both the Indigenous and medical communities through an alliance of Indigenous people and public health, infectious diseases and paediatric practitioners.

James S McCarthy

Associate Professor of Tropical Medicine and Infectious Diseases
School of Population Health, University of Queensland, Herston, QLD

Stuart C Garrow

Director, and Public Health Physician, Kimberley Public Health Unit, Derby, WA
(currently, General Practitioner
North Peterborough Primary Care Trust, St John's, Peterborough, UK)
j.mccarthy@sph.uq.edu.au

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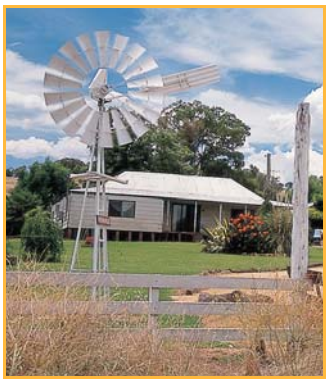
Rural health: why it matters



Australia needs a distinctive "rural health" approach that recognises the valuable role played by the "outback" in our economy and our national psyche

THE YEAR 2002, THE "YEAR OF THE OUTBACK", is an opportune time to reflect on why rural health matters and why it continues to be important for Australia. It is the culmination of a decade of initiatives and activity by governments, health organisations and communities seeking to address the "problem of rural health".

Rural health emerged in the 1990s as an identifiable field of activity focusing on improving the health status and meeting the specific health needs of people living "out back" of metropolitan areas. The key rural health issues are medical workforce supply, including appropriate training and education; transport and access to appropriate services; funding and costs to patients; and the health status of Aboriginal and Torres Strait Islander peoples in particular, which remains a national shame.[1]

Under strong pressure from the rural electorate and from advocacy bodies such as the National Rural Health Alliance, there has been a positive government response to rural health issues in recent years. This has included a policy framework that coordinates different levels of government;[2] support for advocacy groups and rural professional associations; a significant investment in rural and remote academic infrastructure through the university departments of rural health and rural clinical schools;[3] and increased funding for regional and Aboriginal health services. As it is too early to fully evaluate the outcomes of Commonwealth investment in rural health, a sustained effort is required.

Rural health issues warrant specific and ongoing attention for a number of reasons. Firstly, outback Australia is different from metropolitan Australia. While the defining characteristic of rural health remains its geography (and related issues of access to healthcare services), rural and remote Australia is also sociologically, culturally, economically and spiritually different from metropolitan areas, as well as internally diverse. It is these characteristics that define the health behaviour of its residents, determine their health status and influence the way health and medical care is provided.[4] Nowhere is this more evident than in dealing with the healthcare needs of Aboriginal and Torres Strait Islander peoples in rural and remote regions.

Secondly, rural health matters because of health differentials between the city and the outback. Nationally, there is a trend towards a higher mortality rate with increasing remoteness, mostly attributable to the higher proportion of Aboriginal and Torres Strait Islander peoples in remote and very remote regions.[5] Given the right of all Australians to optimal health and equitable access to health services, the significantly poorer health status of people in outback Australia remains a fundamental concern.

Thirdly, improving rural health is integral to rural and regional development in Australia. Currently, outback Australia fares worst in statistical comparisons of the underlying social determinants of health — namely, housing, employment, income level, education, transport, and social security.[6] Good health does not result from access to health services alone. Without a comprehensive regional develop-