



The Outback Vascular Health Service Evaluation Report

OCTOBER 2012

Acknowledgements

The Outback Vascular Health Service (OVHS) is a collaboration between Maari Ma Health Aboriginal Corporation and the George Institute for Global Health. The collaboration secured funding through the Scully Fund and the Commonwealth Government's Medical Specialist Outreach Assistance Program. This evaluation of the OVHS was commissioned by Maari Ma Health Aboriginal Corporation.

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The Outback Vascular Health Service **Evaluation Report**



THE GEORGE INSTITUTE
for Global Health





Maari Ma Health Aboriginal Corporation

ABN 39 056 645 930

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In Association with:

- The Royal Flying Doctor Service
- The Greater Western Area Health Service
- The University Department of Rural Health

The Outback Vascular Health Service (OVHS) is a unique model whereby medical specialists provide support to general practitioners (GPs) to treat patients with complex vascular chronic diseases in a primary health care setting.

Maari Ma Health Aboriginal Corporation commissioned The George Institute for Global Health to undertake an evaluation of the OVHS on our behalf. This report thoroughly details the OVHS model, provides insightful commentary into the resources that are required to deliver this service and details recommendations to enhance the effectiveness of the model as we enter our fourth year. The evaluation report concludes that the OVHS model is indeed unique and the concept of the medical specialist as an adjunct to the provision of patient care, rather than the leader, is a defining feature. This model of service delivery is seen to be beneficial for our staff, the medical specialists and, most importantly, our patients.

The institutional links that have been developed with the Royal Prince Alfred Hospital (RPAH) aim to ensure that this service is sustainable and will continue to meet the needs of our staff and patients in the years to come.

Maari Ma takes this opportunity to thank The George Institute for Global Health for undertaking this evaluation. In particular, Professor Alan Cass and Maria Tchan have contributed significantly to the completion of this report and I thank them personally for their efforts which have enabled us to share our story. I commend this report and its findings to you.

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Table of Contents

Abbreviations	ii
List of Tables and Figures	iii
Executive summary	I
Overall findings	2
Recommendations	4
I BACKGROUND	6
1. Introduction	6
1.2 Maari Ma Health Aboriginal Corporation	7
1.3 Region, Environment and Health Services.	8
1.4 The OVHS Model of Care	9
1.5 The Aims of the OVHS	10
2 OVHS EVALUATION.	11
2.1 Introduction	11
2.2 Evaluation Methodology.	11
3 THE OVHS CLIENT POPULATION	13
3.1 Introduction	13
3.2 Appointments and Attendance	14
3.3 Vascular Disease Diagnoses and Risk Factor Characteristics	17
4 SPECIALIST SERVICES	19
4.1 Key Findings	19
4.2 Future Direction	22
5 THE CURRENT OVHS MODEL	23
5.1 Key Findings	23
6 PROCESSES OF CARE.	27
6.1 Coordination and Management	27
6.2 Referral Process	28
6.3 Follow up Process	29
7 DAY OF CLINIC.	31
8 MANAGEMENT OF OVHS CLIENTS	33
9 OVERALL FINDINGS	37
10 RECOMMENDATIONS	39
11 REFERENCES	42
12 APPENDICES	43
Appendix 1 – OVHS Evaluation Interview Guide	43
Appendix 2 – OVHS Evaluation Consent Form and Record of Interview	48
Appendix 3 – Maari Ma’s Audit Form.	50

Abbreviations

ACR	Albumin Creatinine Ratio
ACE	Angiotensin Converting Enzyme
AHW	Aboriginal Health Worker
ARB	Angiotensin II Receptor Blocker
ARIA+	Accessibility/Remoteness Index of Australia
BMI	Body Mass Index
BP	Blood Pressure
CHD	Coronary Heart Disease
CKD	Chronic Kidney Disease
CNC	Clinical Nurse Consultant
CQI	Continuous Quality Improvement
CVD	Cardiovascular Disease
DM	Diabetes Mellitus
eGFR	estimated Glomerular Filtration Rate
GP	General Practitioner
HbA1c	Haemoglobin A1c
IPTAAS	Isolated Patient Travel and Accommodation Scheme
IT	Information Technology
LHD	Local Health District
MM PHCS	Maari Ma Primary Health Care Service
MoU	Memorandum of Understanding
NGO	Non Government Organisation
NSW	New South Wales
OVHS	Outback Vascular Health Service
RFDS	Royal Flying Doctor Service
RN	Registered Nurse
RPAH	Royal Prince Alfred Hospital
SEIFA	Socio-Economic Indexes of Areas
TC	Total Cholesterol

List of Tables and Figures

Table 1	Number of clinics provided by specialty	13
Table 2	Number of clients that attended clinics from 2009 to 2012, by specialty	16
Table 3	Number of clients who have had repeat visits, by Aboriginality and specialty	16
Table 4	Vascular disease diagnoses in OVHS clients	17
Table 5	Vascular risk factor characteristics of OVHS clients, by Aboriginality	18
Table 6	Mean clinical measures, over time	33
Table 7	HbA1c ranges – change over twelve month period	34
Figure 1	Interview participants	12
Figure 2	Repeated measure analysis	12
Figure 3	All clients who made appointments, according to Aboriginality and gender	14
Figure 4	Number of clients who attended appointments, according to Aboriginality and gender	14
Figure 5	Age groups of clients who attended appointments, by Aboriginality	15
Figure 6	Attendance for Aboriginal clients, by year	15
Figure 7	Venn diagram of the three major vascular disease states.	17
Figure 8	Change in HbA1c over 12 month period	33
Figure 9	Prescribing of major cardiovascular medication groups for OVHS clients with established cardiovascular disease (CVD).	34
Figure 10	Prescribing of major cardiovascular medication groups for OVHS clients at high CVD risk*	35
Figure 11	Prescribing of BP lowering medication and statin therapy for CKD clients	36

Executive Summary

The Outback Vascular Health Service (OVHS) is an outreach service which delivers a vascular health speciality service to communities of Far West New South Wales (NSW). It represents a collaborative program between Maari Ma Health Aboriginal Corporation (Maari Ma) and The George Institute for Global Health (the George Institute) that has sought institutional support through partnership with Royal Prince Alfred Hospital (RPAH). The OVHS has been funded by the Scully Fund and through the Commonwealth Government's Medical Specialist Outreach Assistance Program.

The first OVHS clinic was conducted in 2009 and was developed to offer a rotating service provided by specialists of cardiology, nephrology and endocrinology to care for Maari Ma clients with a range of vascular health issues. It aimed to build the capacity of local primary care providers and in particular to support GPs and allied health staff in the management of vascular disease related chronic and complex illness.

Maari Ma Health, established in 1995, is an Aboriginal community controlled regional health service. The corporation's directors represent six communities in the region: Broken Hill, Ivanhoe, Menindee, Wilcannia, Balranald, and Tibooburra. The corporation covers a vast area, approximately 200,000 square kilometres or just under one third of the state of NSW. The population is approximately 30 000 of whom 20 000 people reside in Broken Hill. The region has a high proportion of Aboriginal Australians and the OVHS primarily services the Aboriginal community in Broken Hill and the towns in the area surrounding Broken Hill within the Central Darling Shire, namely the towns of Wilcannia, Menindee and Ivanhoe.

Maari Ma developed its Chronic Disease Strategy in 2005 in response to the vision and direction of Maari Ma's Board of Directors at the time, which identified the prevention and management of chronic diseases as one of its major priorities. This strategy aimed to create systems to support self-care, link community health services with hospital services and link medical care with a public health approach. The OVHS was seen as one of the key features to support successful implementation of the Chronic Disease Strategy.

The purpose of the OVHS evaluation was to assess the performance of the OVHS model of care, its processes of implementation and determine the quality of care delivered to OVHS clients. The status of the OVHS was explored through clinical audits of Maari Ma clients who had attended OVHS clinics between November 2009 and May 2012 and through in-depth semi structured interviews with twenty health professionals and managers who were actively involved in the day to day running and/or the strategic approach to the OVHS.

The evaluation has been commissioned by Maari Ma Health Aboriginal Corporation and was undertaken by the George Institute for Global Health between Feb 2012 and October 2012. The service continued to operate throughout the timeframe of the evaluation. The evaluation represents a snapshot of the service; however, due to the dynamic nature of the service, there have undoubtedly been further developments and changes.

Overall findings

Overall findings of the evaluation are as follows:

Service performance

- The OVHS is well regarded at Maari Ma and supports the implementation of the Maari Ma Chronic Disease Strategy. Significant goodwill and commitment was demonstrated by a range of people involved in the OVHS. A sense of community ownership is developing.
- Embedding the OVHS in the primary care health service environment was a defining feature of the OVHS. This meant that clients were seen in an environment familiar to them and with Maari Ma staff who were seen as part of the OVHS team.
- Professional relationships were seen to be very important. Communication and relationship building between specialists and clients, between specialists and health service staff and between the OVHS and other secondary and tertiary services is critical.
- Access to some sub-specialty secondary services in Broken Hill and tertiary services in Adelaide is at times challenging, particularly for Aboriginal clients. The OVHS has focused attention on improving access to many of these services. Since the OVHS has commenced, access to two cardiology diagnostic tests has been substantially improved- cardiac stress testing and echocardiography, as well as a visiting smoking cessation specialist and echo technician being provided.
- A unique and defining characteristic of the OVHS model is the presence and involvement of an AHW in the specialist consultation. This involvement benefited the AHW as well as the specialist. This opportunity for role modeling, knowledge transfer and up skilling was unstructured and ad hoc in nature.
- Face-to-face handover of the specialist's clinical recommendations was seen as a unique and important form of knowledge transfer and up skilling and considered to be of value to both health service staff and specialists.
- Specialists tailored their recommendations to suit the individual client, modifying their suggested management to a plan that was more likely to be used and have desirable outcomes.
- The intended cross-disciplinary nature of the OVHS has not become a defining feature of the service. Specialists, although demonstrating awareness of multi-morbidity, have not commonly operated as generic vascular disease specialists, but as sub-specialists in their particular discipline.

OVHS client population

- The OVHS conducted 74 clinics between November 2009 and May 2012.
- 72% of OVHS clients were Aboriginal.
- 199 people attended one or more OVHS appointments and there was greater than 70% attendance in each of the years.
- OVHS clinics were fully or 100% booked (often more than 100% booked) in comparison to Maari Ma's Broken Hill chronic disease appointment lists which were 80% booked with 64% attendance.
- Diabetes was the most common vascular disease, followed by cardiovascular disease and chronic kidney disease. These vascular diseases made up the majority of the specialists' clinics. Specialists also saw clients with other chronic diseases such as uncontrolled high blood pressure, thyroid disease and rheumatic heart disease.

