



Health Workforce
Queensland

Methodology to Support Development and Implementation of Solutions to Queensland's Health Workforce Crisis



Factors Contributing to Success (and Failure)

HEALTH WORKFORCE QUEENSLAND 2006

This work is copyright. Apart from any use permitted under the Copyright Act 1968, no part may be reproduced without prior permission from Health Workforce Queensland. Requests and enquiries concerning reproduction and rights should be directed to Health Workforce Queensland, GPO Box 2523, Brisbane, Qld 4001.

SUGGESTED CITATION

Health Workforce Queensland (2006). Methodology to support development and implementation of solutions to Queensland's health workforce crisis: Factors contributing to success (and failure). Brisbane: HWQ

AUTHORS

Kristine Battye, Director, Kristine Battye Consulting Pty Ltd
Chris Mitchell, Chief Executive Officer, Health Workforce Queensland
Sheilagh Cronin, Medical Advisor to Health Workforce Queensland
Col White, Data/Research Manager, Health Workforce Queensland
Michael Thornber, Director, Michael Thornber and Associates

April 2006

Website: www.healthworkforce.com.au

ISBN 0-9752159-7-3

***Health Workforce Queensland is funded by
The Australian Government Department of Health and Ageing***

ACKNOWLEDGEMENTS

Health Workforce Queensland would like to acknowledge and thank the collaborating organizations and individuals who participated in the community-based workforce planning and health service remodeling.

The project team would be particularly like to thank the Diamantina Shire and CEO Mr John Perry; Mr Bruce Garvie, Mayor, Roma Town Council; Mr Stewart Gordon, District Manager, Dr Cameron Bardsley, Dr Athol Mackay and Dr Alex Teare, Roma Health Service District; Mrs June Lithgow and Mr Grant Searles, Central West Health Service District; Mr John Wylie, former District Manager, Mt Isa Health Service District; Mrs Judy Scott, Dr Rosie Geraghty, Dr Lorraine Wheeldon, Dr Rob Bourke, and the Southern Queensland Rural Division of General Practice; and Mrs Heather Krause, North and West Queensland Primary Health Care.

We also recognize that differing participants may have differing perceptions as to who did what to facilitate change. This paper is more about documenting the underlying processes and methodologies that can engender change rather than individual contributions. The role of Health Workforce Queensland has largely been to act a facilitator and assist with the analysis of the current situation and the development of alternative models. We acknowledge that the progression and implementation of these new models are undertaken 'on the ground' by local participants and stakeholders. The progression and implementation stages can often entail differing participants and stakeholders working on particular aspects of the agreed model/plan with all contributing to the end result. The major purpose of this paper has been to document processes and methodologies that can be successfully adapted or utilized in other communities to improve local health service delivery.



TABLE OF CONTENTS

<i>Acknowledgements</i>	i
<i>Table of Contents</i>	ii
<i>Glossary</i>	iv
<i>Executive Summary</i>	1
Chapter 1: Underpinning Sustainable Rural and Remote Health Services	7
1.1 Introduction	7
1.2 Seven key principles for health workforce planning	9
1.3 Development of Models for Sustainable Health Service Delivery in Rural and Remote Queensland	10
Chapter 2: Methodology to Support Development and Implementation of New Models of Primary Care	11
2.1 Introduction	11
2.2 Description of Methodology	11
Chapter 3: Workforce and Health Service Re-Modeling: Real World Application	25
3.1 The Roma Case Study: Transforming the rural medical workforce through training	25
3.1.1 Background	25
3.1.2 Analysis of the Roma Case Study	32
3.1.3 Factors facilitating change in Roma	33
3.2 The Diamantina Case Study	33
3.2.1 Background	33
3.2.2 Analysis of the Diamantina Case Study	39
3.2.3 Factors facilitating change in the Diamantina	39
3.3 Case Study: Cloncurry	40
3.3.1 Background	40
3.3.2 Analysis of the Cloncurry Case Study	45
Chapter 4: Lessons Learned	47
4.1 Lessons Learned: Workforce planning and service re-engineering	47
4.1.1 Change is possible	47
4.1.2 Systematic Barriers to be overcome	47
4.1.3 Importance of a local driver outside the health industry	48
4.1.4 Maintenance of focus on Implementation of solutions	48
4.1.5 Fragility of arrangements that hinge on individuals	49
4.1.6 Re-engineering mindsets	49
4.2 Lessons Learned: Methodology	50
4.2.1 Focus is still planning, need to learn about implementation	50
4.2.2 Resourcing required to support the methodology	50
4.2.3 Identification and negotiation of Exit Points	51
4.2.4 Methodology helps traverse :”The Bog”	51
4.3 Take Home Message	52
References	53

GLOSSARY

AIHW	Australian Institute of Health and Welfare
AMWAC	Australian Medical Workforce Advisory Committee
ATSIC	Aboriginal Torres Strait Islander Commission
CEO	Chief Executive Officer
COI	Community of Interest
DoHA	Department of Health and Ageing
EMST	Emergency Management of Severe Trauma
FTE	Full time equivalent
GP	General Practitioner
HACC	Home and Community Care
HSD	Health Service District
HWQ	Health Workforce Queensland
LGA	Local Government Area
MOU	Memorandum of Understanding
MICRRH	Mt Isa Centre for Rural and Remote Health
MIHSD	Mt Isa Health Service District
MORPP	Medical Officer with Right to Private Practice
MPHS	Multipurpose Health Service
MSRPP	Medical Superintendent with Right to Private Practice
NGO	Non-government organization
NWQPHC	North and West Queensland Primary Health Care
O and G	Obstetrician and Gynaecologist
PHCAP	Primary Health Care Access Program
PHO	Principal House Officer
PRVTS	Pilot Remote Vocational Training Scheme
QH	Queensland Health
RDAA	Rural Doctors Association Australia
RFDS	Royal Flying Doctor Service
RN	Registered Nurse
SARRAH	Services for Australian Rural and Remote Allied Health
SLA	Statistical Local Area
SMO	Senior Medical Officer
SQRDGP	Southern Queensland Rural Division of General Practice
SWPE	Standard Whole Patient Equivalent
VMO	Visiting Medical Officer

EXECUTIVE SUMMARY

Solutions to the provision of primary care services to rural and remote Queensland is a policy paper developed by Health Workforce Queensland in 2004, and provides a platform to support re-modeling of primary health care services based on principles to support sustainable health services, and identification of key professional and personal factors to be addressed in workforce planning and health service re-engineering.

Underpinning sustainable rural health services is the establishment of an effective interface between the public, private and non-government sectors to build a critical mass of health professionals. In the medical arena, this critical mass enables the development of sustainable after hours and on-call rosters, and is important in supporting and maintaining the provision of procedural services. Industry benchmarks are fundamental to defining the critical mass.

This cross-sector interface enables greater use of existing resources inclusive of human resources, facilities, equipment, infrastructure and training opportunities, and supports the provision of multidisciplinary care.

Furthermore, in rural and remote locations, sustainable health services require supporting management structures (practice, personnel, information and technology), to enable clinicians to maximize their clinical time.

Over the last two years, Health Workforce Queensland has been approached by a number of communities for assistance in addressing local health workforce shortages. As a result of the rapidly increasing demands for assistance, Health Workforce Queensland has documented the methodology developed to work with communities, to enable skills transfer within the organization, and for dissemination to other agencies seeking to find local solutions to workforce issues.

This document details the systems-based methodology developed by Health Workforce Queensland, presents case studies illustrating the methodology, and identifies key learnings from the community-based workforce planning and service re-engineering.

METHODOLOGY

Action research underpins the development of this methodology for rural and remote health service development. A systems based framework has been used to support decision making, comprehensive information gathering to issues relevant to the problem(s) at hand, and identification of key agencies, organizations and personnel that may form part of the solution. The systems-based approach also seeks to ensure engagement of key stakeholders to develop the specificity and detail that is required in the process of service development or re-design, in order to provide a strong platform for implementation of the new or adapted model.

The methodology is described in five phases.

PHASE 1: INITIAL ASSESSMENT OF THE SITUATION

Within this phase, the facilitating agency is seeking information relating to:

- Overview of the region/community
- Problem identification and impact
- Key players in the local health service environment
- Expected outcomes/expectations of the requesting community representative

PHASE 2: DECISION AND ENGAGEMENT

To what extent will the agency respond?

Consideration is required of internal capacity and capabilities of the agency, local ownership of the problem, and likelihood of developing 'do-able' solutions.

PHASE 3: ENVIRONMENTAL SCAN AND IDENTIFICATION OF STRATEGIC ISSUES

This phase involves a detailed analysis of the current situation. Key processes include:

- A wider engagement with health service providers (private, public and non-government organizations), local government, industry and other relevant agencies to workshop the problem and root causes, identify a strategy or process to move forward, define roles and responsibilities of agencies to progress problem solving, and develop broader communication strategy. *This group or subset of this group usually form a steering committee or reference group to progress the solution development and implementation*
- Undertaking a service mapping exercise and gap analysis using qualitative and quantitative information, drawing on industry benchmarks to determine the scope and magnitude of service gaps
- Compiling an agreed Environmental Scan Analysis that will inform and guide stakeholders, agencies and individual's directions and actions

PHASE 4: OPTION DEVELOPMENT AND SELECTION

The purpose of this phase is to develop one or more options to address the priority issues, using the principles and elements of sustainable service models as described in the Solutions Paper.

Following agreement by the Steering Committee on the option(s) to be progressed, an implementation plan is developed with the committee and other agencies detailing:

- Roles and responsibilities of agencies
- Communication strategies
- Funding requirements and mechanisms to source funding
- Change management strategies that may be required to support the implementation of the preferred option
- Strategies to secure political support for implementation at a local, regional, state and national level (if required)

PHASE 5: IMPLEMENTATION, MONITORING AND EVALUATION

In negotiating the implementation plan with the steering committee and service partners it is necessary that there is agreement on:

- The schedule of outcomes
- Budget and resource allocation by funders and providers for financial, in-kind and human resources input
- Implementation strategies for each of the service partners
- Agreed timelines

Underpinning successful implementation is a genuine commitment from all parties to improve and/or restructure health services in their community, and these commitments are documented through a Memorandum of Understanding or Service Partner Agreement. This should facilitate implementation, and provide a defined basis for monitoring, with opportunities to identify barriers as they arise, and develop strategies to overcome these.

In addition, the formalization of the implementation plan through an agreement provides a safeguard to ensure that change of personnel and change in management does not sabotage or negate previously agreed commitments.

This methodology for workforce planning and service re-engineering is modular. As such, it provides the opportunity to:

- Define and delegate sections of work to be undertaken
- Provide a structure to assist the requesting community and agency to negotiate the scope of work and decide upon an exit point for the agency
- Identify and cost resources required to undertake each component of work

CASE STUDIES

Three case studies are presented to:

- Describe the application of the systems-based methodology for workforce planning and health service re-engineering
- Inform health service planners and funders of the barriers and enablers to workforce development and health service re-engineering in rural and remote locations

THE ROMA CASE STUDY

This case study demonstrates how rural medical workforce capacity can be increased through addressing clinical leadership, to underpin the development of a training network to establish a sustainable model for general practice and procedural medicine. The key factors contributing to the development and implementation of the re-engineered model were:

- Establishment of a local forum to facilitate an interface between public sector and private doctors, local government, District Health Executive, and the local Division of General Practice. The forum provided the platform to identify a raft of local issues negatively impacting on the recruitment and retention of doctors at the local hospital, and health service provision more broadly. It also provided the mechanism for collaborative development of solutions and strategies for implementation including the development of a training hub or network for general practice and procedural medicine
- The Mayor acting as a local driver focused on solutions
- Change in management at a District level, enabling greater attention to engaging with the local medical community, and addressing professional and personal factors contributing to recruitment and retention of medical personnel
- Support from the Division of General Practice to organize the forum, but more importantly galvanize the local GPs to support and participate in the forum
- Development of a Memorandum of Understanding between the four lead agencies to maintain and monitor implementation.

THE DIAMANTINA CASE STUDY

This case study is an example of a local government organization becoming the fund holder for the delivery of primary health care services within its jurisdiction, so that services provided meet the needs of residents of the Shire living within the two main townships, and on properties. The Diamantina Shire is the auspice of the Diamantina Health Service and has contracted North and West Queensland Primary Health Care to provide remote area nursing services.

The key factors contributing to the development and implementation of the re-engineered model were:

- Establishment of an interface between local government, the Commonwealth government and non-government organization resulting in additional funding to the Shire to enable the employment of additional nursing staff. This has increased the critical mass of nurses in the Shire enabling provision of internal relief across the two clinic sites, reduced on-call burden, and provision of services to properties
- Contract between the Commonwealth and the Shire, and the Shire and North and West Queensland Primary Health Care as the foundation for implementation of the re-engineered model, and as a mechanism to monitor and evaluate implementation
- Progressive local government experienced in meeting challenges
- CEO of the Shire acting as the local driver for health service reform
- Support by the officers of the Australian Government Department of Health and Ageing to assist in finding solutions

THE CLONCURRY CASE STUDY

Cloncurry provides a case study where a long-term medical workforce problem is initially addressed through the development of an interface between a District Health Service, Queensland Health employed doctors, a corporate general practice entity and a private GP with links to academic general practice. This interface enabled the creation of an additional Medical Officer with Right to Private Practice (MORPP) position in Cloncurry, filled by a Bonded Scholarship holder able to complete her GP training term under the GP supervisor.

The increased number of doctors in Cloncurry (from 2 Queensland Health positions inclusive of the Medical Superintendent with Right to Private Practice (MSRP) and MORPP) to 4 (MSRPP, 2 MORPPs, and GP Supervisor) enabled the introduction of a sustainable on-call roster, internal relief within Cloncurry and to the adjacent town of Julia Creek, and locally available GP training.

However, this arrangement was not formalized. Following a change in management at a District level, the second MORPP position has not been actively recruited to the practice. This has negatively impacted on the provision of internal relief in Cloncurry, and relief to the solo doctor working in Julia Creek.

LESSONS LEARNED

Drawing on the three case studies presented and experience of Health Workforce Queensland working with four other communities, a number of barriers and enablers have been identified impacting on the success or failure in developing and implementing workforce solutions and service re-engineering.

TABLE (I): BARRIERS AND ENABLERS IMPACTING ON WORKFORCE PLANNING AND SERVICE RE-ENGINEERING

Systemic Barriers	Enablers
Acceptance by health service managers and communities of sub-optimal workforce numbers. Benchmarks identify scope and magnitude of workforce shortage	Local driver outside the health industry (this is often local government)
Inertia of bureaucracy – lack of decision making, largely due to turnover of administrators and bureaucrats	Require mechanisms to maintain focus on implementation, including agreed plan or blueprint to work to, and forum for key agencies to meet for planning strategies, determining implementation responsibilities and monitoring
Difficulty in obtaining agreement on state and commonwealth contributions for new or additional services	Implementation of workforce strategies and/or re-engineered model requires formal contract, Memorandum of Understanding or similar agreement to minimize risk of collapse following changes in management within lead agencies
Long history of crisis management	Re-engineering mindsets of key players, this may relate to growing and/or diversifying services, alternative models of fund holding and governance, blurring the interface between public and private services

LESSONS LEARNED: METHODOLOGY

The systems-based methodology enables an agency using this process to:

- Assess a situation and decide upon its response
- Provide a checklist of information required about the region in question and identify information sources to enable comprehensive information
- Benchmark health services in the region to identify service gaps
- Seek engagement of local stakeholders
- Identify other partners to assist in developing and implementing solutions
- Establish a mechanism with stakeholders and partners to define strategies required and assign responsibilities for action
- Identify funding requirements
- Establish communication processes
- Prompt to secure political support for implementation

However, the strength of this methodology is still in the planning phases. Health Workforce Queensland must continue to evaluate the implementation of strategies in the communities

in which it is engaged, to gain a greater understanding of the critical elements to support implementation.

