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A SYSTEMATIC REVIEW OF PRIMARY HEALTH CARE DELIVERY MODELS IN RURAL AND REMOTE AUSTRALIA 1993-2006

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POLICY CONTEXT

Driven by health inequalities between rural, remote and metropolitan Australia, a favourable rural health policy environment has resulted in significant allocation of funding for education, training and service delivery programs for rural and remote areas over the past decade.

In the past, direct policies to address inequalities have focused largely on workforce supply, particularly increasing the medical workforce. Less attention has been focused on the systematic development of sustainable comprehensive primary health care (PHC) service models appropriate to rural and remote Australia.

KEY FINDINGS

This systematic review investigated evidence on sustainable comprehensive rural and remote PHC service models. [The resulting framework](#) synthesises rural and remote health service models into five broad categories:

- Discrete Services, such as general practitioner models for rural towns
- Integrated Services, such as the Multi-Purpose Services (MPS) program
- Comprehensive Primary Health Care Services, as exemplified by some Aboriginal community controlled health services
- Outreach Services, including successful hub-and-spoke models delivering services to smaller, more isolated communities
- Virtual Outreach services, such as tele-health

The systematic review also revealed several rural and remote exemplars of PHC service delivery. They range from the discrete general practice model in more closely settled country towns, through to integrated models and hub and spoke models for delivering a full range of PHC services to smaller, isolated communities. These exemplars have been evaluated and are amenable to generalisation and evaluation in other regions.

The suitability of each model type varies with geographical remoteness, population size and population density.

The framework provides a set of evidence-based principles to inform decision-makers responsible for developing PHC policy, funding and evaluating health services. These principles are based on three environmental enablers and five essential service requirements.

Environmental enablers

(a) Supportive policy: The provision of effective, sustainable primary health services in rural and remote communities is predicated on an explicit rural and remote health services policy that provides the framework for sustainable health services, and specifically takes account of the unique rural and remote considerations that distinguish this context from that addressed by mainstream programs.

(b) Commonwealth-State relations: Streamlining Commonwealth-State roles and responsibilities enables health authorities to develop and implement sustainable models of PHC appropriate to community needs and circumstances. Given the scarcity of health resources and the need to allocate them across widely divergent geographical settings, particular attention should be paid to avoiding inefficiencies and duplication of activities, funding and reporting requirements that characterise existing Commonwealth and State arrangements.

(c) Community readiness: Given that change management is probably the most sensitive and difficult aspect of any system innovation, maximising information and communication between the various parties involved is critical to successful implementation strategies. Central to this success is an appropriate level of community involvement in the identification of health needs and planning of the health service.

This includes:

- Defining the size, dispersion, composition and needs of the service population
- Assessing the adequacy and sustainability of current services, including unmet needs
- Arrangements for the appropriate level and nature of community involvement in the ongoing governance, review and evaluation of the service

Essential requirements:

1. Workforce organisation and supply: The development of sustainable comprehensive PHC service models appropriate to rural and remote Australia requires measures to ensure adequate workforce supply and appropriate staffing mix. These workforce requirements include:

- A sufficient number and range of appropriately trained health professionals to meet community needs
- A recruitment strategy to address professional and personal needs, including minimal start-up costs and capital investment for staff, housing, leave, appropriate workload, and spouse and family support

- A retention strategy addressing professional support, continuing professional development (including travel costs and leave packages), and sustainable after-hours and on-call arrangements
- Feasible succession planning strategies

2. Funding: Funding should be adequate to meet identified health needs of the community and financing should be appropriate, sustainable and clearly identified within program budgets. This requires:

- An adequate budget to cover salaries and infrastructure and indexed to meet all operational costs
- Sustainable and sufficiently flexible financing so that care can be delivered in diverse circumstances appropriate to community needs
- That all possible sources of financing have been identified with the facility to pool funds in order to maximise service efficiencies and economies
- An agreement that: (i) involves all funders, service providers and community and (ii) clearly details funding quantum, financing mechanism, agreed objectives, performance indicators and consolidated reporting requirements

3. Governance, management and leadership:

- Governance structure and processes should be clearly defined, implemented and reviewed. Service accreditation should be mandatory to ensure that appropriate mechanisms are in place. Specifically, the level and nature of community involvement needs to be identified and agreed. Where necessary, a costed governance training plan is included.
- Management structure and processes should be clearly documented and implemented to ensure that:
 - Service managers with appropriate skills are available
 - Human resource and finance systems are described
 - A risk management plan is documented, particularly with respect to workforce supply, key staff, service viability, and IT systems
- Champions or leaders from the service, community and government should be identified and actively engaged in the support and operation of the health service. In order to avoid excessive service dependence on any one particular leader, however, a succession plan is defined whereby potential new leaders are identified and groomed in readiness for change.

4. Linkages: All critical linkages at different levels are identified and documented. Every attempt should be made to maximise integrated activity and coherence within the health service, and to ensure efficient and effective co-ordination with external agencies and services relevant to patient care. Central to effective integration and co-ordination are agreements with key stakeholders so that:

- Clinical referral pathways ensure seamless service
- Key external stakeholders are identified and roles defined
- Key systems are consistent, including standard treatment protocols, IM/IT systems

5. Infrastructure should be adequate and fully costed. This includes:

- New or upgraded physical infrastructure such as clinics, accommodation, equipment, vehicles and an operating budget to maintain them
- IM/IT systems appropriate to the service, its catchment population (particularly in areas of high population mobility), and to its agreed monitoring and reporting needs

Critical Mass and Economies of Scale

A critical consideration in providing comprehensive PHC services in non-metropolitan Australia is the nature of population distribution. Beyond larger coastal population centres, distance and population dispersion result in unavoidable diseconomies of scale. Successful and sustainable models are those which aggregate a critical population mass, whether as a discrete population in a country town or a dispersed population across a much larger Aboriginal language group region.

The best available evidence indicates that a minimum population base of about 5000 for rural and 2000-3000 people for remote communities is required to support an appropriate, sustainable range of PHC activities.

The framework provides some guidance in relation to appropriate models for different levels of population size and density. These models are not mutually exclusive and in many instances some combination may be appropriate.

POLICY OPTIONS

A regional approach, taking into account the different categories of model appropriate for different levels of population density and the enablers and essential requirements for rural and remote PHC services as summarised above, together provide valuable information for the development of a comprehensive PHC service development policy for rural and remote Australia. Through the development and implementation of such a policy, improved access to comprehensive PHC services should contribute to decreasing health inequalities.

METHODS

The [methods](#) involved formation of a reference group to assist in guiding the study. The original research questions were refined in consultation with the reference group. Inclusion and exclusion criteria, which would determine the scope of papers retrieved and analysed, were defined in an iterative fashion, informed by the nature and volume of papers retrieved and in consultation with the reference group. Both published papers identified through a detailed electronic database search strategy and 'grey' literature (unpublished papers and other reports) were included. Data were extracted from the final group of papers that satisfied the inclusion criteria. An initial capture of 5391 documents relating to rural and remote PHC models in Australia was reduced to 161 for detailed review. Data were extracted, analysed and synthesised.

For more details, go to the [full report](#)

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