Processes of Care

- Coordination of OVHS clinics was multi-faceted and required clinical knowledge as well as high-level administrative expertise. Key coordination areas were:
 - Preparation, development and management of the patient lists for the specialist visits,
 - Supporting the clinic on the day of specialist visits,
 - Overall maintenance and monitoring of patient lists across region and over time.
- Appointment lists, clinics and follow up are well organised but could be resourced more appropriately.
- The OVHS was offered to all Maori Ma chronic disease clients. GPs refer based on their clinical expertise, their knowledge of the clients or guideline prompted need for specialist review, rather than clearly defined criteria that could be systematically described.

Clinical Management of OVHS clients

- Over a twelve-month period, there was an improvement in the proportion of OVHS clients with diabetes with HbA1c <7%.
- In 2012, all OVHS clients with diabetes (n=116) had a recorded HbA1c result.
- 47% of OVHS clients with established CVD were prescribed triple therapy (a BP lowering medication, a statin and an anti-platelet medication).
- 72% of clients with established CKD were prescribed appropriate BP lowering medication and 72% were on appropriate statin therapy in accordance with evidence based guidelines.

Recommendations

Based on the evaluation findings, the evaluation team has developed nine recommendations for consideration.

Continue OVHS

Continue the OVHS as an outreach vascular health specialist service, providing care to Maari Ma clients in Far West NSW.

The evaluation has shown that the OVHS was well regarded, widely accepted and viewed as accessible to Maari Ma chronic disease clients. Clinics are well attended by Aboriginal and non-Aboriginal clients. There is significant goodwill and commitment by a range of people involved in the OVHS. A sense of community ownership of the OVHS is developing and the Maari Ma community has trust and confidence in the service.

Embed OVHS

Keep the OVHS embedded in the primary care environment, with a continued emphasis on Maari Ma staff being actively involved in the OVHS team.

A defining feature of the OVHS was its placement within the primary care environment. Clinics were actually conducted in the rooms of the health service and in such a way that Maari Ma staff were seen as part of the OVHS team.

Resource OVHS

Provide appropriate resources and clinical and administrative support to the coordination and management of the OVHS to ensure strong operational performance and effective service delivery.

The OVHS has demonstrated strong operational capabilities as evidenced through its highly organized and fully booked clinics as well as the committed specialists and health service staff it attracts. The strong operational performance is also evidenced by its thorough collection of data for quality improvement and evaluation purposes. However, the coordination and management requires clinical as well as administrative expertise and should be resourced accordingly.

Broaden OVHS

Broaden the OVHS model to include the ophthalmology service.

Bringing the visiting ophthalmology services into the OVHS model of care appropriately broaden the scope of the OVHS and potentially improve the efficiency of follow up of ophthalmology service clients.

Training

Develop formal training opportunities for Maari Ma staff, particularly its AHWs, to build capacity at an individual and organisation level.

Conceptually, the OVHS model has the ability to build capacity and provide up skilling opportunities to local Maari Ma staff, particularly its AHWs. In the next phase of development for OVHS, it would be appropriate to build something more systemic that ensures capacity is built and skills are enhanced.

Communicate with other Services

Develop a clear strategy to build communication and the professional relationship between other visiting cardiology services in Far West NSW and secondary and tertiary services in Adelaide.

There are two aspects to this that are necessary for long-term success. Firstly, relationship building between specialists and Maari Ma staff health has been a strength of the service and this needs to continue. Secondly, there needs to be continued effort to build the professional relationships between OVHS specialists and secondary services in Broken Hill and tertiary services in Adelaide.

Maintain Institutional Links

Maintain the institutional links between Maari Ma and RPAH to enable and sustain the OVHS.

Formal links between Maari Ma, a primary care health service, and RPAH, a metropolitan-based tertiary hospital, aim to embed the OVHS within the hospital's medical departments. These relationships act to support the sustainability of the OVHS, building institutional support as opposed to dependency on individual specialist practitioners.

Cost Benefit Analysis

Undertake a cost-benefit analysis of the OVHS model of care.

A cost-benefit analysis of the OVHS model of care would seek to model the costs and potential benefits of improving access to specialist services and of improving the quality of care for complex chronic diseases.

Sustainability

In conjunction with a cost-benefit analysis, use the lessons learnt from the development, implementation and evaluation of the OVHS to consider its ongoing sustainability and the broader implications of extending the OVHS model of care to other communities.

One of the aims of the OVHS was to use the lessons learnt from the development, implementation and evaluation of the service to design a scalable model directly relevant to other Aboriginal communities in Far West NSW. The model requires a committed specialist workforce, well developed institutional links, dedicated GPs, sufficient resourcing, well-designed systems and processes for care, patience and a long-term view. This report provides rationale for these fundamental elements and provides suggestions to build sustainability and develop the existing OVHS model. When considering how the OVHS model might be implemented in a particular community setting, it would be crucial to consider local factors at the community, client and health service level.

1 Background

1.1 Introduction

The Outback Vascular Health Service (OVHS) is an outreach service which delivers a vascular disease medical speciality service to communities of Far West NSW. It represents a collaborative program between Maari Ma Health Aboriginal Corporation (Maari Ma) and The George Institute for Global Health (the George Institute) that sought institutional support through partnership with Royal Prince Alfred Hospital (RPAH) and more recently with the University of Sydney's Brain & Mind Institute. It aims to build the capacity of local primary care providers and in particular to support GPs and allied health staff in the management of vascular disease related chronic and complex illness.

The OVHS primarily services the Aboriginal community in Broken Hill and the towns in the area surrounding Broken Hill within the Central Darling Shire, namely the towns of Wilcannia, Menindee and Ivanhoe. The Accessibility/Remoteness Index of Australia (ARIA+) scores the Central Darling Shire as 11.60 on a scale of 0-15, which categorises it as remote. Broken Hill is the major service centre for the region with the surrounding towns using the city for its wide range of facilities and services. There are close family linkages between the Aboriginal population in Broken Hill and the nearby towns as the majority of Broken Hill Aboriginal residents have migrated from the neighboring communities in the Central Darling Shire and the Unincorporated Area of the Far West in recent years. This means that Aboriginal services in Broken Hill support a larger population base than just those people who live in the city. The 2011 Census counted 2,194 people (10.3%) living in the region who identified as being of Indigenous origin. This compares to Indigenous Australians constituting 2.5% of the total NSW population.¹

Based on the 2006 Socio-economic Indexes for Areas (SEIFA index), Broken Hill is ranked as the 14th most disadvantaged area in the state.² Compared with the rest of NSW, social statistics show, on average, a socioeconomically disadvantaged community, with fewer residents completing their secondary education and more people in the social welfare system.

In the Central Darling Shire, cardiovascular disease (coronary heart disease, stroke and peripheral vascular disease), chronic respiratory disease, hypertension, type 2 diabetes mellitus and renal disease account for 1 in 3 deaths. Regional hospitalisation profiles show that diabetes, cardiovascular and renal disease admissions peak 15-25 years earlier in the Aboriginal population, during mid-life.³ In contrast to the non-Indigenous population, these chronic diseases have a major impact during times of maximal responsibility and contribution to family and community, challenging our understanding of them as diseases of the elderly.

1 Australian Bureau of Statistics. 2011 Census Data and Analysis, Quickstats.
<http://www.abs.gov.au/websitedbs/censushome.nsf/home/quickstats> (accessed September 2012)

2 Australian Bureau of Statistics (ABS). Socio-economic Indexes for Areas (SEIFA index), 2006. (accessed October 2012)
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012006?OpenDocument>

3 Kennedy C. Health in the Murdi Paaki. Broken Hill Centre for Remote Health Research, July 2005

I.2 Maari Ma Health Aboriginal Corporation

Maari Ma Health, established in 1995, is an Aboriginal community controlled regional health service. The corporation's directors represent six communities in the region: Broken Hill, Ivanhoe, Menindee, Wilcannia, Balranald, and Tibooburra. The corporation covers a vast area, approximately 200,000 sq kms or just under one third of the state of NSW. The population is approximately 30 000 of whom 20 000 reside in Broken Hill. The proportion of the Aboriginal population varies greatly town by town, for example, in Broken Hill 5% of people are Aboriginal, and in the Central Darling Shire, 40% are Aboriginal.

Overall, in the Maari Ma region, the health status of Aboriginal people is poor. For example, four times as many Aboriginal women smoke during pregnancy; babies born are more likely to be born with a low birth weight; Aboriginal children are almost five times more likely than non-Aboriginal children to have decayed, missing and filled baby teeth; Aboriginal men living with diabetes are four times more likely to be admitted to hospital; the proportion of deaths due to injury is significantly higher than for NSW.

These and other important health issues are being addressed by Maari Ma through the delivery of relevant services for the communities in the region. In smaller communities, Maari Ma manages and delivers services through the town's mainstream health service, under an agreement with NSW Health. This agreement is based on a decision made by the Aboriginal people more than fifteen years ago: "people told us that if the existing 'mainstream' health services could change – to employ more Aboriginal Health Workers, to be culturally appropriate, easier to access, and to prioritise Aboriginal health and primary health - this would be a far better option than having both an Aboriginal Health Service and a mainstream health service in each town".

In order to make these changes, the community recommended that Aboriginal people lead and manage the mainstream services. Maari Ma Health has been doing this, with and on behalf of the Aboriginal community, for the past fifteen years. In Broken Hill, the corporation also manages an Aboriginal Primary Health Care Service - a large, complex, modern general practice. Through development of capacity in the last two years, this service now delivers outreach services to the smaller communities: the service is fast developing into a regional primary health care service.

Maari Ma developed its Chronic Disease Strategy in 2005 in response to the vision and direction of Maari Ma's Board of Directors at the time, who identified the prevention and management of chronic diseases as one of its major priorities. This strategy was innovative at the time, and aimed to create systems to support self-care, link community health services with hospital services and link medical care with a public health approach.⁴ The OVHS was seen as one of the key features to support successful implementation of the Chronic Disease Strategy.

Maari Ma employs five GPs. One resident GP, one GP registrar and three GPs who are employed on a fly in fly out basis. All GPs contribute to service provision to Broken Hill, Menindee and Wilcannia. One of the fly in fly out GPs conducts the regular Maari Ma clinics to Ivanhoe. During 2012, Maari Ma engaged a number of locums to cover for one of the resident GP positions. There are also locum GPs whom Maari Ma casually employs when their regular GPs are on leave.