While the cost and time commitments of undertaking community-based planning are significant for the facilitating agency and collaborating parties, the benefits are improved interactions between the public, private and non-government sectors, resulting in a raft of professional and lifestyle benefits to the individual practitioners and sustainable health services for communities.

1. UNDERPINNING SUSTAINABLE RURAL AND REMOTE HEALTH SERVICES

1.1 INTRODUCTION

In 2004 Health Workforce Queensland published a research paper that has informed policy development for the rural workforce agency to underpin health workforce planning over the next decade. This document, *Solutions to the provision of primary care to rural and remote communities in Queensland*, (referred to as the Solutions Paper), provides a platform to support re-modeling of primary care services in rural and remote Queensland through the development of principles to support sustainable service provision, and identification of key factors contributing to the recruitment and retention of medical practitioners, with application to other health disciplines.¹

The literature review and industry scoping that formed the foundation of the Solutions Paper provide a clear summary of the factors contributing to the medical workforce crisis in Australia.

The medical workforce shortage in Australia was triggered in the mid 1990s by a convergence of initiatives of the federal governments of the time, aimed at slowing the growth and size of the medical workforce, changing its structure, and re-directing the geographical distribution of doctors toward rural areas. The specific measures included:

- Restricting the number of Australian medical students, capping intake in 1996
- Reducing the number of general practice (GP) training places
- Restricting the immigration of overseas trained doctors to Australia
- Restricting the allocation of provider numbers for overseas trained doctors to areas of workforce shortage
- Limiting the issue of provider numbers to vocationally registered doctors or doctors on a recognized postgraduate training program

The restriction in the supply of doctors has been compounded by the ageing of the GP workforce, increased participation by women in the medical profession, and changing work patterns resulting in less hours worked by younger doctors.

It is now widely recognized that rural and remote regions, and Indigenous people are particularly disadvantaged in terms of access to health professionals. This is evidenced by a key recommendation of the recent Productivity Commission report on Australia's health workforce, to ensure that all broad institutional health workforce frameworks make explicit provision to consider the requirements of rural and remote areas.^b

Recruitment and retention are fundamental to the establishment of a health workforce. However, there is overwhelming evidence that lifestyle factors negatively impact on attracting and retaining doctors to rural and remote locations. A survey of over 4,000 doctors in vocational training found that only 14% intended to work in rural and remote areas on a long-term basis because of lifestyle factors relating to long working hours, heavy on-call demands, locum availability, lack of part-time opportunities, professional isolation, employment and/or training opportunities for partners, educational opportunities for children and travel costs to access training.^c These same factors contribute to doctors leaving rural and remote practice.^d

Allied health professionals leave rural and remote regions for many of the same reasons as

doctors. Allied health professionals are often working as sole practitioners, lack access to professional and clinical support, lack orientation to the type of environment in which they are working, have demanding caseloads, excessive travel requirements, difficulty in accessing locums or backfill when on leave, difficulty in accessing continuing education and postgraduate education, and access to appropriate equipment and accommodation is variable.^{5 6}

Inadequate workplace environments impact on the retention of nurses in rural and remote areas. Lack of resources, equipment and sub-standard facilities frustrate and compromise professional standards. Lack of access to flexible employment models, and poor quality housing negatively impact on recruitment and retention of nurses.

The impact of the rural and remote health workforce shortage is seen at many levels. It affects the viability of rural communities, the health status of communities, continuity of patient care, viability of the doctor and other health professionals, quality of care, training and supervision support to junior doctors, reduction in access to procedural services, viability of a health service, and limited access to other health professionals such that the rural and remote health worker takes on other roles outside their specific area of training.¹

Understanding the factors contributing to the poor image of rural practice and poor retention of health professionals has been critical to developing alternative models for sustainable primary health care.

Within the Queensland setting, the Solutions Paper has demonstrated that sustainable primary medical services in rural and remote areas require an effective interface between the public health services (under the jurisdiction of Queensland Health) and the private providers in order to:

- Establish a critical mass of doctors that facilitates shared after hours arrangements and reduced on-call burden, and supports the continued provision of procedural services within smaller rural communities. Benchmark data is now available to assist in determining the number of doctors and other health professionals required to form a critical mass to provide specific services in rural and remote communities, and these benchmarks are crucial for modeling sustainable service delivery^{7 8 9}
- Develop opportunities to use hospital nurses for triage and after-hours management, as can occur in NSW where private GPs operate as Visiting Medical Officers (VMOs to the hospital)
- Access other health professionals to enable multidisciplinary care and shared workload
- Develop opportunities to better utilize existing human resources such as Ambulance Officers and Health Workers to become part of the broader primary health care team

These strategies not only underpin mechanisms to improve the recruitment and retention of doctors, but also ensures for safe hours of practice.

Sustainable practice also has to be financially viable. Therefore a further dimension to sustainable modeling requires strategies that address:

- Practice ownership, recognizing that a deterrent to taking up rural practice is the capital outlay of buying or establishing a practice where the doctor or allied health professional may have difficulty selling this in the future. The NSW Rural Doctors Network has sought to address this through the Easy Entry, Gracious Exit model being trialed in north-west NSW.¹⁰
- Practice management, information management and technology support

There is also the need to develop family and personal support structures including adequate and appropriate housing. Local government, Divisions of General Practice, other non-government organizations (NGOs), and Rural Workforce Agencies have roles within these dimensions to support the health professional, the practice and the family (Figure 1).

FIGURE 1: KEY FACTORS UNDERPINNING SUSTAINABLE RURAL HEALTH SERVICE PROVISION



1.2 SEVEN KEY PRINCIPLES FOR HEALTH WORKFORCE PLANNING

Understanding the key factors to be addressed in the development of sustainable health services enabled Health Workforce Queensland to formulate seven key principles for health workforce planning and service re-engineering.

Principle 1: Minimum level of services are provided to communities benchmarked on specific size, geographical location and remoteness from other health services ensuring equity of access, timely and effective models of service delivery. Benchmark minimums include access to emergency treatment, drug requirements, equipment requirements and number and range of trained health professionals either resident or visiting.

Principle 2: Longer term sustainability of health services is underpinned by operating within a multidisciplinary health team to increase the critical mass of health professionals within a community and region, reducing individual workload, yet extending the range and continuity of services provided. The team includes doctors; nurses – Remote Area Nurses, hospital based, community and practice-based; physician assistants; allied health professionals; Indigenous health workers; ambulance officers; and administrative support.

Principle 3: *Community participation in service planning, and ongoing review and monitoring of service provision, to ensure accountability of service provision meeting community need*

Principle 4: *Services match need (morbidity) and geographical remoteness of the community. The multidisciplinary team provides a range of services relevant to the size and geographical remoteness of the community.*

Principle 5: *Quality of service provision is maintained through appointment of appropriately qualified and experienced health professionals, supported to undertake vocational and professional development to meet recognized standards, working in accredited health service facilities adequately equipped for the range of services provided and supported by good information technology and management systems.*

Principle 6: *Culturally appropriate multidisciplinary service provision. All health professionals participate in cultural awareness training, receive orientation to remote and Indigenous environments, and linked to local community mentors.*

Principle 7: *Agencies employing or contracting health professionals structure remuneration packages to incorporate retention strategies that address good quality accommodation, access to vocational development, financially rewarding structure and sustainable working conditions.*

1.3 DEVELOPMENT OF MODELS FOR SUSTAINABLE HEALTH SERVICE DELIVERY IN RURAL AND REMOTE QUEENSLAND

Since 2004, Health Workforce Queensland has been approached by a number of communities for assistance in addressing local medical and nursing workforce shortages. Health Workforce Queensland has worked with communities to develop, and implement locally relevant solutions.

As the demand from communities seeking assistance is rapidly expanding, it has become apparent that there is a need to document the methodology that has been used to enable skills transfer within the organization. However, it is likely that other rural workforce agencies and state government organizations will also be seeking to find local solutions within the current national health workforce shortage, and would benefit from the methodology that has been developed within Health Workforce Queensland.

The purpose of this document is to:

- Describe in detail the methodology developed by Health Workforce Queensland to engage with communities and local health service providers to develop and implement locally relevant health workforce solutions
- Present case studies to illustrate the methodology
- Share the key learnings with respect to the critical factors that enable or hinder the development and adoption of workforce solutions

2. METHODOLOGY TO SUPPORT DEVELOPMENT AND IMPLEMENTATION OF NEW MODELS OF PRIMARY CARE

2.1 INTRODUCTION

In 2004, Health Workforce Queensland had to move quickly to respond to requests from communities for assistance in developing and applying solutions to local workforce crisis. Therefore, the process of developing and adapting existing models in the “real world” context had been largely organic, drawing on methodology used for regional health service planning by one of the authors.^k The key steps in the regional planning process focused on:

- Development of a planning matrix
- An environmental scan to map existing services and identify gaps including community consultation to identify health priorities, and inform the context of service delivery; analysis of morbidity and mortality data
- Desktop analysis of recruitment and retention issues, and determination of reasonable level of service
- Synthesis of this information to inform the development of options

Regional health planning has increased across Australia in the early 2,000's with the introduction of the Commonwealth Regional Health Strategy, and more recently the planning work associated with the Primary Health Care Access Program. This has allowed for some refinement in the general methodology used, and focused attention on the need for benchmark data to inform service planning for community-based primary care services.

The methodology described has been developed within an action research framework. The processes described reflect what has been undertaken and learned across seven communities, and data sources used. In addition, where weaknesses in the process have been identified, alternative strategies have been suggested and incorporated into the methodology.

This paper does not seek to prescribe a rigorous methodology, but rather a systems-based framework to support decision making, comprehensive information gathering to issues relevant to the problem(s) at hand, and identification of key agencies, organizations and personnel that may form part of the solution. The systems-based approach also seeks to ensure engagement of key stakeholders to develop the specificity and detail that is required in the process of service development or re-design, in order to provide a strong platform for implementation of the new or adapted model.

2.2 DESCRIPTION OF METHODOLOGY

The methodology to support primary health care modeling or re-engineering can be described in five phases (Figure 2):

Phase 1: *Initial assessment of the situation*

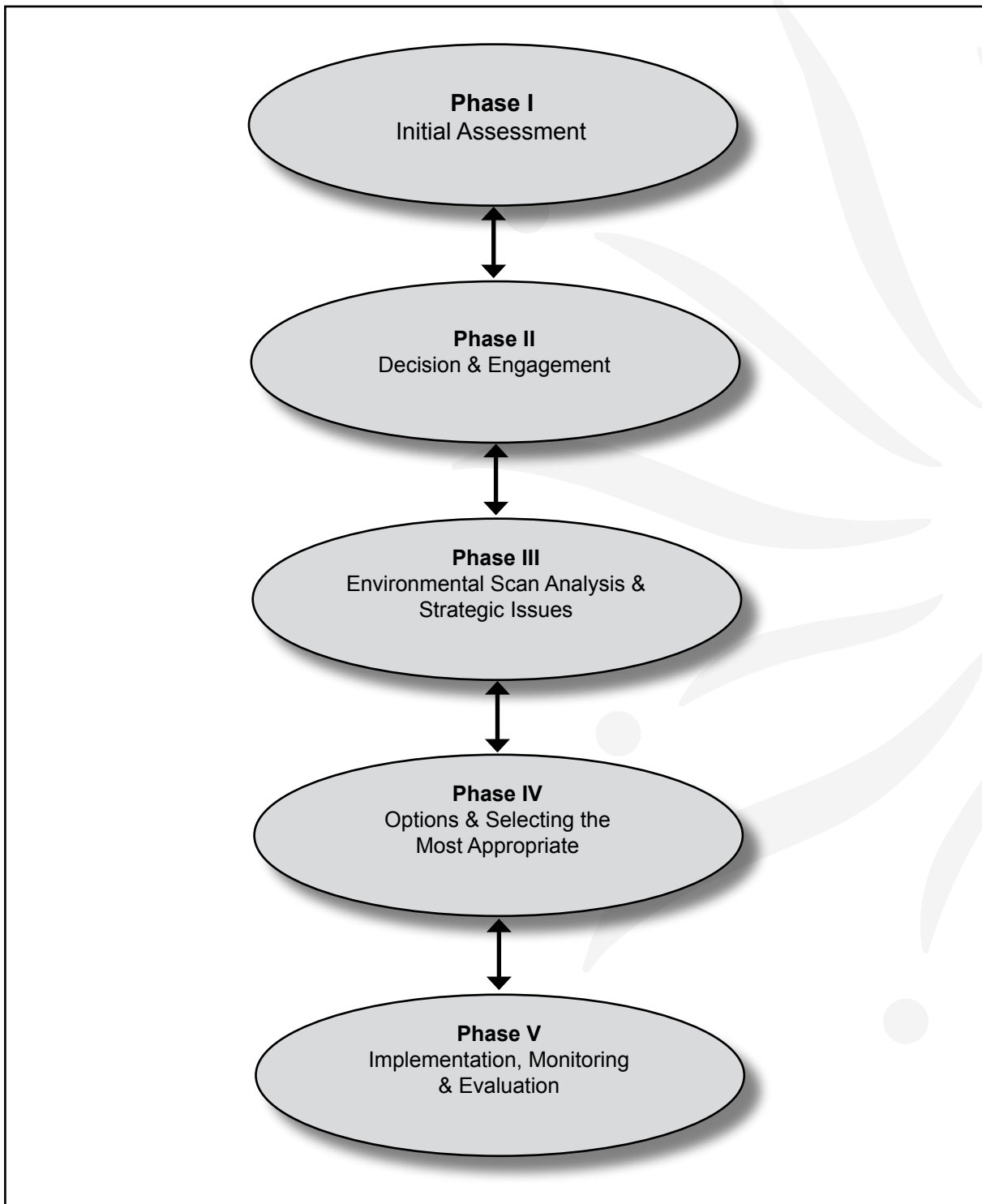
Phase 2: *Decision and engagement*

Phase 3: *Environmental scan and identification of strategic issues*

Phase 4: *Options development and selection*

Phase 5: *Implementation, monitoring and evaluation*

FIGURE 2. RURAL AND REMOTE HEALTH SERVICE MODELING



This section describes the key processes within each phase, questions to be asked or addressed, and potential data sources. It must be acknowledged that whilst the methodology is described in a sequential way, there will be situations where some processes occur simultaneously across phases, and there may be looping back to earlier phases.

PHASE 1: INITIAL ASSESSMENT OF THE SITUATION

Phase 1 is the first contact with the community or community representatives seeking assistance usually following some type of local crisis impacting on the health workforce, or identification of a workforce problem or looming problem.

The key process in Phase 1 is to gather relevant information about the community, around questions relating to:

PROBLEM IDENTIFICATION

- Who is the person/agency seeking assistance and what is their role?
- What is the presenting issue? e.g., availability doctors, nurses, other health professionals, maintenance of procedural services, facility issues
- What is the impact/symptom of the problem?