⁴ Burke H, Cook M A, Weston R on behalf of Maari Ma Health Aboriginal Corporation. Maari Ma Chronic Disease Strategy: "While prevention is better than cure, control is better than complication". Maari Ma Health Aboriginal Corporation, September 2005.

1.3 Region, Environment and Health Services

Broken Hill

Broken Hill is the major service centre for the region, which includes a hospital (80 beds). Employment opportunities are reasonable and there are a wide range of facilities and services which are used by locals and people residing in the surrounding towns and stations. It has a population of 18,517 people and a median age of 43 years for the overall population and 20 years for the Aboriginal population. Broken Hill's Aboriginal population is growing more rapidly than the non-Aboriginal population. There were 1393 people (7.5%) who identified as being of Indigenous origin in the 2011 Census. This represents an increase of 188 people (16%) since the 2006 Census, 354 people (34%) since the 2001 Census, 621 people (80%) since the 1996 Census, and 950 people (214%) since the 1991 Census.

Broken Hill is 510km from Adelaide (closest state capital), 300km from Mildura (closest regional centre) and 1150km from Sydney. Broken Hill is serviced by one airline (Regional Express) which provides twice-daily connections with Mildura and three daily connections to Adelaide and Sydney. There are sealed roads between Broken Hill and the towns of Menindee and Wilcannia and the road distances, 110 and 195km respectively, make road day trips quite practical.

Broken Hill Primary Care Service is a Maari Ma owned health service and employs a team of GPs, Aboriginal Health Workers (AHWs), nurses, administration staff and transport officers to provide a service to Aboriginal people in the region.

Ivanhoe

Ivanhoe township has a population of 200 people of whom 80 identify as Aboriginal (40%) with a median age of 37 years. Employment opportunities in the town are limited and many people (particularly non-Aboriginal) live on station properties. There are a small number of town services which include one council building, one school (kindergarten to Year 12), one caravan park and a licensed club which is open on the weekends.

Ivanhoe is 320km from Broken Hill (via Menindee) and 210 km of this is a dirt road. This can be closed after rain. There is a weekly train from Sydney.

Health services are provided by Maari Ma Health, the Far West Local Health District (Far West LHD) and the Royal Flying Doctor Service (RFDS). There is a regular twice weekly GP clinic and occasional speciality services, such as dermatology and audiology. The health service is managed by nurses and AHWs who provide a 24 hour on-call service, with no inpatient facilities.

Menindee

Menindee has a population of 449 of whom 178 are Aboriginal (40%) with a median age of 43 years. This includes the community at Sunset Strip which is a popular retirement and holiday location for Broken Hill residents. Menindee is located by a large lake system and there are reasonable employment opportunities due to the seasonal fruit and vegetable farming in the region. Town services include a council depot, a general store, a pre-school and school (kindergarten to Year 12), petrol station, swimming pool (in summer only) and several accommodation options.

Menindee is 110km from Broken Hill and there is a daily bus to Broken Hill and a weekly train from Sydney.

Menindee Health Service has permanent nursing and AHW staff who provide a 24 hour emergency on-call service. GP services are provided by Maari Ma and the RFDS and there are occasional visiting speciality services.

Wilcannia

Wilcannia has a population of 826 of whom 474 are Aboriginal (57%) and the median age is 31 years. The surrounding area is very sparsely settled by pastoralists who have large land holdings, used primarily to run sheep.

Employment opportunities are limited and town services include the local council chambers, a small supermarket, a playgroup, two schools, petrol, swimming pool (summer only), one licensed club and two motels. There are many government and non-government organisations (NGOs) working in Wilcannia, including Mission Australia, Save the Children and the Department of Family and Community Services.

Wilcannia is about 200km from Broken Hill and there is a daily bus service to Broken Hill. There is a bus service to Sydney (via Dubbo) six times a week.

Wilcannia Health Service is a multi-purpose service with acute and chronic care facilities. The hospital provides a 24 hour emergency department and has eight aged care beds. An acute GP service is provided by the RFDS and chronic care GP services are provided by Maari Ma Health. There are GP clinics 4-5 times a week and regular, but limited, speciality services.

1.4 The OVHS Model of Care

Prior to 2009, Maari Ma conducted a service needs analysis which demonstrated that although the local general practice and primary care structure was robust and functional, there was a low level of specialist support services available to their client population. Maari Ma had previously contracted a staff specialist endocrinologist from a large metropolitan hospital under the Commonwealth Government's Medical Specialist Outreach Program but there had been no visiting service conducted for over two years. Burn out and non-renewal of contracts are common in regional and remote areas due to the onerous nature of the work and this has been the case for previous Maari Ma specialty services.

The development of the OVHS model was informed by this knowledge and aims to develop, implement and evaluate an innovative cross-disciplinary approach for existing cardiology, renal and endocrinology clients, as well as strategies for prevention and education. The model has focused on building the capacity of local primary care providers by gaining institutional support through partnership with a large metropolitan health service, rather than reliance on individual specialist service providers and integration of service provision with rigorous health service research to build an evidence base regarding what works to deliver improved health outcomes for Aboriginal Australians.

The first OVHS clinic was conducted in 2009 and since this time there have been regular services provided by a RPAH cardiologist, two renal physicians, and a multidisciplinary endocrinology team. More recently there have been services provided by a smoking cessation specialist and echo technician. The three speciality groups visit Far West NSW every three months and conduct full day clinics at Broken Hill, Menindee and Wilcannia. The Ivanhoe clinic is conducted six monthly. As well as face-to-face clinics, follow up case management sessions via videoconference run between visits involving Maari Ma's Broken Hill chronic disease team (called the Keeping Well Team). This is scheduled for six weeks after the face-to-face clinic and is designed to discuss complex care of clients and to ensure that evidence-based treatments plans are implemented and maintained.

The OVHS is centrally coordinated by staff at Broken Hill with onsite coordinators at each of the health services in Menindee, Wilcannia and Ivanhoe. Maari Ma Health and the George Institute provide administrative and clinical support to deliver quality improvement measures and to evaluate the service's performance.

1.5 The aims of the OVHS

The overall aims of the OVHS are to:

- Deliver a vascular disease medical specialist service to communities of far west NSW (within Maari Ma's northern footprint);
- Have a regional, rather than a one community, mandate;
- Support local GPs and other clinical health service staff in the management of vascular disease related chronic and complex disease;
- Recognise and resource the local workload created by a fly-in service;
- Develop a sustainable service by building links with Royal Prince Alfred Hospital;
- Develop, implement and evaluate a model of care that is integrated and complements primary care services and systems and;
- Use the lessons learned from the development, implementation and evaluation of the service to design a scalable model directly relevant to other Aboriginal communities in Far West NSW.

2 OVHS Evaluation

2.1 Introduction

The purpose of the OVHS evaluation was to:

- explore provider views regarding the implementation of the OVHS focusing on organisational processes, communication processes and upskilling and support to GPs and other health service staff in the management of complex chronic disease.
- provide a demographic profile of OVHS clients,
- document the vascular risk profile of OVHS clients,
- determine the quality of care delivered to OVHS clients,
- explore the potential of the OVHS model as a key approach to the delivery of complex chronic disease services in rural and remote NSW.

2.2 Evaluation Methodology

The OVHS evaluation used a mixed methods approach. It brought together rigorous quantitative monitoring of health service performance in the screening and management of chronic disease, with qualitative assessment of provider views regarding the successes and failures of the OVHS model.

Evaluation approach

The evaluation methodology consisted of four key components. Each of these enabled the evaluation team to understand the complexities of the service. Each component is briefly described below.

Stakeholder consultation

From February to April 2012, consultation was conducted with stakeholders who were involved in the conduct of the OVHS. Stakeholders included Maari Ma management and health service statisticians, George Institute health researchers and the RPAH medical specialists. These consultations were conducted face to face and the evaluation team used this opportunity to:

- Develop an understanding of the purpose of the evaluation and to seek input into the draft evaluation framework; and
- Build relationships with key Maari Ma staff members and the RPAH clinicians.

Development of the evaluation framework and data collection tools

The evaluation framework was developed by the George Institute in consultation with key Maari Ma staff. Framework design included a logic model, broad evaluation objectives and questions, data collection methodology and data collection tools (specifically the cardiovascular risk audit form and the OVHS interview guide).

Interviews

An OVHS interview guide was established in consultation with researchers at the George Institute and health service staff at Maari Ma. This guide provided the broad structure for the interviews. The guide can be found at Appendix 1. Figure 1 is a description of the range of stakeholders interviewed and the brackets indicate the number interviewed from each participant category.

Figure 1 – Interview participants



Seventeen semi-structured in-depth interviews were conducted with twenty stakeholders – sixteen were face to face and one was via telephone. Three of these interviews were conducted as group interviews with up to three interviewees. There were two members of the evaluation team present at many of the interviews, one predominantly as the interviewer, the other as the scribe.

All interviews were digitally recorded, uploaded to a central repository and transcribed verbatim. Informed consent and basic demographic information was obtained from all interview participants. These forms can be found in Appendix 2. Transcripts were imported into NVivo, version 8 (QSR International, Melbourne, Vic). Data was analysed using an inductive approach.⁵

Clinical Audit

The audit tool - The cardiovascular risk audit tool was initially developed by researchers of the Kanyini Vascular Collaboration, a collaboration between health researchers at the George Institute and the Baker IDI Heart and Diabetes Institute. Maari Ma modified this tool to allow for the collection of information that was relevant to the service; as well as providing evidence to staff about current adherence to evidence based management guidelines. The audit tool can be found at Appendix 3.

The evaluation team used Maari Ma audit data to create a unique dataset of all OVHS clients who attended appointments since the introduction of the OVHS. It is Maari Ma continuous quality improvement (CQI) practice to conduct regular audits of primary care records. As a result, there have been cardiovascular risk clinical audits carried out by Maari Ma staff at three separate intervals for the period 2009 to 2012.

Figure 2 – Repeated measure analysis



Where relevant, the evaluation team used the data from 2009 to 2012 to conduct repeated measure analyses. In all other instances, the 2012 audit data has been used.

5 Thomas, D.R. 2006. A General Inductive Approach for Analysing Qualitative Evaluation Data. American Journal of Evaluation. Vol 27.No.2, June 2006 237-246

3 The OVHS Client Population

3.1 Introduction

This section presents and discusses the OVHS client population. Data was analysed for all clients who saw one of the OVHS specialists between November 2009 and May 2012. It describes the number of OVHS clinics, basic demographic profile of clients, the number of appointments made and subsequent attendance, and a snapshot of diagnoses of vascular diseases and vascular risk factor characteristics within the OVHS client population.