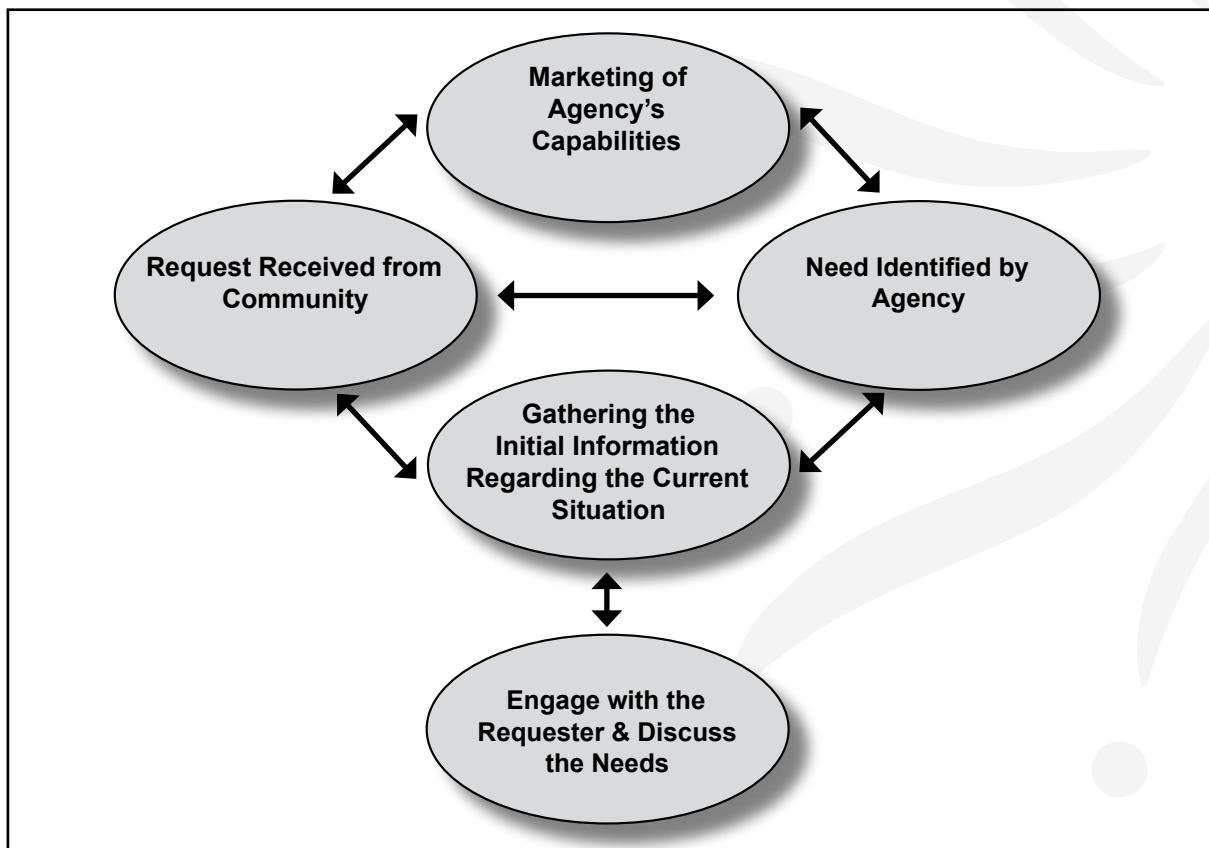
KEY PLAYERS IN THE LOCAL HEALTH SERVICE ENVIRONMENT

- Who are the individuals, agencies, and organizations involved in the local environment? e.g., District Health, Division of General Practice, Local Government, local industry, Aboriginal Community Controlled Health Service, Royal Flying Doctor Service, Department of Health and Ageing
- Have strategies been put in place to address the problem? How effective have they been?

EXPECTED OUTCOMES

- What outcomes is the requester(s) seeking?

FIGURE 3. PHASE 1: INITIAL ASSESSMENT



Prior to an initial meeting with the local stakeholders, a mini environmental scan is conducted to provide background information to the agency identifying:

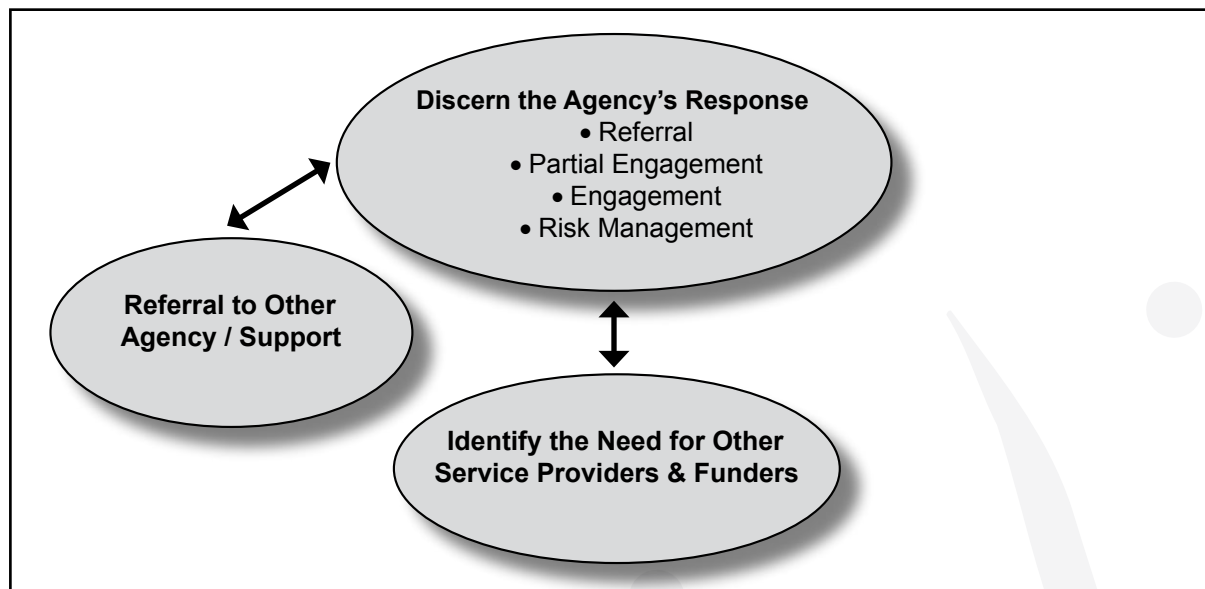
Information required	Data source could include:
Boundaries of the region and population of catchment Local demography and projections	<ul style="list-style-type: none"> Local government areas, Health Service Districts, Divisions of General Practice and Community of Interests (COI) under the Queensland Aboriginal and Torres Strait Islander Partnership agreements
Identification of known service providers and range of services in the region (specific to the presenting problem)	<ul style="list-style-type: none"> Regional health plans (COI plans) State Health Service District plans Division of General Practice plans Commonwealth Care Link Internet search Rural Workforce Agency in the state Regional Training Providers
RFDS role in region	<ul style="list-style-type: none"> Contact Medical Superintendent of RFDS
Key personnel in region i.e., community leaders, managers of health and community services	<ul style="list-style-type: none"> LGA website Direct contact, networking
Local government personnel	<ul style="list-style-type: none"> LGA website
Major employers	<ul style="list-style-type: none"> LGA website Queensland Tourism website Office of Economic and Statistical Research Australian Bureau of Statistics website
Local federal and state members	

The outcome of the mini environmental scan is a summary of the presenting issues available to the agency as background information for the initial meeting with the requester to discuss the needs of their community.

PHASE 2: DECISION AND ENGAGEMENT

This phase asks the question: “To what extent does the agency respond?”

FIGURE 4. PHASE 2: DECISION AND ENGAGEMENT



This phase is an internal analysis by the agency seeking to use this methodology (Figure 4). Some of the questions an agency should consider include:

INTERNAL CAPACITY

- Is the problem and presenting issues in line with the strategic direction of the organization, as outlined in its strategic plan?
- Does the agency have the capabilities and capacity deal with the issue?
- What are the time and cost implications?
- Urgency of the issue relevant to other priorities?
- Would another provider/agency be more appropriate to manage this problem? If so, who?
- Does the agency need to work with other providers/agencies to achieve the outcome? If so, who?

LOCAL OWNERSHIP OF PROBLEM

- Is there recognition within the local community health workforce that there is an issue to be addressed?
- Is there a local driver/ champion or local leadership?

DO-ABLE SOLUTIONS

- What are the barriers to addressing the issue, and are they moveable?
- Possible funding sources
- What are the political priorities of the state and commonwealth health departments

Assuming that the internal analysis indicates that the agency has the capacity to engage with the specific community and skills to assist in addressing the problem, then the role of agency within this re-modeling exercise needs to be identified and communicated to other agencies in the region to underpin future work.

PHASE 3: ENVIRONMENTAL SCAN AND IDENTIFICATION OF STRATEGIC ISSUES

Phase 3 is a detailed analysis of the current situation in the community or region of interest (Figure 5), building on preliminary data gathered in Phase 1. The main areas of work within this phase are described.

IDENTIFY AND ENGAGE LOCAL BODIES TO WORKSHOP THE PROBLEM

It is at this point that wider engagement is sought with health service providers and agencies seeking representation from local, regional and state levels, local government, local industry, and possibly training providers. The mini-environmental scan assists in identifying the key bodies and personnel to engage with. These people are brought together to form a steering committee or reference group to support future problem solving and modeling work.

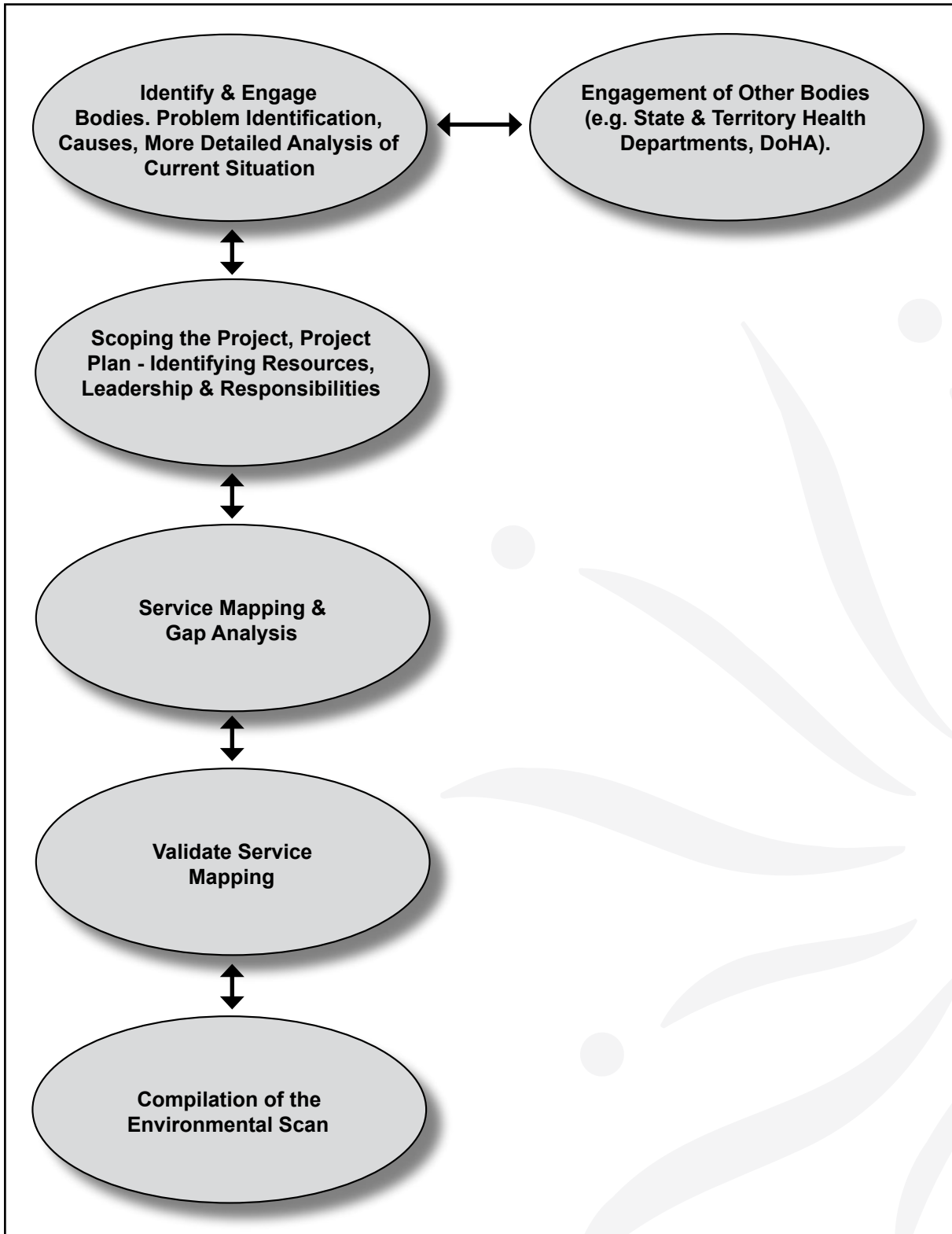
In this initial meeting the problem is work-shopped to determine:

- What are the presenting issues, identifying indicators and data sources?
- What are the root causes to these/these problems?
- What are the expected outcomes or desired outcomes to ameliorate the problem?
- Agreement on a way forward?
- Role of the agency and other bodies in developing solutions

Whilst this initial meeting runs the risk of re-hashing a lot of already known information, it is possibly the first time there is broader community and local industry involvement with the health service providers to discuss the workforce problem affecting the community. The important outcomes of this initial meeting are:

- Agreement about what the problem is and the underlying causes
- Identified strategy to move forward to develop solutions
- Clear delineation of the roles and responsibility of the various agencies and organizations to progress the problem solving, including who shall take the lead and drive the process
- Development of an agreed communication strategy

FIGURE 5. PHASE 3: ENVIRONMENTAL SCAN AND IDENTIFICATION OF STRATEGIC ISSUES



EARLY ENGAGEMENT OF AGENCIES AT A REGIONAL, STATE OR NATIONAL LEVEL

In addition to identifying and engaging with local organizations and providers, it is also necessary to identify other relevant organizations and agencies at a regional, state or national level that may be able to contribute to the solution. This might include training providers, the state office of the Commonwealth Department of Health and Ageing, the State or Territory Health Department at a central and/or area level. The early engagement and briefing of these agencies can identify opportunities for funding, facilitate linkage with programs that may assist in developing solutions, or identify a champion within this agency to facilitate problem solving.

SCOPING THE ENVIRONMENTAL SCAN, DEVELOP PROJECT PLAN FOR SERVICE

MAPPING AND GAP ANALYSIS

The key processes with this step are to:

- Confirm the membership of the Steering Committee, define its role and secretariat support to the committee, and schedule of meetings
- Establish the composition of the scoping team and agree on outcomes of this phased
- Develop a project plan outlining people responsible for sourcing and providing data that relate to:
 - Health workforce (full time equivalent basis) inclusive of private and public specialist and generalist doctors, nurses, allied health, Aboriginal health workers, ambulance officers, aged care workers. The depth of this information may vary dependent on the identified problem
 - Health facilities, capacity and type of services offered
 - Health service utilization, locally and transferred out, and reasons for this

HEALTH SERVICE MAPPING AND GAP ANALYSIS

A health service-mapping template is used as a prompt to support the comprehensiveness of the mapping exercise, and compiles data sourced in the previous step. Health service mapping requires consultation with providers and consumers to identify issues impacting on access to and utilization of health services. Therefore, in addition to the quantitative data there is qualitative information to provide context around health service delivery issues.

Where services are provided to communities on an outreach basis it is important to identify the frequency and duration of visits to inform the gap analysis. In addition, information around the reliability of these services should also be sought, which will impact on its effectiveness.

There may already be data to inform the health service mapping, service access and utilization available through earlier regional planning activities, and service delivery data maintained by the key providers. This can be sourced and validated.

Once a health service map has been completed for a region, a gap analysis is undertaken drawing on relevant benchmarks (where they exist). The benchmarks commonly used in the rural and remote context by Health Workforce Queensland are set out in Table 1.

TABLE 1. HEALTH WORKFORCE INDUSTRY BENCHMARKS

Profession	Service Context	Benchmark	Source
Doctor	Larger centres where practice similar to metropolitan general practice	1 full-time GP to 1,000 Standard Whole Patient Equivalents (SWPE) [^]	RDAA, 2003 ⁷
	Communities where doctor provides inpatient, general practice, emergency and after-hours services	1: 750 SWPE	
	Small, isolated communities	1:500 SWPE	
	Aboriginal communities, very remote	1:692 population	Econtech Pty Ltd, 2004 ⁸
	Private General practice	1 FTE (based on Medicare billing): 1,400 in an SLA	Dept of Health and Ageing, Workforce Regulation Section
Nursing	Aboriginal communities, very remote	1:151 population	Econtech Pty Ltd, 2004 ⁸
	Australia (total supply, 1999)	1:98 population	AIHW, 2003 ⁹
Allied Health	Outreach, remote	1 day/month* to communities < 300 2 days/month* to communities 300-800 3 days/month* to communities >800 * plus 1 day back at base for follow-up	Curry, 1999 ¹
Physiotherapy	Larger communities, resident therapists	1:5,000 plus weighting for rehabilitation beds, Intensive care and utilization statistics	Adams (2004) ^m
Aboriginal Health Workers	Dependent on morbidity of population	1:150 to 1:300	National Aboriginal Health Strategy, 1994 ⁿ
Dentistry	Private services	1:3,000	Australian Dental Assoc
	Public services	1:5,000	

[^]SWPE- measure of general practice service provision adjusted for age, gender, chronicity. SWPE information is difficult to obtain on a regional level, so in practice Health Workforce Queensland equates SWPE to population

The quantitative gap analysis is a strategy that assists in identifying the magnitude and scope of a workforce problem.

The final step in this process is to develop a working document that captures:

- A summary of the regional health status
- A summary of the service mapping
- The gap analysis and issues identified with respect to service delivery access and utilization
- Areas requiring validation with informants and service providers

VALIDATE SERVICE MAPPING

This step is a checking step requiring the distribution of the service mapping and gap analysis to the Steering Committee and information sources, to validate that the interpretation of the information provided to the consultant/project officer is correct and reasonable, to ensure that there is a strong and agreed platform for the future problem solving/modeling work.

COMPILATION OF ENVIRONMENTAL SCAN AND PRIORITIZING AREAS FOR DEVELOPMENT

This step is the collation of the information gathered in Phase 3, and includes a:

- Summary of the desktop analysis of previous health planning work in the region
- Regional profile including demographics, future projections, key industries, employment and socio-economic status, environmental health issues, transport
- Health status of the region
- Map of existing primary health care services and specialist services, identified gaps in services and issues impacting on service delivery, access and service utilization
- Priority health issues identified through the Environmental Scan

The Environmental Scan Analysis is presented to the Steering Committee and agreed priorities for option development are identified. It is acknowledged that there may be several priority areas to be addressed. However, to maintain the momentum of the Steering Committee and address the more urgent problems, it is necessary to prioritize those to be progressed immediately and commence work on these with the view to returning to the lower priorities as capacity arises.

PHASE 4: OPTION DEVELOPMENT AND SELECTION

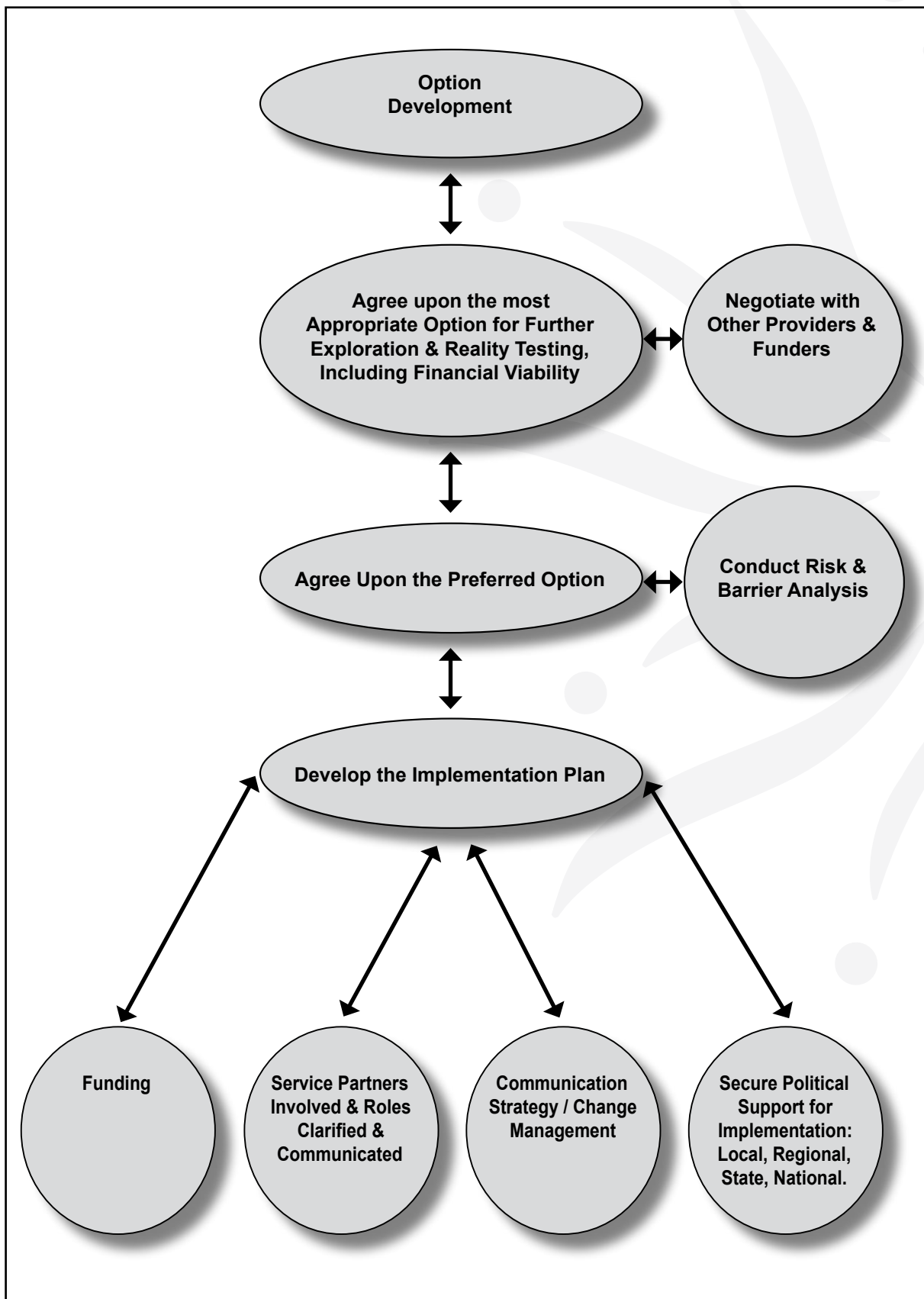
The purpose of this phase is to develop one or more options to address the priority area (Figure 6), using the principles and elements of sustainable services as described in the Solutions Paper (Figure 1). The content of the Option is likely to be developed from the information gathered during the Environmental Scan. In addition to describing the Options the consultant/project officer undertakes an analysis of the strengths and weaknesses of the option, and an assessment of the financial viability of the Options.

The Options are presented to the Steering Committee, and agreement reached on the preferred option for further development. Concurrently, liaison with other providers and funding bodies is required to identify possible enabling factors and barriers to implementation of the preferred option.

An implementation plan is developed in conjunction with the Steering Committee and other service partners detailing:

- Roles and responsibilities
- Communication strategies
- Funding requirements and mechanisms to source this
- Change management strategies that may be required to support the implementation of the preferred option
- Strategies to secure political support for implementation at a local, regional, state and national level (if required)

FIGURE 6. PHASE 4: OPTION DEVELOPMENT AND SELECTION



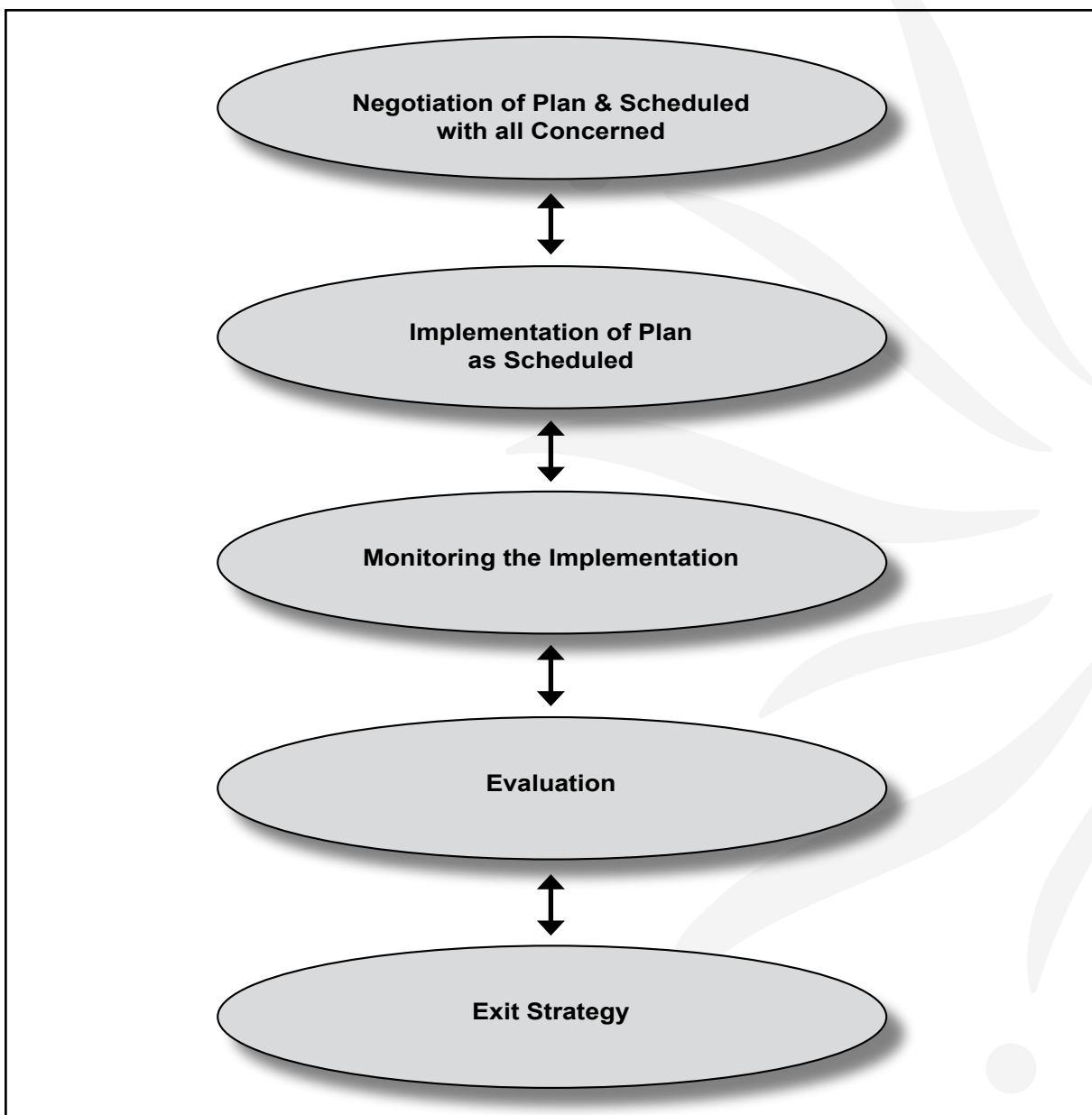
PHASE 5. IMPLEMENTATION, MONITORING AND EVALUATION

This is the critical phase in the workforce and service modeling. However, there is a long history in the health industry of good planning and poor implementation. So often much effort is put into planning, with plans handed over to service providers and agencies already too busy with their day to day workload. Hence they do not have the capacity to implement, particularly if there is the need for re-engineering service models and change management.

The methodology to describe implementation is quite simple (i.e. an implementation plan with clear strategies, identified leaders/lead agencies, identified responsibilities, and agreed performance indicators and milestones). Achieving it is complex. The critical piece that is often missing is an effectively resourced local driver that can support the various agencies and service providers undertake the leg work to enable implementation.

The key processes in this phase are described in Figure 7.

FIGURE 7. PHASE 5: IMPLEMENTATION, MONITORING AND EVALUATION



In negotiating the implementation plan with the steering committee and service partners it is necessary that there is agreement on:

- The schedule of outcomes
- Budget and resource allocation by funders and providers for financial, in-kind and human resources input
- Implementation strategies for each of the service partners
- Agreed timelines

This is an implementation plan for a specified option or problem, requiring detailed strategies and clear action steps.

Underpinning successful implementation is a genuine commitment from all parties to improve and/or restructure health services in their community, and these commitments are documented through a Memorandum of Understanding or Service Partner Agreement. This should facilitate and enable implementation, and provide a defined basis for monitoring implementation, with opportunities to identify barriers as they arise, and develop strategies to overcome these.

In addition, the formalization of the implementation plan through an agreement provides a safe guard to ensure that change of personnel and change in management does not sabotage or negate previously agreed commitments.

This methodology for workforce planning and service re-engineering is modular. As such, it provides the opportunity to:

- Define and delegate sections of work to be undertaken
- Provide a structure to assist the requesting community and agency to negotiate the scope of work and decide upon an exit point for the agency
- Identify and cost resources required to undertake each component of work

3. WORKFORCE AND HEALTH SERVICE RE-MODELING: REAL WORLD APPLICATION

As at March 2006, Health Workforce Queensland has worked with seven communities in Queensland to develop and implement strategies to address workforce shortage and improve sustainability of specific primary care services.

The following case studies are presented for a number of purposes. On one level they describe the application of this systems-based methodology to real-world workforce planning and health service re-engineering. On another level, the case studies inform health service planners and funders of the barriers to be overcome, and enabling factors that are required to bring about change and restructure of health service models in rural and remote locations.

The Roma Case Study demonstrates the building of rural medical workforce capacity in a small town through a training strategy. The Diamantina Case Study is an example of the capacity and capability of local government to develop its own health workforce solution modeled on community control. Finally, the Cloncurry Case Study demonstrates how a long-term medical workforce problem can be addressed through partnerships between a state health service District and private practice, but the fragility of arrangements can hinge on individuals.

3.1 THE ROMA CASE STUDY: TRANSFORMING THE RURAL MEDICAL WORKFORCE THROUGH TRAINING

3.1.1 BACKGROUND

Roma is the largest population centre within the Roma Health Service District (HSD). Roma is located in south-west Queensland, about 500km west of Brisbane. The focus of this case study is the northern region of the Roma Health Service District, encompassing the Shires of Roma Town Council, Booringa, Bendemere, Bungil and Waroo. The population of this region is 12,650.

Roma is identified as the main hub for the provision of specialist, emergency and acute services in the District, with people from further west also accessing services in Roma. In addition, a paediatrician, the Flying Obstetrician and Gynaecologist, the Flying Surgeon, and two Flying Anaesthetists are based in Roma and service south-west and central Queensland.