A limitation of the audit data was that there was some missing client data for each year. The number of OVHS clients for whom audit data was obtained in 2009, 2011 and 2012 was 187, 197 and 193 people respectively. On each occasion there was greater than 90% data completeness. The missing client data was known by the auditor at time of data collection and some of the reasons for this were due to the client having died or moved away.

Table 1 shows a summary of the number of clinics provided by the specialists between November 2009 and May 2012.

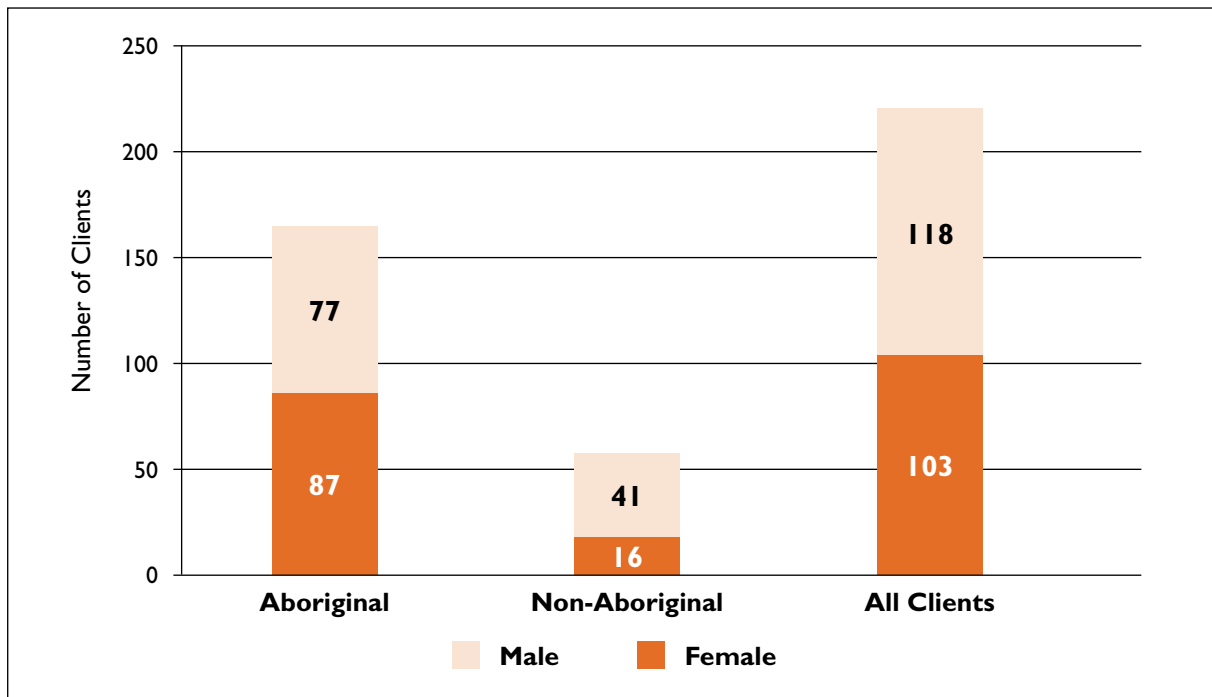
Table 1 – Number of clinics provided by specialty

	Cardiology	Endocrinology	Nephrology	TOTAL
Broken Hill	12	6	11	29
Ivanhoe	2	1	2	5
Menindee	10	3	7	20
Wilcannia	9	3	8	20
TOTAL	33	13	28	74

3.2 Appointments and attendance

Since November 2009, 221 people have made an appointment to the OVHS. Figure 3 describes all OVHS clients, including those who made appointments but who did not attend.

Figure 3 – All clients who made appointments, according to Aboriginality and gender



199 out of 221 people (90%) attended one or more of their appointments. Figure 4 presents these clients.

Figure 4 – Number of clients who attended appointments, according to Aboriginality and gender.

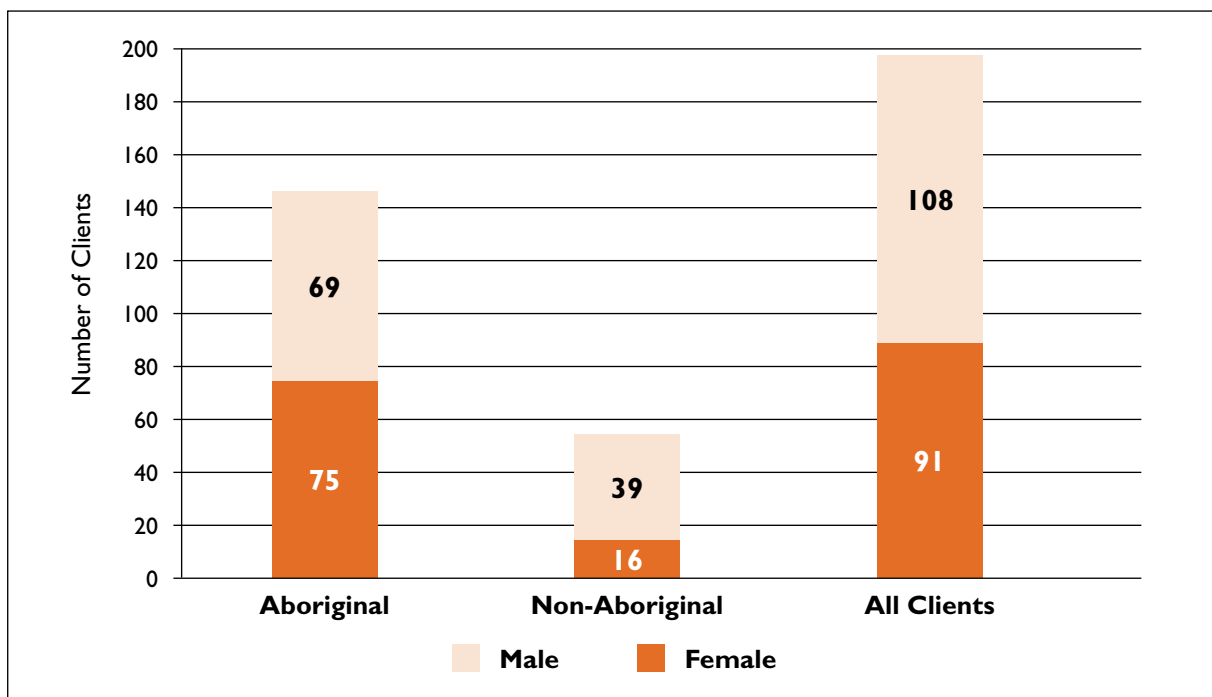


Figure 5 presents the age groups of the 199 people who attended appointments.

Figure 5 – Age groups of clients who attended appointments – by Aboriginality

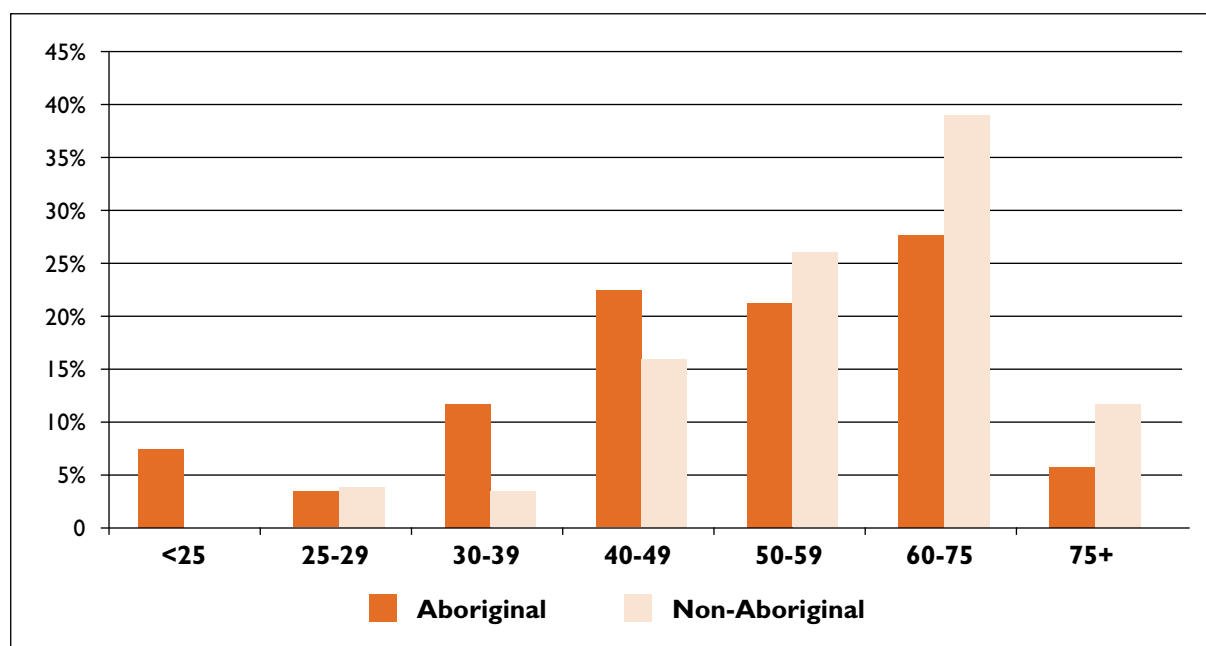
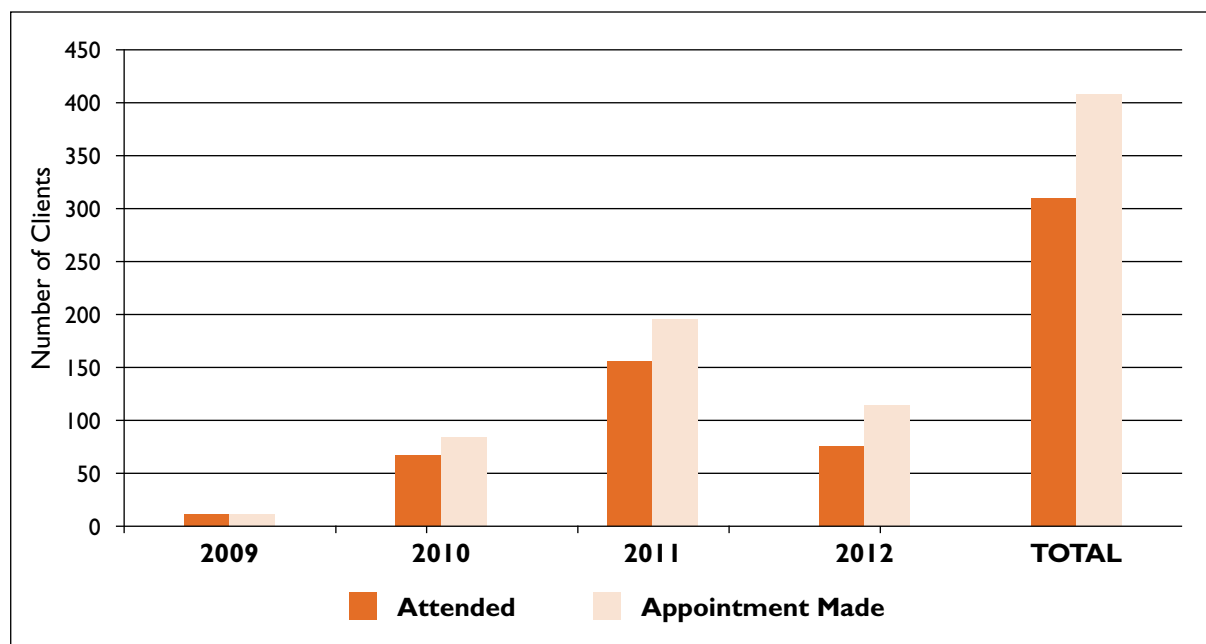


Figure 6 presents the attendance for Aboriginal clients by year.