Phase	Case History: Roma	Comments on Methodology and Process
Pre-engagement	Roma Health Service District had experienced a long-standing problem in maintaining medical staffing at the Roma Hospital, impacting on the provision of procedural and outpatient services, with District Management considering cutting back hospital beds and re-allocating to office space for administrative staff and primary health care services. There was significant community concern about the capacity of the hospital. There was a poor relationship between the District Executive and private GPs in Roma.	
Phase 1: Initial Assessment	<p>In response, the Roma Town Council and the Southern Queensland Rural Division of General Practice called a meeting of the local GPs, Roma Health Service District Executive, the Charleville Aboriginal Community Controlled Health Service and Health Workforce Queensland to determine a way of resolving the crisis.</p> <p>The initial meeting in July 2004 resulted in the formation of the Roma Medical Forum as a mechanism to develop solutions. The Roma Medical Forum includes the Executive of the Roma HSD, local GPs, Southern Queensland Rural Division of General Practice, Health Workforce Queensland and Charleville and Western Areas Aboriginal and Torres Strait Islander Health Service. The Roma Medical Forum is chaired by the Mayor of the Roma Town Council.</p> <p>At this initial meeting and a follow-up teleconference with the local GPs and District Executive, the key areas of concern contributing to poor retention of medical services at the Hospital, and problems with service provision were identified as:</p> <ul style="list-style-type: none"> • Lack of clinical leadership at Roma Hospital/ District impacting on recruitment and retention of doctors • Insufficient number of medical positions to staff the hospital (3 positions), and meet requirements to provide internal relief • Requirement for a wider skill mix to maintain procedural and emergency services • Hospital requiring private GPs to support the hospital (procedural services and after-hours roster) but issues with appropriate remuneration for VMO services • Hospital doctors require professional and personal support from GPs • Heavy after-hours burden for hospital doctors (1 in 2 or 1 in 3 roster) • Lack of credentialing process as a barrier to private GPs (new to the area) providing procedural services within the hospital • Poor relationships between Roma HSD Executive and GPs • Heavy outpatient burden at hospital • Lack of continuity of care as a patients move between private and public sector due to reliance by District on relieving doctors and lack of knowledge of private GPs • No acute mental health services • Negative attitude to Queensland Health operated services by community and GPs 	<p><i>Information sourced from:</i></p> <ul style="list-style-type: none"> • <i>PHCAP report for the Near South West Community of Interest</i> • <i>Health Workforce Queensland database</i> • <i>Formal meetings of Roma Medical Forum</i> • <i>Informal discussions with local GPs</i> • <i>Informal discussions with local government</i> • <i>Informal discussions with Roma Health Service District Executive</i> <p><i>Health Workforce Queensland had a broader understanding of the health and workforce issues within the Roma region due to its representation on a Steering Committee directing regional planning under the Primary Health Care Access Program.</i></p> <p><i>This involvement in the Roma region was the impetus for the SQRDGP to invite Health Workforce Queensland to participate in the Forum and provide workforce development expertise.</i></p>

Phase	Case History: Roma	Comments on Methodology and Process
<p>Phase 2: Decision and Engagement</p>	<p>Whilst Health Workforce Queensland’s contract with the Australian Government Department of Health and Ageing does not specify a community development/health service modeling role, the agency proceeded with this modeling work as there appears to be little point seeking to recruit doctors into models that have limited functionality</p>	<p><i>Health Workforce Queensland was already committed to the problem-solving process due to participation in initial meeting and it would have been very difficult to not continue engagement. In this Case Study Phase 2 was not considered.</i></p> <p><i>However, the role of Health Workforce Queensland was not clearly defined in the early stage of the planning process. Health Workforce Queensland undertook a facilitating role and whilst this worked well at a local level, it was not communicated to Queensland Health zonal staff, initially causing some suspicion/ confusion when they became involved in late 2004.</i></p> <p><i>Over time this barrier has fallen away, due to the focus on results and solutions rather than blame</i></p>

Phase	Case History: Roma	Comments on Methodology and Process
<p>Phase 3: Environmental Scan Analysis and Identification of Strategic Issues</p>	<p>Health Workforce Queensland drew on the demographic, health status data and detailed health service mapping information from the Near South West PHCAP strategic plan to develop a large component of the Environmental Scan.</p> <p>In the latter half of 2004 the Roma Medical Forum continued to meet on a regular basis. These meetings identified a number of issues were identified that could contribute to possible solutions. These included:</p> <ul style="list-style-type: none"> • Utilizing the Flying Specialist Services based in Roma as the foundation to a training hub for procedural services • Linking hospital doctors to local general practices to access general practice training • Utilization of the concept of revenue retention to enable cost recovery by the District for private services delivered by GPs within the hospital e.g. private GP surgical services, expanding the provision of private procedural services, opportunity for training <p>In late 2004, Health Workforce Queensland prepared a presentation for the Roma Medical Forum compiling the Environmental Scan and health workforce gap analysis.</p> <p>An important learning from the gap analysis was the need to look at the Roma region inclusive of the four satellite Shires, within 1-1.5 hours drive of Roma. Three of these Shires were under-doctored resulting in the patient overflow going to Roma, putting significant pressure on Roma general practice services.</p> <p>The gap analysis identified a shortfall in the medical workforce in the Roma region of 4-5 doctors at December 2004, shortages in allied health services, heavy after hours burden, and unsustainable procedural services due to the number of doctors and inadequate skills mix.</p> <p>The gap analysis was presented to the Roma Medical Forum in December 2004. Representatives from the Southern Zone of Queensland Health also attended. Whilst the purpose of the meeting was to present the gap analysis and prioritize areas for further development, this did not or could not occur at this meeting due to a number of factors:</p> <ul style="list-style-type: none"> • Southern Zone representatives did not accept the benchmark data indicating the shortfall of 4-5 doctors in the region • A new District Manager had just been appointed and needed to “get across” the workforce situation in the Roma region <p>In early 2005, the Roma Medical Forum met again and identified the need for a regional planning document to address the breadth of health services i.e. medical, nursing, allied health. Health Workforce Queensland undertook to do this by expanding on the information in the Environmental Scan and incorporating strategies identified in previous meetings of the Roma Medical Forum.</p> <p>This paper “<i>Planning for Sustainable Health Services: Roma Region 2005-2008</i>” was adopted by the Forum in early 2005 as a blueprint to work to.</p> <p>The Planning Paper identified six strategic areas to be addressed to enable Roma to develop as a health service hub. These were:</p> <ol style="list-style-type: none"> 1. Increasing primary care capacity in the smaller towns 2. Improving the sustainability of medical services in Roma by working across the public and private interface 3. Develop opportunities to establish procedural training positions (either general practice or specialist) to build a training hub. This requires a staged approach with initially recruiting a skilled Medical Superintendent, establish the hospital as an ACRRM special or advanced skills post, and develop an integrated rural and remote training pathway i.e. GP Registrars in the Roma region can feed into advanced skills post 4. Development of a shared after-hours and on-call roster within Roma that is able to support the solo doctors in the smaller centres 5. Increased provision of specialist services 6. Increased access to allied health services through brokerage opportunities 	<p><i>The appointment of a new Acting District Manager, committed to change and engagement of local doctors was a significant factor in enabling the District Health Service and the GPs to work collaboratively.</i></p> <p><i>The District Manager appointed a Medical Superintendent of St George Hospital to District Director of Clinical Services. This appointment facilitated recruitment of doctors to the Medical Superintendent, SMO and PHO positions.</i></p> <p><i>A fourth Medical Officer position was created at the Roma Hospital.</i></p> <p><i>The Health Service District and Roma Town Council collaborated to develop a promotional DVD for the Roma region to use as a recruitment tool.</i></p> <p><i>The position of Medical Superintendent was advertised by the Health Service District in collaboration with the Council, nationally and internationally (beyond Queensland Health policy at that time). A highly experienced doctor was appointed to the position in July 2005.</i></p> <p><i>District Manager sourced improved housing stock for doctors to facilitate recruitment and retention</i></p>

Phase	Case History: Roma	Comments on Methodology and Process
<p>Phase 4: Option development and selection</p>	<p>In mid 2005, the Roma Medical Forum ranked the six strategic areas for action. Areas 2 and 3 were collapsed into one priority. The District Manager and Director of Clinical Services were progressing this as evidenced by:</p> <ul style="list-style-type: none"> • Recruitment of highly skilled and qualified Medical Superintendent • Newly recruited SMOs enrolled in GP training program and each working half time in a Roma general practice, supervised by a local GP toward FRACGP • Application by Roma Health Service District as pilot site for Rural Generalist training • Application for a 5th supernumerary position at the hospital as a training position with access to the Flying Obstetrician, Surgeon, Anaesthetists <p>Areas 1 (Increased capacity in smaller towns) and 4 (After Hours) were seen as the next priority. Project funding through the Commonwealth "Round the Clock Medicare Grant Program" was available to Roma. However, the Roma Chapter of the SQRDGP collectively decided not to pursue this funding and addressed the after hours situation in Roma themselves (see Scorecard)</p> <p>Areas 5 and 6 were identified as lower priority for later action (particularly as progress had been made in brokering allied health services from private practice, and sourcing additional specialist services through the Medical Specialist Outreach Program)</p>	<p><i>Phase 4 blurring with Phase 5 – Implementation</i></p> <p><i>District Manager liaised with Area level to seek support for additional services.</i></p> <p><i>Roma Medical Forum invited the new Area General Manager (following Queensland Health restructure) to meeting to inform him of the progress and achievements in Roma, highlight future directions, and seek ongoing support</i></p>
<p>Phase 5: Implementation, Monitoring and Evaluation</p>	<p>In order to increase medical capacity in the smaller centres (Area 1), Health Workforce Queensland worked with the District Executive and the Medical Superintendent with Right to Private Practice in Mitchell to develop a business case for a second position at Mitchell (Medical Officer with Right to Private Practice). Funding for this position inclusive of a house and vehicle was approved with recruitment in early 2006.</p> <p>In November 2005, the Roma Medical Forum reviewed progress and compared current Hospital and Medical Services with the status in July 2004. Significant progress has been made as evidenced by the following Scorecard.</p> <p>The District Manager has appointed a Project Officer to work with him to progress further workforce planning and development. Health Workforce Queensland will continue to work with the District and Southern Area Health Service to progress the workforce planning and service development.</p> <p>A four-way Memorandum of Understanding is in development to document the agreed implementation strategies and provide an avenue for ongoing collaboration between the Roma District Health Service, Southern Queensland Rural Division of General Practice, Roma Town Council and Health Workforce Queensland.</p>	<p><i>There is an element of timing impacting on achievements in Roma. The Queensland mini budget 2005 provided additional funds to health in response to the Forster Review and the Morris/Davies Inquiries</i></p> <p><i>The four-way agreement has been developed to ensure that the commitments made by the participating organizations are upheld when turnover of personnel, and as a schedule for monitoring implementation of agreed strategies</i></p>

ROMA MEDICAL FORUM SCORECARD

Issues identified in July 2004	Status at November 2005	Further Action Required
Lack of clinical leadership at Roma hospital/ District	Director of Clinical Services appointed in early 2005, Medical Superintendent, St George, and has backfill to support additional role <ul style="list-style-type: none"> • Instrumental in recruitment of Medical Superintendent to Roma • Recruitment to SMO positions at Roma • Negotiating training pathways at Roma Hospital • Participating in development of Rural Generalist model • Medical Superintendent appointed mid 2005 • Providing local leadership and training • Linkages with local GPs • Conducting EMST course in Roma 2006 • Participating in development of Rural Generalist model • Linkages with Flying O&G, Flying Surgeon and Flying Anesthetists to support training pathways 	Maintenance of senior medical practitioners in these leadership roles
3 Medical Officer positions at Roma Hospital (only 2 filled, and effectively less than 3 FTE with internal relief)	4 positions now established <ul style="list-style-type: none"> • Medical Superintendent • 2 Senior Medical Officers • 1 Principal House Officer Seeking 5 th supernumerary position as a training position	
Wider skill mix required in Roma Hospital including: Obstetrics Anaesthetics Paediatrics Surgery Emergency Mental Health	Current Medical Superintendent and SMOs have: Obstetrics Anaesthetics Surgery Emergency Paediatrician on staff Mental Health still to be improved	Current status good. Ongoing recruitment seeks doctors will complementary skill mix Mental Health needs further development Mental Health Practitioner (RN) appointed to commence in 2006
Hospital requires ongoing support from private GPs, and paid for VMO services at VMO rates Hospital doctors require professional and personal support from GPs	Private GPs providing services within hospital, supporting after hours roster, and paid as VMOs Roma private practice supervising SMOs as part of GP training	Maintain
After hours burden (2 doctors, 1 in 2 or 1 in 3 when reliever) - incomplete Credentialing not occurring/poorly defined – barrier to private GPs undertaking procedural work in Hospital	<ul style="list-style-type: none"> • Number of hospital positions increased so after hours roster improved • Several private GPs participating in roster • 3 of 4 private practices in Roma have established a shared after-hours arrangement 	Maintain after hours Establish mechanism so that private practice after hours has 1 phone that is passed to practice on-call Credentialing requires clarification, Director of Clinical Services to chair credentialing committee

Issues identified in July 2004	Status at November 2005	Further Action Required
Inter-relationships between QH and private GPs poor	Very much improved Scored as 9/10	Maintain
Heavy outpatient burden at Hospital	<ul style="list-style-type: none"> • Improved as increased number of hospital doctors to share outpatients • Provision of part-time medical services to Aboriginal Community Controlled Health Service by several private GPs reducing outpatient presentations • Hospital seeking to direct patients to private practices and the Aboriginal Community Controlled Health Service 	
Lack of continuity of care: <ul style="list-style-type: none"> • Patients moving between private and public • High reliance on QH relievers • Lack of knowledge of local private GPs by hospital doctors 	<ul style="list-style-type: none"> • Continuity of care now considered very good • Hospital doctors ring GPs if necessary and vice versa • Improved stability to hospital workforce • Nurse appointed to manage discharge summaries • Looking toward electronic discharge summary for complex patients 	Develop process to enable GPs rapid access to hospital medical records
Mental health – no acute services	Still problem area Senior Mental Health Practitioner (RN) appointed for 2006,	Requires further development
Negative feeling against health service by community and GPs	Turned around, positive, recent promotion of services available in Roma – good feedback from community	

3.1.2 ANALYSIS OF THE ROMA CASE STUDY

The earlier research undertaken by Health Workforce Queensland identified an effective interface between state and private health service providers underpinned the development of a critical mass of health professionals particularly to enable provision of sustainable procedural services, reduction in on-call and after hours burden and make better use of existing resources e.g. nursing support, hospital and other health facilities. Engagement with the local community and/or local government, the Division of General Practice and the Rural Workforce Agency can assist in addressing personal, family and practice support issues.

Many of these “sustainability building” strategies have been developed within the Roma case study.

The establishment of the Roma Medical Forum provided the platform to bring together private GPs (from three of the four practices in the town), the District Health Service Executive, the hospital doctors, the local medical specialists employed by Queensland Health, the Division of General Practice, and the community through the Mayor, thus establishing the interface between public and private providers, and meaningful community participation.