Figure 6 – Attendance for Aboriginal clients – by year



NB: There was only one clinic in 2009 and only five clinics in 2012 (Evaluation is for the period Nov 2009 to May 2012).

OVHS clinics were found to be 100% booked (some were often more than 100% booked) and analyses demonstrate a higher than 70% attendance in each of the years. In comparison, for the period March to September 2012, Maari Ma's Primary Care Health Service (Broken Hill) had 80% of appointments booked and 64% attendance.

Table 2 – Number of clients who attended clinics from 2009 to 2012 – by speciality

	Number of Clients that attended clinics		
	Aboriginal	Non-Aboriginal	TOTAL
Cardiology	88	27	115
Endocrinology	63	30	93
Renal	48	15	63

Of the 199 clients who attended appointments, 146 saw one specialist, 44 saw two specialists and 9 had seen all three specialists. The following table describes the number of clients who had repeat visits to each of the specialities.

Table 3 – Number of clients who have had repeat visits – by Aboriginality and specialty

	Cardiology	Endocrinology	Renal
Aboriginal			
4 or more visits	7	0	7
3 visits	4	4	4
2 visits	20	17	7
1 visit	49	42	30
Non-Aboriginal			
4 or more visits	0	0	1
3 visits	2	5	1
2 visits	4	5	2
1 visit	19	20	11

3.3 Vascular disease diagnoses and risk factor characteristics

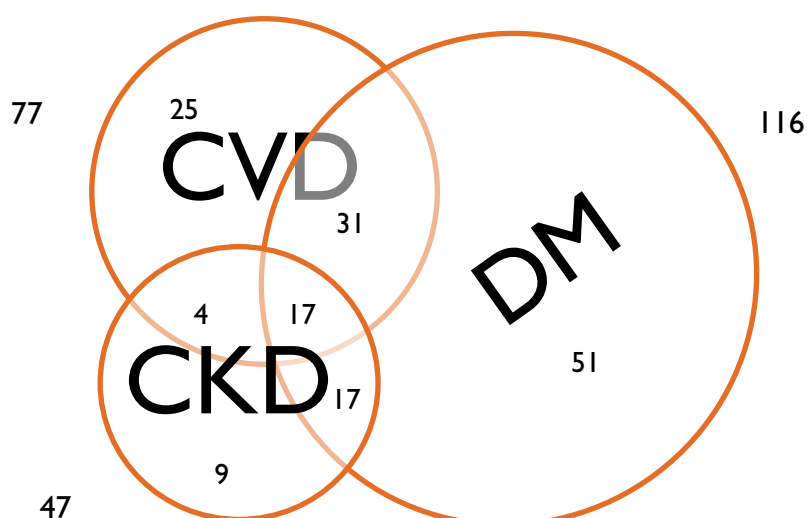
OVHS clients with diagnoses of cardiovascular disease (CVD), chronic kidney disease (CKD), diabetes mellitus (DM), and coronary heart disease (CHD) are presented in Table 4. The data is sourced from the 2012 audit data (n=193).

Table 4 – Vascular disease diagnoses in OVHS clients

	Cardiology		Nephrology	
	Number	%	Number	%
Cardiovascular Disease	53	37%	24	47%
Chronic Kidney Disease	37	26%	10	20%
Diabetes Mellitus	84	59%	32	63%
Coronary Heart Disease	46	32%	17	33%

154 OVHS clients had vascular disease diagnoses of CVD, CKD and DM. Specialists also saw clients with other diseases such as thyroid disease, rheumatic heart disease and uncontrolled hypertension (n=39). Figure 7 shows the intersecting diagnoses for OVHS clients.

Figure 7 – Venn diagram of the three major vascular disease states



Amongst the OVHS clients, 77 had CVD, 47 had CKD and 116 had DM. 34 had both CKD and DM, 48 had CVD and DM and 21 had CVD and CKD. 17 clients had all three diagnoses.

Table 5 describes the vascular risk factor characteristics for clients of the OVHS. Data is sourced from the 2012 audit data (n=193).

Table 5 – Vascular risk factor characteristics of OVHS clients – by Aboriginality

	Information available		Aboriginal		Non-Aboriginal		All OVHS clients	
	A	NA	N	%	N	%	N	%
Diabetes	142	51	84	59%	32	63%	116	60%
Current Smoker	134	46	58	43%	16	35%	74	41%
Obesity	124	43	84	68%	28	65%	112	67%
eGFR < 60*	136	48	32	24%	17	35%	49	27%
Macroalbuminuria	116	35	51	44%	12	34%	63	42%
BP < 130/80	142	51	57	40%	22	43%	79	41%
High Cholesterol	127	48	78	61%	32	67%	110	63%

* eGFR – estimated glomerular filtration rate, BP – blood pressure

4 Specialist Services

The OVHS was developed to offer a rotating service provided by specialists of cardiology, nephrology and endocrinology to care for Maari Ma clients with a range of vascular health issues. These specialties are the focus of this evaluation. The OVHS is continually expanding and there are now a number of complementary services provided. These are the visiting smoking cessation specialist and echo technician, and a locally engaged podiatrist, dietician, psychologist and a diabetes educator.

The cardiology service was the first to be established within the OVHS model. The first clinic was in Broken Hill at Maari Ma Primary Health Care Service (MM PHCS) in November 2009 and the same cardiologist has been providing the service since then. The renal service commenced in 2010. There were two RPAH renal physicians for the period 2010/2011. Currently, there is one visiting renal physician whilst the other is on maternity leave. The endocrinology service was the most recent service to join the OVHS team of specialists. The RPAH Department of Endocrinology works as a multi-disciplinary team of collaborative health workers and contributes to the OVHS by providing an endocrinologist, diabetes educator and foot care nurse. Over last 12 months a smoking cessation specialist from the University of Sydney's Brain and Mind Institute has been engaged. Also, a locally-based diabetes educator has been employed by Maari Ma to support the OVHS. Most recently an echo technician has begun visiting while a local podiatrist has been engaged as part of the wider team (to complement the services of the RPAH foot care nurse). Over the three years Maari Ma employed dieticians, primary mental health workers, Aboriginal health workers and registered nurses to support the service.

The OVHS model sought to develop Memorandums of Understanding (MoUs) within metropolitan-based hospital medical departments with an aim to embed the OVHS within each hospital department. This has been achieved with the RPAH renal and endocrinology departments. There is no MoU with the RPAH Department of Cardiology and thus the OVHS cardiologist has negotiated separately with Maari Ma. Recently, a MoU has been established with the Brain & Mind Institute for services provided by the smoking cessation specialist.

Face-to-face clinics are conducted every three months. OVHS specialists typically spend one full day at each of Broken Hill, Menindee and Wilcannia. Ivanhoe is visited every 6 months by each of the OVHS specialists. They also provide a case management videoconferencing service to Broken Hill Primary Care Service working with the local chronic disease team to ensure that treatment plans are implemented and maintained. Specialists were also contacted by email and telephone to discuss specific cases and individual client's care. This informal communication approach was well received and well utilised by GPs, senior AHWs and RNs.

Education and training sessions were provided both to Maari Ma staff and more widely to Broken Hill service providers.

4.1 Key findings

The relationship between health service providers was very important

The specialists were seen by Maari Ma GPs and health service staff to be highly competent, approachable and skilled health professionals. OVHS team members valued building this working relationship and the OVHS model of care was integral to fostering this. This was due to a number of factors:

- Visits were conducted in one week blocks providing a solid presence and opportunity for the OVHS specialist and Maari Ma staff to work together.
- Email and phone contact was encouraged by the specialists and valued by health service staff.
- An AHW sitting in on consultations was strongly encouraged by specialists and Maari Ma management. It was recognized that this was not always utilised due to staff shortages.

It was acknowledged by staff that the personalities of the individual specialists were a good fit to the working environment at Maari Ma and this contributed to the perceived achievement of the OVHS. As one manager commented:

“I think a process like this either succeeds or fails on the basis of the characteristics and personality of the people involved”.

Personal relationships between specialists and clients and between specialists and health service staff were shown to be very important. Institutional links aim to provide the OVHS with sustainability negating the need to seek new specialists when the current providers burn out. The potential benefit from developing these institutional links has not yet been tested. As one specialist commented:

“For the long term, you want to be able to be self sustaining and be able to turn people through. This is almost certainly what the focus on the institutional links is all about, trying to get people from registrar level through, you know, so that you start getting a turnover of consultants appearing that are familiar with it and might take up that burden”.

Specialists and their interactions with other services (medical, surgical and hospitals)

Each of the specialties has different needs and referral pathways to secondary and tertiary services such as other medical physicians, surgeons and hospital care. Communication and relationship building between the OVHS and other secondary and tertiary services was critical and required concentrated attention.

The OVHS renal physician has a good professional relationship with the visiting renal physician from Adelaide. Their relationship allows for flexible care arrangements and appropriate care planning for people with more advanced kidney disease.

The endocrinology team had minimal need for interaction with other services due to their low level need for hospital based services.

Access to some subspecialty secondary services at the Broken Hill Health Service and tertiary services in Adelaide is at times challenging, particularly for Aboriginal patients. This is particularly an issue for some cardiology services such as exercise stress tests, echocardiograms, angiography and thallium scans. The role of the visiting cardiologist is more dependent on links to these secondary and tertiary services than the other two disciplines and the cardiologist is reliant on timely access to these other services in providing his advice. Over the three years this situation has become more and more apparent. In the cardiologist's own words:

“... as a specialist you let people know what the opportunities are and what the possibilities are, so you have to move that horizon up to doing things which are actually not available anywhere near the place where they live. And then it becomes an idea of ‘how do they get there, how do you move these people to where the higher stuff is?’ That’s a particular Cardiology problem.”

Much progress has been made in improving access to many of these services. The collaborative efforts of Maari Ma, the George Institute and the cardiologist have resulted in the introduction of two cardiology-specific diagnostic tests, the cardiac stress test and the echocardiogram. Both are described below:

- Cardiac stress test (also known as an exercise stress test): Broken Hill Base Hospital have allocated appointment times for OVHS clients to attend the outpatient clinic;
- Echocardiogram: an experienced sonographer has been employed to visit Broken Hill, Menindee and Wilcannia on a regular basis to conduct echocardiograms. These echocardiograms are viewed and interpreted by the OVHS cardiologist.

OVHS and the Isolated Patient Travel and Accommodation Scheme (IPTAAS)

Financial assistance for Far West NSW people to attend specialist appointments and obtain treatment is provided through a NSW Government initiative called the Isolated Patient Travel and Accommodation Scheme (IPTAAS). Traditionally, Maari Ma clients travel to Adelaide for hospital inpatient care and outpatient appointments. Although, OVHS specialists are RPAH physicians and their referral pathways align with Sydney specialists, they have understood and supported the rationale to fit in with existing referral pathways. Developing new professional relationships has been a slow process, and has particularly impacted on the cardiologist who needs to refer regularly as part of his practice.

Also, on the rare occasion that a specialty intervention was not available in Adelaide and the patient had to be referred to Sydney, 2 instances in 3 years, the IPTAAS administrative process has been challenging because the situation has been viewed as unusual. Having said that, support from the local health authority has improved over time and it would be expected that as relationships between the OVHS and the local IPTAAS staff develop, the process will become less onerous.

An inter-disciplinary approach to care

The OVHS was designed to be a cross-disciplinary vascular health clinic service with specialists seeing clients with a range of vascular health issues. This has occurred in renal clinics but not in the other two disciplines. The renal physician was used for advice and management on uncontrolled high blood pressure and this flexibility was valued. One GP commented:

“... his input is fantastic, so I tend to use him more as a general physician – his advice about anything is good, so I don’t restrict my patients to purely renal”.

This flexible nature of consulting and providing advice was seen as supportive to developing a service which was useful, effective and relevant to the community. However, due to the complexity of the clients and the high quality of the GPs, the specialists have not commonly operated as generic vascular disease specialists but as sub-specialists in their particular discipline.

The cardiologist and renal physician visit the services at the same time and will consult with each other with regard to overlap in patient care. The endocrinology team visits separately. Each of the specialists saw benefit in inter-disciplinary care and the value in coordination regarding client care. Though not currently in place, there would be benefit in getting the specialists together to discuss the complex care of clients, the progress of the OVHS, and the specialists’ role in service provision. This may be done at regular intervals (ie. 6 monthly) through videoconference or a face-to-face meeting.

Inclusion of an ophthalmologist within the OVHS

GPs felt an OVHS ophthalmologist would add value to the model of care and service provision to Maari Ma clients. There was a visiting service to Maari Ma but several GPs felt that inclusion within the OVHS would ensure a consistent approach to eye review, improved communication and reporting and ensure reviews were done in a timely manner. One GP explained:

“Getting a consistent approach to diabetic eyes is an issue. The current eye reviews are completely separate and you’re just given a report and act on that so it’s a totally separate - in my opinion. I think we’re struggling to tidy up eye reviews, get them done in a timely manner. Different specialists or different registrars are seeing their patients at different times, so it’s hard to get a consistent idea of where a particular at risk patient is going with their eye care”.

4.2 Future direction

There was clear commitment to service provision from OVHS specialists and Maari Health service staff and management. One specialist stated:

“I have a long term view. I think you don’t get anything unless you plug away at it. If you give up too early, that’s what’s wrong, it is hard you know”.

There was recognition that there have been improvements in the quality of the service and access to the service. The service is building ownership and trust within the Aboriginal community and it is recognised that there needs to be a focus on:

- Maintaining positive and strong relationships between specialists and health service staff,
- Valuing the impact that relationships have on the day to day functioning of the service,
- Building better working relationships with tertiary services that currently provide a service to the far west NSW region.

5 The Current OVHS Model

The current OVHS model was regarded to be a necessary and welcome addition to the services offered by Maari Ma. There were several key areas integral to the achievement of the model. These were:

- the OVHS embedded in the primary care environment,
- Maari Ma's developing ownership of the service,
- the view to tailor clinical care to the individual, rather than based purely on guidelines, and
- attention and priority given to up skilling and support of GPs and clinical staff.

5.1 Key findings

OVHS embedded in the primary care environment

Significant benefits flowed from the specialist service being embedded within the primary care health service environment. It serviced a community that traditionally has difficulties accessing speciality services due to geographical isolation, financial barriers, mistrust and fear. OVHS clients saw specialists in an environment that was familiar to them. As a senior Aboriginal staff member said:

“There are obvious benefits, you know having your specialists in your community, it's not having to wait on long waiting lists and it's not having to leave your family where you are part of your family's support network ... it's your sense of wellbeing. Yeah, so I think it is those three things and I'm sure anyone would appreciate having that opportunity”.

Another senior staff member and a long term resident of the Far West NSW region commented that the OVHS brought benefit to the broader Aboriginal community:

“For the community, if you can imagine someone living in an isolated town then having to go on a bus on their own, especially an elderly person, that wasn't approved an escort, it's not good. You get bad outcomes – really bad outcomes. That patient will go home and never go to the doctor again. These are the sort of things that happen out here”.

The OVHS has brought a mainstream specialist service with well trained medical professionals to Maari Ma clients in their own environment. AHWs were encouraged to sit in on the consultation and provided a service where Maari Ma staff were seen as part of the OVHS team. As one senior AHW commented:

“... Sitting in the consult serves two purposes, it's training for our staff, but it's also support for our community because sometimes language may be used that needs to be broken down...”

Another AHW agreed:

“...It is not that they're on their own... they're part of a team and we're part of the process also, and I think that's the most important thing. And if the patient doesn't understand what the specialists are talking about, that is when we step in. And put it in layman's terms; bring it down a bit, not up here”.

The specialists also commented that the having an AHW contribute to the consultation was beneficial.

Ownership and commitment

One of the overarching strengths of the OVHS is the ownership of the service by Maari Ma itself. This is of benefit to both Maari Ma and to the OVHS. One GP summed up this notion of ownership by saying:

“Oh I think there's a real ownership from Maari Ma; I think they love their OVHS team, or are getting to love them ... so I think its service is now branded with Maari Ma and I think that's a great part of it”.

The commitment and ownership demonstrated by Maari Ma management and staff reflected positive attitudes and developing trust within the local Aboriginal community. A senior Aboriginal manager commented:

“Aboriginal people have a hard time trusting service providers and so it will take a commitment from the service providers to continue to offer a service before it becomes acceptable as part of the lifestyle of our community”.

A Maari Ma manager stated that the OVHS is playing an important role in further building the dialogue between Maari Ma and the local Aboriginal community by demonstrating that Maari Ma is serving the interests and advocating for the community by providing specialist services. Again, the Aboriginal manager reports:

“... the OVHS is providing the message to the community that Maari Ma which is owned by the community, is providing the opportunity for those specialists to come to our communities”.

Tailoring care to the individual

Maari Ma staff recognised that the specialists tailored their recommendations to suit the individual client, modifying their suggested management to a plan that was more practical and more likely to have the desired outcomes. A GP commented:

“... they do actually get to know the person and how they interact with their environment...”

Another GP expanded on this idea to say:

“And so I think the specialists have understood, and they give management to our patients not necessarily based on the current clinical evidence base, but on what’s actually going to work, what’s going to be used”.

It was felt that the specialists were getting more of a feel for the person’s lifestyle so the disease was being treated in the context of the lifestyle rather than simply based on clinical guidelines. This was viewed by the GPs as a valuable and an effective approach to working in this community.

Up skilling and support

The importance of education, up skilling and support to Maari Ma GPs and clinical staff were acknowledged and prioritised from the outset. Key elements were:

- Formal communication processes;
 - case management sessions via video conference,
 - face to face handover at the end of the day’s clinic,
- Informal support and clinical advice;
 - email and telephone.
- Presence of AHW or GP registrar in the consultation

Case management sessions via videoconference

The video conference case management sessions were seen as an important part of the OVHS and their role has become clear and functionality has improved over the years. Reasons for improved functionality are as follows:

- clear purpose for the session;
- designated Maari Ma staff member to lead each session;
- improvements in technology

The videoconferences provided the opportunity to discuss and seek advice about current OVHS clients and other complex chronic disease clients at Broken Hill and Wilcannia. Menindee clients were not discussed at these sessions. The videoconference was conducted at Broken Hill Primary Care, chaired by a GP or the diabetes CNC and attended by the Keeping Well team. The specialist(s) sat in a RPAH boardroom with videoconference facilities. In 2012, the videoconferences have been held six weeks after the speciality clinic and the endocrinology team and the cardiologist attend separate sessions.

All sites would potentially benefit from the videoconference and the resulting clinical advice and support. There are numerous online meeting applications to facilitate this process. Maari Ma's IT manager discussed the potential use of <http://www.gotomeeting.com.au>. Its benefits are as follows:

- works from any computer with internet access,
- features high definition videoconferencing and audio, desktop viewing and sharing, keyboard and mouse sharing and,
- email and instant messaging integration.

These features would streamline current sessions allowing the specialist to sit anywhere with internet access, provide a platform to view and interact with Medical Director (MD) and provide staff at Broken Hill, Wilcannia, Menindee and Ivanhoe with the opportunity to attend. In addition, there would be the ability for offsite GPs to participate remotely in the videoconference. The introduction of such an application would be valuable.

Informal clinical advice and support

Support and advice via email and the telephone was highly regarded by health service staff. The case study is an example of what can be achieved with effective communication between several health professionals across disciplines.