This interface has resulted in:

- Recognition by the District of the importance of, and need for clinical leadership, resulting in the creation of the position of District Director of Clinical Services, and as a flow-on recruitment of procedurally skilled doctors to the hospital positions
- A collaborative and successful recruitment drive between Roma Town Council and the District Health Service
- A promotional DVD about Roma and surrounds that can be used for further recruitment strategies to benefit all industries and sectors in the region
- Establishment of a general practice training pathway for doctors employed by Queensland Health
- Renewed opportunities for private practitioners to commence or expand procedural work within the hospital
- Improved continuity of patient care across the community and hospital interface
- Ongoing platform for development of opportunities such as the Rural Generalist Training pathway, identification of areas requiring address such as the creation of the second medical officer position at Mitchell, requirement for improved housing stock for hospital doctors and specialists

The creation of a fourth medical position at the Roma Hospital and recruitment to all positions has provided a critical mass of doctors to manage outpatient, inpatient and emergency care within the hospital, and provide a sustainable on-call arrangement. Within the private sector, a spin-off from the Roma Medical Forum has been the development of a co-operative after-hours arrangement across three practices.

The concept of Roma as a Training Hub or Network has been operationalized through:

- Creation of a 5th supernumerary position as a training position
- The efforts of the District Director of Clinical Services, Medical Superintendent and District Manager resulting in Roma Hospital being granted a Diploma of Obstetrics and Gynaecology training place for a one-year trial period by the College of Obstetrics and Gynaecology (this is in addition to the Registrar position with the Flying Obstetrician and Gynaecology)
- Training places for anaesthetics, surgery and Rural Generalist to be established in 2006
- The Regional Rural Queensland Consortium facilitating accreditation of the Roma

- Hospital for general practice training
- General practices within the town are accredited training practices with Regional Rural Queensland Consortium
- Appointment of a Nurse Educator to the Roma Hospital and establishment of Enrolled Nurse training at Roma TAFE campus

3.1.3 FACTORS FACILITATING CHANGE IN ROMA

The key factors that have facilitated the significant change in the medical workforce in Roma, improved relationships between the public and private health service providers, and improved standing of the public hospital services within the community include:

- The local Mayor, acting as the driver to bring together the public and private health service providers, and focus activity on joint solutions to clinical services
- Change in management at the District level, with the new District Manager actively engaging with the local medical community, and seeking to address professional and personal (e.g. quality housing) factors to support the recruitment and retention of specialist and generalist doctors employed by the District Health Service
- Creation of the Director of Clinical Services position, as a strategy to provide clinical leadership, and enable recruitment of medical staff through networks and “doctors talking to doctors”
- Employment of local clinical leader within Roma (Medical Superintendent)
- The private GPs were galvanized by a common and significant problem and ready to work toward a solution
- The GPs identified and defined the problems and were engaged in the development of strategies to address the problems in conjunction with the District Executive
- The Zonal Management (and subsequent Area Management following re-structure) were engaged early in the planning process and therefore aware of the range of issues to be addressed
- Southern Queensland Rural Division of General Practice provided project officer services to act as secretariat to the Roma Medical Forum and organization of meetings

It is interesting to note that the majority of the facilitating factors are “people” related with respect to leadership and engagement. However, the agreements reached between “the people” need to be formalized between the organizations to ensure continuation when personnel change.

The planning process and environmental scan provided the “evidence” of the breadth and magnitude of the workforce problems facing Roma, and through the consultation clear and “do-able” strategies emerged to progress Roma as a training and health service hub.

3.2 THE DIAMANTINA CASE STUDY

3.2.1 BACKGROUND

The Diamantina Shire is in outback Queensland, and borders the Northern Territory and South Australia. Within the Diamantina Shire there are two communities separated by 200km of dirt road. Birdsville has a population of 160 and Bedourie has a population of 120. Indigenous Australians represent 40% of the Shire’s population. These communities experience a large influx of tourists during the winter months, with over 50,000 visitors passing through Birdsville each year.

Health services in the Diamantina Shire are focused around primary health care clinics in the two townships, run by Remote Area Nurses. The Royal Flying Doctor Service (RFDS) provides fortnightly GP clinic services, and the Rural and Remote Women’s Health Service on

a quarterly basis. North and West Queensland Primary Health Care provide a visiting allied health service on a 6 weekly basis. Queensland Health, Central West Health Service District provides some allied health services on a 3-6 monthly, and employs an Aboriginal Health Worker, based in Bedourie and servicing Birdsville, Windorah and Jundah.

The primary health care clinics had historically been operated by a non-government organization (NGO), under contract to the Central West Health Service District. The staffing and operational costs of the clinics were funded through various streams including a contribution by the Central West Health Service District, fund raising by the local communities (including the Birdsville races), in kind support by the Diamantina Shire to assist in maintenance of the buildings, and donations through the church-based NGO.

In response to issues identified through Regional Health Service Planning work in 2002-2003, the Diamantina Shire secured funds from the Commonwealth Department of Health and Ageing to build a new clinic in Birdsville. The Commonwealth Department of Transport and Regional Services contributed funding to build two houses for nurse accommodation as a strategy to improve recruitment and retention of nurses. The Diamantina Shire also contributed significant funds to this infrastructure. The new clinic and accommodation was opened in 2005.

Phase	Case History: Diamantina	Comments on Methodology and Process
Pre-engagement	In early 2004 the Diamantina Shire became aware of uncertainty of whether the NGO running the Remote Nursing Clinics would continue. The Regional Planning work in 2002-03 had identified staffing and operational issues impacting on the sustainability of nursing services in the Shire. Therefore, the Diamantina Shire Council sought to investigate alternative models.	
Phase 1: Initial Assessment	<p>The Diamantina Shire Council, via the CEO approached Health Workforce Queensland for assistance to explore alternative models.</p> <p>Health Workforce Queensland personnel were familiar with the Central West Regional Health Planning paper and issues raised by the Shire.</p>	Source of information: Central West Regional Health Service Planning Paper, 2002
Phase 2: Decision and Engagement	<p>Health Workforce Queensland indicated its intention to assist the Shire in this modeling work, offering the opportunity to apply the principles developed in the Solutions Paper.</p> <p>At this point, Health Workforce Queensland sought to engage with the Central West Health Service District to facilitate open discussion around the contribution the District could make to the model development. The risk of the current provider disengaging from the Diamantina Shire was a concern for Queensland Health as the District Health Service would need to find an alternative provider, or take on the role themselves.</p>	

Phase	Case History: Diamantina	Comments on Methodology and Process
<p>Phase 3: Environmental scan and identification of strategic issues</p>	<p>The key issues for the Diamantina Shire were:</p> <ul style="list-style-type: none"> • The development of a model that enabled sustainable delivery of primary health care nursing services and emergency care • Identification of a governance model <p>A series of teleconferences were conducted to enable the development and costing of the model. The teleconferences were attended by the CEO, Diamantina Shire, the District Manager and/or Director Corporate Services, Central West Health Service District, Medical Advisor, Health Workforce Queensland and the consultant to Health Workforce Queensland.</p> <p>A discussion paper was developed outlining the model, possible income streams (identifying their feasibility), and options for governance and management of the service.</p> <p>The key elements of the model were:</p> <ul style="list-style-type: none"> • Bedourie and Birdsville considered “an integrated service” and not operate independently, therefore establishing an internal management structure • Adequate nursing staff positions to work across the two sites to allow internal relief and an additional 0.5 FTE to backfill for annual leave and study leave i.e. 3.5 FTE • Accreditation of both clinics <p>Options for governance and management of the health service were developed. These included:</p> <ul style="list-style-type: none"> ▪ Diamantina Shire auspice the service and directly employing nursing staff ▪ Diamantina Shire auspice the service and contracts an agency/NGO to provide nursing services ▪ Central West Health Service District auspice and manage the clinics ▪ Non-government organizations currently operating in the Shire auspice and manage the service ▪ Community Controlled Health Service with incorporated association auspice and manage service by either directly employing nursing staff or contracting an agency to provide nursing services <p>The shortfall in funding i.e. current funding compared to that required to staff the clinics within award conditions, operate the clinics and support accreditation of the facility was \$455,000 pa.</p> <p>Clearly the clinics within the Diamantina Shire had been chronically under funded, impacting on the ability of the provider to retain nursing staff.</p>	<p><i>A very limited environmental scan was required because of access to and knowledge of the planning work undertaken in 2002.</i></p>

Phase	Case History: Diamantina	Comments on Methodology and Process
<p>Phase 4: Option Development and Selection</p>	<p>The Discussion Paper was disseminated to the Australian Government Dept of Health and Ageing, Central West Health Service District, and the managers of the agencies providing services to the Shire to review the model, discuss four options for governance and management, and identify funding sources.</p> <p>A follow-up teleconference resulted in the State Office of DoHA recommending a joint meeting with Queensland Health Corporate, the Diamantina Shire and Health Workforce Queensland to put forward the model and determine whether there were joint funding opportunities available across government.</p> <p>The Diamantina Shire debated whether to auspice and manage its own primary health care service. The arguments underpinning this debate were that the Shire was the organization elected by the local communities to manage services; it was an organization that had the processes and systems in place to manage large sums of money and specific projects and programs; it was the largest local employer, and had the systems in place to manage staff. In addition the Shire already provided in kind support to the health services through assistance with the maintenance of buildings and infrastructure.</p> <p>The advantages to the Shire to auspice and manage the health services included:</p> <ul style="list-style-type: none"> ▪ Opportunity to direct models of service delivery to meet local need ▪ Guarantee that funds raised locally would be directed back into the service ▪ Opportunity to promote integration of resident nursing services with visiting health and community services, broadening the focus of service provision to encompass primary health care ▪ Opportunity to develop strategies to support the recruitment and retention of nursing staff <p>However, the Diamantina Shire (like most) had no experience in management of health services and health service delivery. Therefore systems for clinical governance of the remote area nurses and professional and peer support required consideration.</p> <p>The Shire decided it would auspice the primary health care service and call tenders to manage the clinics.</p>	<p><i>The early engagement of possible funders and providers was valuable to the modeling process. The State office of DoHA commenced exploration of funding opportunities within its various branches.</i></p> <p><i>This meeting was convened in Brisbane attended by the Diamantina Shire Mayor, Councilor and CEO, representatives from the State Office, Australian Government Department of Health and Ageing, Health Workforce Queensland, Central Zone Manager, Queensland Health and Central West District Health Manager</i></p> <p><i>The case was presented to Queensland Health but no additional funding was provided</i></p>

Phase	Case History: Diamantina	Comments on Methodology and Process
<p>Phase 5: Implementation, Monitoring and Evaluation</p>	<p>The Australian Government Department of Health and Ageing provided the additional funds to meet the annual shortfall. Queensland Health did not increase its commitment to the Shire.</p> <p>Health Workforce Queensland assisted the Diamantina Shire Council develop the tender specifications for the Diamantina Health Service. The Shire received tenders from three organizations, and North and West Queensland Primary Health Care was awarded the contract. This agency took over the management and operation of the clinics in May 2005.</p> <p>The contract between the Diamantina Shire and North and West Queensland Primary Health care specifies services to be delivered and performance measures to be met.</p> <p>Health Workforce Queensland has no formal role in ongoing implementation and monitoring.</p>	<p><i>As the Diamantina Shire is the auspice of the Diamantina Health Service, there is a clear process for community participation in service planning, monitoring and accountability to meet community need</i></p>

3.2.2 ANALYSIS OF THE DIAMANTINA CASE STUDY

Have sustainability-building strategies been established within the Diamantina Health Service?

In this instance, the key interface is between the Diamantina Shire (as the auspice), and North West Queensland Primary Health Care (as the primary health care service provider). At this point in time, there has not been an increased commitment by Queensland Health at an Area or District level, over and above the commitment that was in place prior to the re-engineering of the health service i.e. specified annual funding commitment, pharmacy supplies, an Aboriginal Health Worker position, and vehicle.

Greater engagement by Queensland Health through funding and/or in-kind support is likely to assist in building sustainability. This could be provided through:

- In-service training/upskilling for nurses
- Access to re-entry training/placements for local nurses (accessed at Longreach, Toowoomba, Brisbane)
- Additional Health Worker position to mitigate enormous geographical area the current position has responsibility for

The sustainability-building strategies that are apparent include:

- Increased critical mass of nursing personnel. The establishment of 3.5 FTE positions provides 1 FTE position in each of Bedourie and Birdsville, with the third position operating as a permanent reliever across the two clinics. The additional 0.5 FTE position provides the funding to backfill to these positions for annual leave and study leave
- Appropriate clinic facilities and housing. The construction of a purpose-built facility in Birdsville provides an effective and adequately equipped working environment for nurses. In addition, quality accommodation for the nurses is also likely improve recruitment and retention of staff
- The Diamantina Health Service is managed by an agency operating primary health care clinics in another location, as well as operating an outreach allied health service. North West Queensland Primary Health Care has operational management and clinical governance processes in place to support the personnel working within Diamantina Health Service
- Primary health care teams. Whilst the nurses working in the Diamantina Health Service are geographically isolated, they are supported by visiting health professionals from the NWQPHC, the RFDS, Central West Health Service District and St Luke's Nursing Service to enable team-based care, and access to professional support
- Community participation in service planning, review and monitoring is embedded in the model with the Diamantina Shire, the locally elected community representatives, auspice of the service
- Ownership of the health service by the community may provide a mechanism to "protect" nurses from unnecessary or low priority after hours calls. This is yet to be tested.
- Employment contracts of the Remote Area Nurses are remunerated reflecting isolated practice and environment, access to professional development, and relief

3.2.3 FACTORS FACILITATING CHANGE IN THE DIAMANTINA

The model operating in the Diamantina is effectively a community controlled model, where the local Shire is the fund holder for health service provision, and contracts in an agency to provide specified primary health care services.

The key factors facilitating the development and implementation of this model included:

- Very progressive and strong local government prepared to meet challenges
- CEO of the Shire was the local driver for health service reform
- Support by the officers of the Commonwealth Dept of Health and Ageing to assist in finding solutions
- Non-government organizations already operating effective primary health care services within the Shire, were prepared to embrace a new model of service delivery

Whilst the lack of commitment by Queensland Health to make any additional contribution to the operational budget for the clinics operating in the Diamantina Shire was an obvious barrier to be negotiated during the remodeling phase, it has been overcome by the significant contribution by the Australian Government Department of Health and Ageing.

3.3 CASE STUDY: CLONCURRY

3.3.1 BACKGROUND

Cloncurry is the service centre of the Cloncurry Shire, and has a population of nearly 4,000 people with the Indigenous community comprising approximately 27% of this total. Cloncurry is 1.5 hours drive from the city of Mt Isa, which has a base hospital with resident and visiting specialist services. Cloncurry has a hospital with two designated positions, a Medical Superintendent with Right to Private Practice (MSRPP) and a Medical Officer with Right to Private Practice (MORPP). The hospital is a 20 bed facility employing a full-time Director of Nursing, 3 Clinical nurses, 9 registered nurses and 6 enrolled nurses. There are 3 shifts/day covered by 3 nurses. Minor operations are performed at Cloncurry and a number of nurses have theatre skills. Occupancy rates are about 25% with most patients being short stay as it is a predominantly young community, however the accident and emergency department is busy with one nurse usually stationed there.

A community health nurse and indigenous health worker operate from the community health building, located next door to the Queensland Health owned general practice facility. The Queensland Health general practice has 2 consulting rooms and a treatment area. HACC services are managed and delivered by a local Aboriginal Corporation. A private pharmacist is established in Cloncurry. Cloncurry is well-served by visiting allied health services, and a Diabetes Educator employed by North West Queensland Primary Health Care (NWQPHC), and the Mt Isa Health Service District (MIHSD). The Queensland Ambulance Service has 2 officers stationed in Cloncurry. A large mine is located about 35 km north of Cloncurry, with an increasing number of mining staff residing locally.

However, the provision of medical services in Cloncurry had been problematic for a number of years. In 1998, Health Workforce Queensland (then known as the Queensland Rural Medical Support Agency) together with the Mt Isa Centre for Rural and Remote Health (MICRRH), Mt Isa Health Service District, and North and West Qld Primary Health Care (formerly Northern Qld Rural Division of General Practice), worked with the Cloncurry community to identify options for the development of sustainable general practice in the area.

Whilst a significant amount of time and effort was dedicated by the various agencies to the development of alternative models a new model was never formally put in place largely due to the withdrawal of a previously agreed funding agreement. The recruitment of an overseas trained doctor through the Pilot Remote Vocational Training Scheme (PRVTS) and a second overseas trained doctor alleviated the problem for several years (operating under the MSRPP and MORPP model), as the PRVTS doctor established a busy practice. However, following her resignation and relocation there were a series of shorter-term appointments.

In December 2003 the incumbent MSRPP resigned without a replacement in place, and the MORPP left shortly after. NWQPHC took over the management of the practice in December 2003 together with the Mt Isa Health Service District underwriting the practice. Doctors were provided by Mt Isa Health Service District on a rotational basis from the Mt Isa Hospital. NWQPHC established a company at that time to enable the operation of the practice on a commercial basis. A new MSRPP was recruited in January 2004, with doctors from Mt Isa Hospital rotating into the Medical Officer position on an ad hoc basis.

In early 2004, Health Workforce Queensland linked with North and West Queensland Primary Health Care and the Mt Isa Health Service District to investigate alternative models to improve the sustainability of medical services in Cloncurry.

Phase	Case History: Cloncurry	Comments on Methodology and Process
Pre-engagement	<p>Cloncurry and its catchment population has grown over recent years with the advent of mining operations but no increase in medical services.</p> <p>Mt Isa District Health Service is responsible for provision of medical services to Cloncurry Hospital, including relief to the MSRPP and MORPP. However, in the 4 year period between 2000 and 2004 Mt Isa Health Service District had a series of Acting District Managers as well as short-term and acting appointments to the Medical Superintendent position. This lack of stable management impacted on recruitment of doctors to the Mt Isa region, negatively impacting on the Mt Isa Hospital's capacity to provide relief to doctors working in Cloncurry and in the Gulf communities.</p>	
Phase 1: Initial Assessment	<p>Health Workforce Queensland had a long-standing involvement with the key agencies seeking to improve the sustainability of medical services in Cloncurry. Therefore there was little work to be done in this phase other than an update on the situation with respect to current doctor(s) and management of the private practice arrangements, as described in the Background.</p> <p>In addition, the local mine was expanding and there was a greater emphasis on staff and their families residing locally rather than fly in fly out.</p>	
Phase 2: Decision and Engagement	<p>Health Workforce Queensland was keen to engage with the Mt Isa Health Service District and NWQPHC as there was the potential for effective models to be developed considering the expansion of mining operations in the region and projected growth in the population of the Shire</p>	

Phase	Case History: Cloncurry	Comments on Methodology and Process
<p>Phase 3: Environmental scan and identification of strategic issues</p>	<p>In May 2004, NWQPHC convened a meeting of the key agencies involved in supporting medical service delivery in Cloncurry. This included the District Manager and Medical Superintendent of Mt Isa Health Service District, Director of Mt Isa Centre for Rural and Remote Health (MICRRH), representatives of Health Workforce Queensland (the Medical Advisor and consultant) and NWQPHC (Area Manager).</p> <p>This group workshoped the medical workforce problem in Cloncurry. The group identified the current situation and threats to sustainable care:</p> <ul style="list-style-type: none"> • <i>Doctors</i> – very busy, doctor to population ratio 1:2,000; busy private practice plus 3-4 hours/day hospital work; significant load of acute/sick patients; little capacity for preventative care • <i>General practice facility</i> – Owned by Queensland Health, limited space (2 consulting rooms) and poor design limits potential to recruit additional doctors (nowhere to work from); currently accredited but not likely to meet re-accreditation; confidentiality issues due to design • <i>Hospital</i> -low occupancy, under-utilized nurses but high operational/maintenance costs; located on edge of town, no public transport therefore not considered an option for expansion of general practice facilities • Other issues -Cloncurry community rejected option for Multipurpose Health Service (MPHS) in 2000, but since that time Aged Care Hostel has closed <p>However, a number of opportunities exist:</p> <ul style="list-style-type: none"> • <i>Nursing</i> - No reliance on agency nurses – locally staffed; 3 nurses are registered midwives, therefore opportunity for community midwifery service and/or rotation into Mt Isa Base Hospital; under-utilized hospital nurses could be seconded to general practice (contract from Qld Health); Practice Nurse Incentive to offset nursing costs • <i>Mines</i> – require local medical facility; opportunity for capital support for expansion of practice facility or accommodation; increased work/income through mines if attract doctors • <i>Practice</i> - Population and mine would support 3 GPs plus Registrar; opportunity to develop teaching practice 	<p><i>Concurrent to this planning, the local mine was negotiating with a corporate practice to provide medical and occupational health services to the mine.</i></p>

Phase	Case History: Cloncurry	Comments on Methodology and Process
<p>Phase 4: Option development</p>	<p>At this meeting two options were developed.</p> <p>Option 1: Larger group practice contracting to District to service the hospital. This option requires establishment of a new medical facility with sufficient consulting rooms and treatment area to support practice nurse. The position of Medical Superintendent rotates between the doctors within the practice.</p> <p>Option 2: Maintain current practice for the MSRPP and MSOPP, and establish a second private practice. The private practice is a training practice.</p> <p>In either scenario, after hours on-call is shared between the 4 doctors, although financial arrangements require negotiation to reimburse private general practice for hospital on-call (Option 2).</p> <p>The agreed model was initially a hybrid of the two options where the MSRPP and 2 MORPPs would operate from the Queensland Health Cloncurry practice. The additional MORRP position was a Bonded Scholarship holder. These three positions would provide some monthly cover for the solo Julia Creek MSRPP. The fourth doctor would be a GP Supervisor who would provide GP training to the Bonded Scholarship holders and International Medical Graduates if needed. The practice would also provide teaching to Medical Students.</p>	<p><i>This GP (the GP Supervisor) worked as the Medical Advisor with Health Workforce Queensland on a part-time basis.</i></p>

Phase	Case History: Cloncurry	Comments on Methodology and Process
<p>Phase 5: Implementation, Monitoring and Evaluation</p>	<p>In December 2004, after negotiation with the District Manager of the MIHSD and the MSRPP, a private corporate practice took over the management of the Cloncurry general practice i.e. a managed practice model. This company, already operating an Occupational Health Clinic for Xstrata in Mt Isa, had been approached by Xstrata to provide a general practice and occupational health service for Xstrata employees in Cloncurry. It was decided to integrate all GP services under one roof in new premises.</p> <p>The third Hospital position (bonded scholarship holder) commenced in January 2005. In addition the Cloncurry practice was accredited as a training practice with Tropical Medical Training, supervised by the private GP (the fourth doctor), allowing the bonded scholarship holder to finalise her GP training term.</p> <p>At that point in time (January 2005) the after-hours roster was 1 in 3, with the private GP also providing some cover.</p> <p>Whilst the initial MSRPP and MORPP resigned in the early part of 2005, these positions were immediately filled, and at July 2005 there were 4.5 FTE doctors working in Cloncurry, covering their own relief and also Julia Creek. As the new practice was not yet finished, the MSRPP worked mainly from the hospital.</p> <p>However, the emphasis of the corporate entity was to meet its contractual arrangement with the mine, resulting in miners having precedence over other patients seeking appointments. The ethos of the practice focused on the occupational medicine work, which did not sit well with a number of the doctors, resulting in a split from the corporate entity.</p> <p>This led to the formation of the Flinders Medical Practice, with one of the principals being the GP Supervisor. The 2 MORPPs (who were both bonded scholarship holders), and the GP supervisor worked in the Flinders Medical Practice. The Flinders Medical Practice moved into the newly refurbished practice. The MSRPP elected to stay with the corporate entity in the Queensland Health owned premises, and continued a GP practice, largely focusing on Occupational Health. Unfortunately this disengagement resulted in acrimony between the Flinders group, the corporate entity and NWQPHC including issues around ownership and subsequent sale of equipment.</p> <p>In December 2005, the MORPP and bonded scholarship holder completed their training terms and relocated.</p> <p>The Flinders Medical Practice has continued to operate with a full-time doctor and a regular supply of locums, coming into Cloncurry on a fortnightly basis. The practice provides overnight and week-end on-call relief to the MSRPP, at a negotiated rate, but will not undertake outpatient work. The Flinders Practice has purchased 3 houses in Cloncurry and a vehicle to accommodate the locums. A second permanent GP will join the practice in July 2006.</p> <p>At March 2006, the MORPP position and bonded scholarship position have not been re-advertised. The MSRPP is managing the hospital alone. Current rosters indicate that Mt Isa Hospital will not be providing relief to the doctor in the first months of 2006.</p>	<p><i>This blending of the operation of private and public service providers, increase in the number of doctors (i.e. critical mass), reduction in after hours burden, and provision of practice support to GPs without a capital commitment, are identified as several of the key factors for sustainable service delivery.</i></p> <p><i>Health Workforce Queensland's formal involvement ceased after the introduction of the GP Supervisor and the corporate entity, as it was felt that the model was in place</i></p> <p><i>The GP Supervisor was initially contracted by the corporate entity to provide clinical services</i></p> <p><i>The case study will be described to the time of writing this paper as there are significant lessons to be learned with respect to factors impacting on sustainability of services</i></p> <p><i>District Manager changed in late 2005</i></p>

3.3.2 ANALYSIS OF THE CLONCURRY CASE STUDY

There are many lessons to be learned in the analysis of the Cloncurry Case Study. In the initial re-engineering of the medical services model in Cloncurry, the key sustainability-building strategies were considered and addressed. These included:

- Development of an interface between the District Health Service, the Division of General Practice, the hospital doctor(s), private GP and a little later a corporate general practice
- Developing a strategy to increase the critical mass of doctors to Cloncurry, with the District Manager recognizing the medical workforce shortage in Cloncurry and establishing a third position with the hospital (total of four doctors), enabling improvement of the on-call and after-hours roster to 1 in 3 or 1 in 4
- Establishing a general practice training opportunity using the private GP as the supervisor within the Cloncurry practice
- Identification and refurbishment of an alternative practice building able to accommodate additional doctors and provide an effective working environment that meets accreditation standards
- A corporate general practice taking the responsibility to operate and manage the private practice such that the doctors need not make a capital contribution
- The local mine entering into contract with the corporate general practice for provision of occupational medical services improving the financial viability of the operation
- Support from the local Shire to assist in locating appropriate housing stock for the third hospital position

This model operated effectively for nearly 12 months, and then fell over. Understanding the collapse of this model is very important for future health service re-engineering. The key factors contributing to the collapse were:

- Disengagement by the majority of doctors and practice staff from the corporate general practice due to differences in ethos of practice. The corporate entity saw its first responsibility to the mine for the provision of services to meet its contractual arrangements. However, the majority of doctors saw their first responsibility to general community with acute problems. This resulted in establishment of second general practice entity located in the refurbished practice
- The District Manager who had brokered the revised model and established the third position at Cloncurry Hospital took long service leave
- Replacement District Manager concerned about meeting budget requirements and did not advertise the third position (bonded scholarship holder) when it became vacant in December 2005. As it was a bonded position, the District Management were aware that the present doctor would relocate at completion of term
- The MORPP position became vacant in December 2005 but position had not been advertised four months later (at time of writing)
- There was no formal Memorandum of Understanding in place to reflect the service model and recognize the establishment and maintenance of the third doctor position (i.e. second MORPP)

The crucial people bringing about change in the Cloncurry Case Study were the District Managers (but having opposing results), and the private GP (GP Supervisor) who was committed to building medical capacity in Cloncurry. Underpinning the actions of the District Managers was the conflict between service provision and budget requirements, with one focusing on service delivery and the other focusing on budget.

The decision by current management of the District Health Service, to not maintain the third medical position negatively impacts on training and ability to provide internal relief within

Cloncurry and Julia Creek (1.5 hours drive west of Cloncurry).

The GP supervisor has remained in Cloncurry as one of the principals in the Flinders Medical Practice. The GP supervisor has formed a business relationship with another experienced rural GP supervisor. These doctors both hold adjunct teaching appointments at James Cook University and are committed to maintaining the Flinders Practice as an academic teaching practice. The practice has an experienced practice manager, and is fully staffed inclusive of a Registered Nurse.

The GP supervisors of the Flinders Practice see the model of an academic rural practice, providing GP training for Queensland Rural Bonded MORPPs, as a long-term solution to the recruitment and support of Queensland medical graduates who wish to become GPs.

A key learning for Health Workforce Queensland from the Cloncurry Case Study is that the agency withdrew too early from the process on the assumption that the model was developed and agreed upon, and implementation would be driven by the Mt Isa Health Service District, the corporate entity and the GP supervisor.

In hindsight, the agency should have continued to be formally engaged in the implementation stage to promote the development of a Memorandum of Understanding or Service Partner Agreement between the key players. Furthermore, as an outside agency not providing clinical services in the community, it could have partnered with the local Shire to negotiate the service model operating within the Cloncurry practice that may have averted the clinical split, or facilitated a less acrimonious split.

4. LESSONS LEARNED

4.1 LESSONS LEARNED: WORKFORCE PLANNING AND SERVICE RE-ENGINEERING

Whilst the three case studies are very different in terms of the size of the community, the presenting workforce issues and the re-modeling process, there are a number of lessons that can be drawn from these case studies.

4.1.1 CHANGE IS POSSIBLE

In the current health workforce environment in Queensland it is pleasing that it is possible to bring about positive changes that enhance access to health services for people living in rural and remote Queensland. As evidenced by the three case studies presented change was achieved within 12 to 18 months.

4.1.2 SYSTEMIC BARRIERS TO BE OVERCOME

However, the workforce planning and health service re-engineering has identified a number of systemic barriers that were common to all case studies.

- **Acceptance of sub-optimal workforce numbers**

In each case study presented there appears to be acceptance of the traditional number of established positions below the number or level required, by the managers of the various health services and the community, without taking into consideration the population of the catchment area, or the hours worked by the health professionals to maintain rosters and cover the hospitals and clinics. In the case studies presented, prior to re-modeling, health professionals were working outside recognized safe hours of practice.

The benchmarking undertaken as part of the service mapping and gap analysis is critical to identification of areas of workforce shortage, and serves as a reminder that just because positions are filled does not mean there is not a shortage. Perhaps there are not sufficient positions, or appropriately qualified (procedural) practitioners to service the population safely, effectively or in a sustainable manner.

- **Inertia and turnover of bureaucracy**

It is very difficult to bring about change when managers and bureaucrats are working in a care-taker or acting capacity, due to lack of authority to make decisions, reluctance to make decisions, or decisions overturned once a permanent appointment is made.

Individuals in management positions are critical to the respective success and failure of the re-engineered models. The development and maintenance of new models will only be possible through a mechanism where they are embedded in policy. However, there is the counter risk that there will not be opportunities to change “bad” models.

- **State and Commonwealth barriers**

The most readily identifiable barrier when seeking to operate in an environment where there is a mix of state and commonwealth responsibilities, is seeking agreement between the levels of government of their respective contribution for new or additional services.

- **Long history of crisis management and planning**

Whilst there has been significant effort put into the development of numerous big picture

strategic plans and Directions Statements by Queensland Health, this has not translated into effective planning and management at a regional and community level.

An example of this is delaying recruitment to a position until after the incumbent has relocated, therefore no hand over, series of short-term locums, or in the case of allied health professionals, no one in the job until a replacement is found. Is this poor management or a cost-saving strategy?