Members of the multi-disciplinary teams at Broken Hill and Menindee valued the opportunity to contact the specialists and were comfortable with this interaction. GPs liked the email contact and found responses to be timely and helpful. Specialists were supportive of the ad hoc nature of this communication and recognised its value.

Communication within the OVHS model

Case study 1:

A client with diabetic foot ulcer that wasn't healing – example of communication process between health professionals (from the AHW perspective)

"I actually went and spoke to the doctor, and the doctor took a photograph, sent it to the Foot Care Nurse. The nurse came up with a plan for him as to the best option for treatment of this ulcer. Then I was back out to the patient, made the changes and whatever".

Verbal handover versus traditional letters – an innovative method of communication

The OVHS model focuses on the support, education and up skilling of GPs and health service staff in the management of vascular disease related chronic and complex illness. In keeping with this objective, the OVHS specialists provided a face-to-face handover of their clinical recommendations to a multidisciplinary team of Maari Ma staff.

Handover had been attended by as many staff as available but recent review had seen only relevant staff involved in the continuing management of the clients attend the handover session. The handover was seen as a unique and important form of knowledge transfer and up skilling and considered to be of value by both health service staff and specialists. OVHS specialists also wrote in MD progress notes and health service staff accessed these notes for clarification and clinical management planning. Handover has replaced the traditional specialist letter and this has been received with enthusiasm by GPs.

It was noted that handover was time consuming and this was potentially problematic at the end of a busy clinic day. There was one instance when the handover was not given due to time restrictions. It was noted in another instance that there was not an acceptable number of Maari Ma staff present due to the late handover at the end of the day. On the occasions that handover didn't occur a workaround was made to use the videoconference session to undertake it. Efforts should be made to prevent this occurring on a regular basis.

Presence of AHWs and other clinical staff in the specialist consultation

An obvious place for upskilling and knowledge transfer to occur was in the clinical consultation itself. Health service staff at each site was encouraged to sit in the consultation. Predominantly it was the AHWs and the GP registrar who did so. This was discussed by a number of senior Maari Ma staff members, GPs and visiting specialists. One senior Maari Ma staff member commented on the benefits of staff sitting in on the consult saying that:

“...the more our staff are exposed to that level of expertise, the more they become familiar with those different health conditions as well”.

Inclusion in the consultation was seen as serving several purposes. Terms used in the interviews were upskilling, mentoring, knowledge transfer and role modelling. Role modelling was strongly linked to the Endocrinology team. One manager commented:

“... you get to see them operate as a team and I think that has been a real bonus to observe their particular interaction because these guys are highly skilled, competent people. We can learn from that...”

Another Maari Ma manager commented:

“...it's certainly something that will be amazing if our local workers got that level of skill and could provide support to the specialists. And support to the GPs in fact. And we know, we're not quite there yet so having these guys come out from RPA and be able to role model that kind of team approach and team work, I think that's kind of ideal”.

The presence of the AHW in the consultation was also seen to benefit the specialists by providing an advocate for the client, one who was culturally confident and aware of local sensitivities. A senior Maari Ma manager stated:

“In a cross cultural setting there is a lot that our culturally confident employees can teach these guys as well, because these guys are used to dealing with the mainstream and not dealing with the sensitive nature of Aboriginal people living in rural and remote Australia...”

The presence of Maari Ma staff in the consultation, particularly the AHW, was recognised by all stakeholders as one of the unique and defining characteristics of the OVHS model. It was also an articulated goal of the specialists to see more structure and regular presence of staff in the consult. If this is achieved, there is a unique opportunity for the specialists, particularly the endocrinology team, to provide formalised training to AHW and other clinical staff. Areas of possible benefit identified by local staff are:

- systematic assessment of foot care for diabetic clients,
- taking a systematic clinical history for the diabetic client,
- commencing a client on insulin

It is recommended that a dialogue is established between Maari Ma clinical management and the endocrinology team to discuss the potential for formal training and the implications for the service.

6 Processes of Care

This section explores the processes of care in the OVHS, in particular, general coordination and management, the referral process and the follow up process. It also provides the evidence to support the key findings of the evaluation. Information about the processes of care surrounding the OVHS was gathered through in depth interviews with stakeholders.

6.1 Coordination and management

Coordination of OVHS clinics was multi-faceted and required clinical knowledge as well as high level administrative expertise. Key coordination areas were in:

- Preparation, development and management of the patient lists for the specialist visits,
- Support the clinic on the day,
- Overall maintenance and monitoring of patient lists across the region and over time.

In 2011, Maari Ma management developed a central coordination role acting on a recognised gap in the coordination and management of OVHS clinics. As a short term solution the role was assigned to a Maari Ma employee who has been doing this in addition to her already full time position with Maari Ma. The position was designed to be a support role for the existing coordinators in each town (local managers in the health services) and to provide support and coordination to clinicians. The workload was quantified to be 40 hours of additional work per clinic (there are eight clinics annually)..

Role of the Central Coordinator

The current role of the central coordinator is described below:

- Receives emails from Maari Ma GPs (all except one) who identify which client would be seen and by which specialist;
- Works to create the appointment list with local managers at each health service;
- Keeps an accurate record of clients who attended and did not attend appointments, and communicates this information to GPs prior to the next clinic;
- Works closely with regional administration workers based in Broken Hill to arrange the specialists schedule which includes the transport, accommodation and lunch during each visit;
- Liaises with practice administration at Maari Ma Primary Health Care Service to allocate appropriate rooms to each specialist and ensures the clinic is ready for each specialist visit.

Coordination and management of OVHS clinics

The Central Coordinator improved the coordination and management of the OVHS, particularly in communicating with GPs regarding referrals, those who did not attend appointments and collating data for quality improvement and evaluation purposes. These tasks should not be seen as the responsibility of an individual coordinator; rather as a series of tasks that require appropriate resourcing and attention to ensure smooth and successful operation of the OVHS. These tasks are grouped and described below.

Preparation, development and management of the patient lists for the specialist visits

The preparation, development and management of patient lists require clinical and administrative skills. As one GP commented:

“A clinical go-to person would add value to the OVHS service. They would need to be clinically based, for example a Medical Registrar or experienced RN, who can make clinical decisions regarding patients. The current coordinator could work closely with the clinician to assist in decision-making”.

Clinical expertise is required to liaise with GPs and specialists and to provide input into client referral and the final appointment list. For example, which clients need to be prioritised or which specialist would be most suitable to see. Operationally, there is a need for an administrative person to make sure everything is in order – to make sure clients have been booked, transport arranged, a clinic room is available and staff deployed.

As such, the role of developing and managing the appointment list should be the shared role of a clinician and an administrator. Going forward the clinician might be a GP Registrar and/or Diabetes CNC.

Support the clinic on the day

The local manager and the nominated clinician should share coordination and management on the day of the OVHS clinic. Clinical roles include:

- Supporting the specialists to ensure clinics run smoothly from the clinical perspective,
- Performing clinical jobs that need to be done during the day to ensure patients move through the consultation smoothly.

The local manager deals with any management matters that need to be attended to.

Overall maintenance and monitoring of patient lists

The collection of data is essential for quality improvement and evaluation purposes. Maintenance of this list should be the role of the administrator, one who has a global/ population health perspective and highly developed database skills. Thus far, this function has been done very well.

6.2 Referral process

The referral process was a critical component of the day to day running of the OVHS. Who was identified, how they were identified and how they were referred to the appropriate specialist were components of this process. The OVHS was offered to Maari Ma chronic disease clients and referral of clients to the OVHS was the responsibility of the Maari Ma GP. Senior AHWs and experienced RNs would also identify clients and discuss each client's need for specialist review with the GP.

Current referral practice

GPs refer based on their clinical expertise, their knowledge of the clients or guideline oriented need for specialist review, rather than clearly defined criteria that could be systematically described. That is, GPs base their referral on the potential for the specialists to 'add value' to each client's care. One GP commented:

“So the reason I refer is I tend to look at what value can be added, and that goes through cycles. So for example now with the diabetes, because they’ve been coming less time than the other specialists, we’ve got loads of diabetics that still need to go through that basic assessment process, but we will come to the end of that and then it will be less focused maybe on new patients and more focused on follow up”.

This notion of 'adding value' had been acknowledged by one of the specialists who said they also see their role as adding value rather than dictating management practice;

“... you see patients but the more important thing is skills and knowledge transfer ... it's more about making other clinicians confident in doing things they probably already need to do”.

Although rare, there were self-referrals, made by staff members or family of staff members.

Written referral to OVHS specialist

There was seen to be benefit in each new OVHS client having a written GP referral included in their MD file. The referral would serve as a simple summary highlighting the primary reason for the consultation.

Appointment lists

There was no systematic process to establishing the client appointment list. GPs had different ways of communicating names and would contact different coordinators to inform them of clients for referral to upcoming clinics. The Central Coordinator and the local managers were integral to the process, which currently is as follows:

- Clients were identified by GP, AHW and/or RN. A decision regarding referral was made by the GPs and they sent an email informing coordinators of the name of the client and which specialist they were to see.
- Coordinators collated client names.
- Appointment lists were established for each clinic day (where appropriate, time slots were double booked to ensure for optimal attendance).
- Health service staff contacted each client with regard to their appointment time and adjustments made to the schedule where necessary.

The creation of these lists was considered to be a time consuming process, mainly due to various site specific factors, but there was acknowledgement that this was necessary for a smooth and successful clinic day. Communication between the Central Coordinator and the local managers was effective and seen as important to the process.

Future direction

- There needs to be a systematic process for the creation of the appointment list. The central coordinator should be seen as the main 'go to person'. They would be ultimately responsible for receiving the email referral list and liaison with onsite coordinators. This will avoid miscommunication and clients' names being lost.
- GPs need to ensure there is a referral letter written for each new OVHS client. This would be filed and accessed in Medical Director (the clinical software system used by Maari Ma). Two methods were suggested:
 - A simple summary is written in the client's file using the Letter Writer in Medical Director (MD). The summary is to be filed under the Letters tab with a subject heading "OVHS referral".
 - Referral summary written directly into the MD progress notes. Specialists are alerted to the summary by the MD pop-up function which tells them the date the entry was made.

The evaluation team recognises that formalised processes need to work for the team on the ground. These methods came out of the GP interviews and are currently used by some Maari Ma GPs. The evaluation team encourages GP discussion and for a collective decision to be made about the best method.

- The creation of a systematic process for collating the appointment lists would also benefit data collection processes and reporting requirements. The establishment and maintenance of these lists would be the responsibility of the central coordinator.