This was particularly evident with the 5 Year “Docs for the Bush” program, where international medical graduates obtained temporary residency status and a restricted provider number, and were bonded to work in an area of need location for 5 years after which they gained permanent residency and access to unrestricted provider number. In this example, there was adequate lead time for succession planning i.e. 5 years. However, recruitment to the positions filled by Docs for the Bush doctors usually did not occur until after the doctor had finished the 5 year stint and moved on.

The degradation of procedural services is often a result of lack of planning and then crisis management. Procedural services, particularly obstetric services, have been withdrawn when insufficient planning has gone to the recruitment of appropriately skilled doctors, resulting in the appointment of a non-procedural doctor negatively impacting on the sustainability of the procedural service.

4.1.3 IMPORTANCE OF A LOCAL DRIVER OUTSIDE THE HEALTH INDUSTRY

The Roma and Diamantina case studies highlight the importance and effectiveness of a local driver. In both these studies the driver was local government who were able to capture the attention and ear of state and Australian Government health bureaucrats and clearly having some leverage with the local District Health Service Managers.

Furthermore, the local drivers were focused on solutions for their community and were able to exert influence and galvanize local responses appropriate for their communities.

In contrast, whilst the Cloncurry Shire was supportive of the changes being developed and implemented in Cloncurry, it was not a driver. In this case, the driver was the new private GP, and may have been considered “just another player” in the District’s sandpit. In hindsight, inviting the Shire to have a more central role may have countered the inertia in recruitment to the hospital positions at the end of 2005 by the new District management.

4.1.4 MAINTENANCE OF FOCUS ON IMPLEMENTATION OF SOLUTIONS

In each of the case studies presented, solutions to the presenting workforce issues were tailored to address the needs of the community and the needs of the health professionals. However, the success of the solutions hinges on implementation.

The Roma Medical Forum identified and developed its solution, and this was documented in the paper “Planning for sustainable health services: Roma region 2005-2008”. This document was the foundation and focus for ongoing work by the Forum and the District Health Service Executive.

The Roma Forum used a series of regular meetings to develop specific actions to be undertaken by members of the Forum to enable implementation of the strategies described in the planning paper. Health Workforce Queensland has maintained its role as a facilitator to the Forum. Whilst the key facilitating factors supporting the achievements of the Roma Medical Forum have been identified in the previous section, it is probably the Forum itself, with many players at the table watching the implementation process that has maintained momentum and commitment by

individuals to do what they said they would do.

In the Cloncurry situation, a preferred option was developed by stakeholders for implementation. However, this broader stakeholder group did not continue to meet after the option was decided upon, and it was left to the Mt Isa District Health Service and the doctors to implement. If the broader stakeholder group had maintained involvement through a schedule of agreed meetings, there would have been a mechanism to monitor the implementation process, identify blockages to implementation in a broader forum. This may have enabled a re-negotiation of the service model within the Cloncurry practice (averting a split) and changed or impacted on the actions of District Management with respect to recruitment to pending vacant positions.

In the Diamantina Case Study, the implementation of the re-engineered model forms the basis of a contract between the Diamantina Shire Council and North and West Queensland Primary Health Care as the preferred provider of nursing services. This contractual arrangement clearly defines services to be provided, the role of the auspice and the service agency, and performance measures to assess implementation.

4.1.5 FRAGILITY OF ARRANGEMENTS THAT HINGE ON INDIVIDUALS

In each of the case studies, specific individuals were identified as key facilitators to enable change in the health service environment. However, as demonstrated in the Cloncurry case study this change is very fragile when it hinges on an individual. The Roma Medical Forum have recognized this and are developing a Memorandum of Understanding between the four key agencies to ensure continued implementation of the re-engineered service model beyond the tenure of current managers and elected representatives. By having in place a Memorandum of Understanding or Service Partner Agreement, an agency is compelled to negotiate with its partners if seeking to change direction.

4.1.6 RE-ENGINEERING MINDSETS

Fundamental to re-engineering health service models is the re-engineering of mindsets of key players. This is evidenced in the three case studies described.

In the Roma Case Study mindsets changed with respect to growing rather than shrinking a service, and utilizing existing and newly recruited personnel to build training capacity within the Roma region, and across the public and private interface.

In the Diamantina Case Study, the concept of the Shire Council becoming the fundholder for the provision of health services to enable community control of service delivery was a major shift in accepted practice for the Shire and the funders i.e. Queensland Health and the Australian Government.

In Cloncurry, blurring the interface across public and private medical service provision, and acknowledgement of the increased number of medical positions required for sustainable service delivery were key shifts in thinking.

As Australia continues to meet the increasing health workforce challenges, this will require significant re-engineering of the mindsets of health service planners, managers, funders and providers to extend the role of health professionals to meet community needs.

4.2 LESSONS LEARNED: METHODOLOGY

The systems-based methodology described in Section 2 of this document reflects what has been done by Health Workforce Queensland in real-world workforce planning and service re-engineering, and identifies steps or actions that should also be undertaken to improve the planning and implementation process, learning from the community development work undertaken over the last two years.

The systems-based methodology enables an agency using this process to:

- Assess a situation and decide upon its response
- Provide a checklist of information required about the region in question, and identify information sources to enable comprehensive information gathering
- Benchmark health services in the region to identify service gaps
- Seek engagement of local stakeholders
- Identify other partners to assist in developing and implementing solutions
- Establish a mechanism with stakeholders and partners to define strategies required and assign responsibilities for action
- Identify funding requirements
- Establish communication processes
- Secure political support for implementation

4.2.1 FOCUS IS STILL PLANNING, NEED TO LEARN ABOUT IMPLEMENTATION

To date, this methodology continues to emphasize planning, and less well implementation. Perhaps this is a timing issue, and amount of work “under our belt”. However, it might also be related to mindsets. In the case studies presented, including Roma, plans have been collaboratively developed but usually one agency has the responsibility to implement. Therefore the other players tend to step back and have a monitoring role, or provide assistance around a specific issue.

At this point in time, the development of Memoranda of Understanding or Service Partner Agreements, are seen as mechanisms to support implementation of agreed plans. Health Workforce Queensland needs to continue to evaluate the implementation processes used in each community and site to learn what does work over a longer implementation period.

4.2.2 RESOURCING REQUIRED TO SUPPORT THE METHODOLOGY

Significant resources were required to enable the planning and modeling work required in each of the case studies. Whilst Health Workforce Queensland is not specifically funded to undertake this community development type work, the organization sees it as critical to successful recruitment and retention of a health workforce in rural and remote localities. Therefore, Health Workforce Queensland has undertaken this work to date, using existing internal resources.

However, there is an increasing demand from communities for assistance in developing solutions to their health workforce problems. Health Workforce Queensland requires resourcing of personnel and travel, to enable the agency to continue to respond. Furthermore, there is now tested methodology in place that allows identification of resource requirements for specific modules of work.

The local driver also needs to be adequately resourced. To date, these resources have included secretariat support and meeting expenses, but may also extend to resourcing their time and travel for meetings with key stakeholders external to their locality. In addition, a local project officer working across agencies, or embedded within an agency, may be required to enable implementation of agreed strategies.

4.2.3 IDENTIFICATION AND NEGOTIATION OF EXIT POINTS

To date there has been a lack of identification or negotiation of exit points by Health Workforce Queensland, in the majority of communities in which it has undertaken this community-based planning. The process of writing this paper and reporting case studies has highlighted the need for a facilitating agency to negotiate exit points with communities and key players. The conceptualization of the systems-based methodology allows for the identification of key pieces or modules of work to support workforce planning and service modeling. However, in addition to this is the need to negotiate with the requesting communities, clear criteria to be met prior to the exit of the facilitating agency.

4.2.4 METHODOLOGY HELPS TRAVERSE “THE BOG”

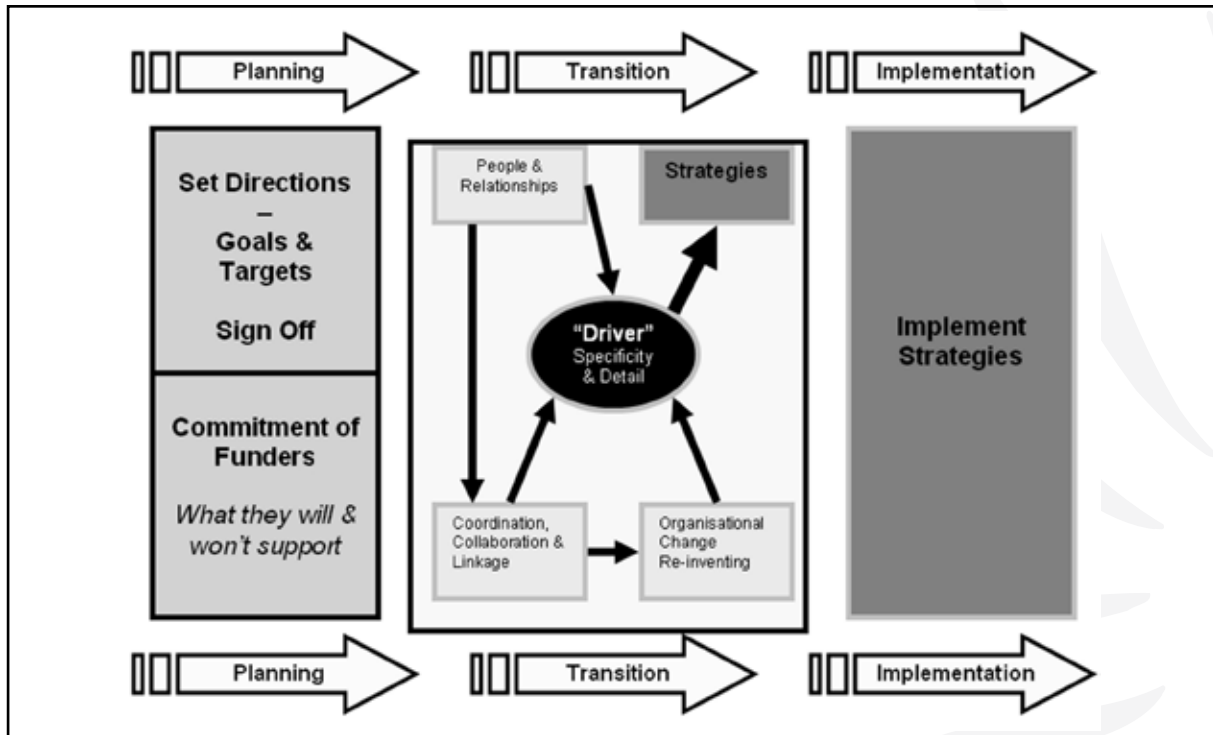
There is a recognized gulf between planning and implementation where a myriad of plans are developed for a multitude of purposes, but never implemented. Battye (2005) referred to this gulf as “The Bog”, and identified the challenges and barriers to implementation of Regional Health Plans as^o:

- Lack of implementation of State and National Plans impacting on addressing health priorities and workforce at a regional level
- Lack of recognition of the fundamental importance of “people” and relationships as blockers or facilitators to change
- Requirement for organizational change and re-inventing by providers if services to be delivered differently or re-engineered
- Lack of community engagement underpinned by lack of understanding of the structures and processes to support engagement
- Plans are often written at a higher level, and lack the specificity and detail required for implementation
- Reform of health services and systems requires a driver, and the development and maintenance of momentum by funders, organizations, managers and service providers on the ground to effect implementation

The methodology developed by Health Workforce Queensland as described in this document has recognized these barriers and has outlined steps and processes to help overcome the many significant blocks encountered in redesigning health service delivery in rural and remote communities.

Battye (2005) identified the need to change the way planning is undertaken in order to enable implementation, and proposed a process where the emphasis is to build relationships between people within agencies to enable development of specific, and detailed strategies (Figure 8).

FIGURE 8: PLANNING PROCESS WITH EMPHASIS ON DEVELOPING PLATFORM FOR IMPLEMENTATION



Copyright K. Battye 2005.

Under this approach, plans are developed that set direction with clear goals and targets, identifying those requiring resourcing. At this early stage commitment is sought from funders with respect to what will or won't be supported.

The effort in this methodology is focused on enabling the building or strengthening of inter-organizational relationships by focusing on the people, to support coordination and collaboration, change in the way business is done, and developing specificity to the strategies. This enables the development of very clear strategies to move forward, providing the platform for implementation.

The methodology developed by Health Workforce Queensland largely establishes and formalizes the transition stage, seeking to bridge the gulf (or bog) between planning and implementation.

4.3 TAKE HOME MESSAGE

The methodology described in the paper, has enabled the development and implementation of locally derived and relevant solutions to health workforce problems. In each of the case studies presented, "fixing" the problem is not only about workforce numbers but also re-engineering the model in which the health professionals are working.

Whilst the cost and time commitments of undertaking this community-based planning are significant for the facilitating agency and collaborating parties, the benefits are improved interactions between the public, private and non-government sectors, resulting in a raft of professional and lifestyle benefits to the individual practitioners and sustainable health services communities.

REFERENCES

- ¹ Queensland Rural Medical Support Agency (2004). *Solutions to the provision of primary care services to rural and remote communities in Queensland*. Brisbane: QRMSA
- ² Productivity Commission 2005, *Australia's Health Workforce*, Research Report, Canberra
- ³ Australian Medical Workforce Advisory Committee (2003). *Career decision-making by doctors in vocational training*. AMWAC Report 2003.2, Sydney
- ⁴ McDonald J, Bibby L. and Carroll S. (2002) *Recruiting and retaining general practitioners in rural areas: Evidence based review: Final Report*. Ballarat: University of Ballarat
- ⁵ Queensland Health Health Advisory Unit. (2000). *Director General's Allied Health Recruitment and Retention Taskforce Report*. Queensland Health: Brisbane
- ⁶ Fitzgerald K, Hornsby D, Hudson L. (2001) *A study of allied health professionals in rural and remote Australia*. Services for Australian Rural and Remote Allied Health Inc.
- ⁷ Rural Doctors Association of Australia. (2003). *Viable models of rural and remote practice: Stage 1 and Stage 2 report*. Canberra. ACT
- ⁸ Econtech Pty Ltd. (2004). *Aboriginal and Torres Strait Islander Primary Health Care Review: Consultant Report No. 3. Costings Models for Aboriginal and Torres Strait Islander Health Services*. Commonwealth Dept of Health and Ageing. Canberra.
- ⁹ Australian Institute of Health and Welfare (2003). *Nursing labour force 2002*. AIHW cat. No. 29. Canberra: AIHW (Health Labour Force Series no. 29)
- ¹⁰ NSW Rural Doctors Network (2003). *Easy Entry Gracious Exit*. Newcastle: NSW RDN
- ¹¹ Battye K M, McTaggart K (2003). *Development of a model for sustainable delivery of outreach allied health services to remote north-west Queensland*. Rural and Remote Health 3 (online), 2003: no. 194
- ¹² Curry R Allied health therapy services in aged and disability care in remote Aboriginal communities of the Northern Territory: A framework for quality service provision. Darwin: Top End Division of General Practice, 1999
- ¹³ Adams R (2004). Progress in the development of recommended staffing levels for rural physiotherapy services, National Services for Rural and Remote Allied Health (SARRAH) Conference, Alice Springs
- ¹⁴ Aboriginal and Torres Strait Islander Commission (1994). *The National Aboriginal Health Strategy: An Evaluation*. ATSIC, Canberra
- ¹⁵ Battye K (2005). *Swimming in the Bog: The gulf between planning and implementation*. Presentation at 'Vague and Indecent' Conference, Mount Isa Centre for Rural and Remote Health, August 2005.