6.3 Follow up process

The follow up process commenced at the end of the clinic day when specialists provided a verbal handover of each OVHS client seen that day. It was a multi-disciplinary team approach to follow up involving primary care staff (AHWs, RNs and GPs) working together to implement the care recommended by the OVHS specialists.

The follow up process differed slightly at each of the health services and below is a brief service-by-service description of the follow up process.

Follow up process at each health service

Broken Hill Primary Care Service

The chronic disease team, known as the Keeping Well Team (KWT), was responsible for the follow up of OVHS clients. They worked alongside the GPs to follow up on clinical recommendations provided by the specialists. The team consisted of an Aboriginal health services manager, senior and trainee AHWs, RNs and diabetes Clinical Nurse Consultant (CNC).

There was a strong focus on the team approach within the KWT. As a Maari Ma manager described it:

“ ... it’s a team effort to get that patient back in, get their care plan back on track and then provide what support we can to the patients going forward ... ”.

There was a KWT meeting every morning. One of the evaluators attended this meeting and found there to be a clear process surrounding allocation of tasks relating to the holistic care of the client.

Menindee Health Service

Menindee Health Service works under a case management structure. Case managers are registered nurses, a nurse practitioner and experienced AHWs, several of whom have qualifications in diabetes education. There was an assigned case manager for each OVHS client who liaised with a Maari Ma GP to implement the OVHS specialists’ recommendations. This system worked effectively for Menindee Health Service staff, clients, the visiting Maari Ma GPs and OVHS specialists.

Wilcannia Health Service

The Maari Ma GP registrar and the diabetes CNC visited Wilcannia Health Service on a weekly basis. They worked with the onsite Maari Ma employed RNs and AHWs to ensure clients were followed up. It was an unstructured process but Wilcannia staff and visiting Maari Ma staff felt it was effective and the appropriate approach for the local environment.

Ivanhoe Health Service

There was one Maari Ma GP who serviced Ivanhoe Health Service. The GP provided a fly in service and had remote access to MD when he was not at Maari Ma. The GP had developed a workable system to liaise with onsite health service staff and continued to oversee these clients whilst off site.

Systems to facilitate care

Three of the GPs (two fly-in GPs and the GP registrar) developed their own clinical spreadsheets. The two fly-in GPs use these spreadsheets for their regular clients and the GP registrar developed a spreadsheet specifically for OVHS clients.

In early 2012, Maari Ma employed an experienced diabetes CNC. It was quickly apparent to the evaluation team that this has been instrumental in improvements in follow up at Broken Hill Primary Care Service and Wilcannia Health Service and acknowledged that the diabetes CNC has a leadership role in the follow up of all three speciality areas. This has been welcomed. As one GP explained:

“it’s been because of the overlap between the diabetic - you know, they haven’t got a group of diabetics, a group of chronic kidney diseases, a group of heart patients - they’re all one group aren’t they - they’re a homogenous group you know? So that’s why she got involved, because of the overlap of the diabetes”.

GPs acknowledged the integral role of the multi-disciplinary team in the follow up of OVHS clients and ensuring GP management plans are established and implemented. The systems that were developed were applicable to the local health service environment and to the local community..

7 Day of Clinic

Planning and preparation

It was found that a lot of planning and preparation goes into the clinics prior to the specialist's arrival. As one Maari Ma manager aptly described:

“... I’m conscious of the fact that we work really hard to make sure that the clinics are full when the specialists come and that takes a lot of effort”.

Several Maari Ma staff commented on the fact that it was important to ensure that:

- The clinic appointment lists were full (often appointment times would be double booked to allow for ‘do not attends’),
- Transport was provided to clients if desired,
- Appointment reminders were delivered to client's homes and extensive effort taken to get the clients to attend, as described by one Wilcannia health service staff member;

“So the ones that I know it’s urgent for them to come up, they’ll get reminded the day before with an appointment slip and I’ll arrange for them to be reminded again that morning and again later in the morning in some cases...”

- All preparatory clinical work had been done, reviewed and results were readily available to the specialists.

These organisational issues were well recognised by senior team members and managers at each of the participating health services. Continued focus and effort is required to ensure smooth and effective preparation and delivery of the OVHS clinic. There was particular reference to needed improvements in organising blood tests and reviewing and updating management plans. Several clinical staff, Maari Ma management and specialists noted that it was imperative that more attention was given to this area of clinical management to ensure that the specialists are able to give appropriate, up to date and relevant advice.

Access to clinical software systems at each of the participating health services

The OVHS specialists used the clinical software system, Medical Director (MD). They viewed the client's file, previous reports, recent bloods and other clinical measures and write their recommendations within the progress notes of this primary care software system. As discussed in Section 2.2, clinics were conducted at four different health services and these health services are not all primarily Maari Ma funded services. As a result, licensing of MD is not only under a Maari Ma agreement. This complicated login access for OVHS specialists. Over the years, this issue has been managed in an ad hoc fashion and the current situation is described in the following paragraph.

Menindee, Wilcannia and Ivanhoe Health Services have several visiting services from the Royal Flying Doctors Service (RFDS) and Medical Director at these sites is licensed under RFDS agreements. Due to this arrangement, Maari Ma GPs have login details but OVHS specialists do not. OVHS specialists have their own login identification details at Broken Hill Primary Care Service, yet at Wilcannia and Menindee the specialists use log-in details (username and password) of one of the Maari Ma GPs. On review of MD notes, it was found that OVHS specialists would document in the client's notes and clearly add their name, their speciality and reference to the OVHS.

It is worthwhile noting that whilst the use of other health professionals log-ins is not ideal, there was no suggestion or complaint that this affected clinical practice or was problematic to either the specialists or the GPs. The specialists understood the complexity of the situation and the OVHS team have worked around it as best they can. A limitation of using GP login details was that passwords change every two to three months and there have been instances that specialists have not been informed of updates causing inefficiencies and frustration to those involved. It has been suggested that part of the central coordinator role could be to ensure that valid MD login details are available and specialists are informed of these prior to their arrival at the clinic.

Specialists commented on the benefits of having access to MD, even though there have been significant complications logging on. One stated that:

“I can go back and look in the scanned documents and see what their cardiologist thought of their echo from two years ago. So the electronic medical record is very useful...”

Another specialist commented:

“... once we got our heads around Medical Director it was fine – it took us a little while because we don’t use it but it’s good to be able to access to the patients’ notes”.

GP’s also felt that specialist access and note taking in MD was an important and integral part of the service. One GP commented that:

“Well I like it because it’s keeping it in the client’s notes isn’t it, it’s keeping it in the family...”

There have been improvements in IT functionality and Maari Ma continues to work on resolving these issues.

8 Management of OVHS Clients

Specialists received referrals for a range of chronic diseases. The renal physician saw clients with CKD and uncontrolled hypertension. The cardiologist saw clients with coronary heart disease, heart failure and a few with rheumatic heart disease. The endocrinology team saw clients with Type 2 diabetes and gestational diabetes. The endocrinologist also saw clients with thyroid disease. It should again be noted, as shown in Figure 8, many clients have more than one vascular disease.

Management of OVHS clients was lead by Maari Ma GPs, following recommendations from the specialists. Implementing management plans was the responsibility of the Maari Ma chronic disease team and the GPs.

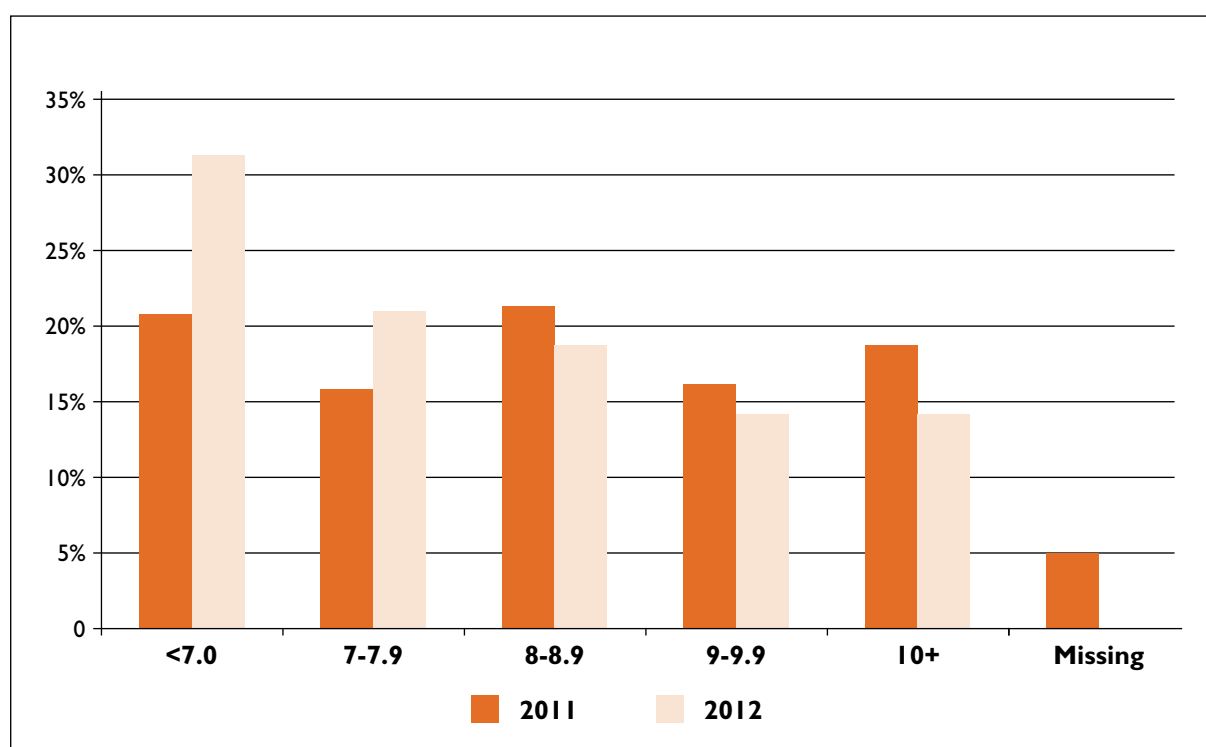
Table 6 describes mean clinical measures over 2009, 2011 and 2012, for blood pressure (BP), total cholesterol (TC) and Haemoglobin A1c (HbA1c).

Table 6 – Mean clinical measures – over time

	2009	2011	2012
Blood pressure	131.6	129.9	129.7
Total cholesterol	4.8	4.3	4.3
HbA1c	8.3	8.6	8.1

Figure 8 illustrates the range of HbA1c results and compares changes over a twelve month period.

Figure 8 – Change in HbA1c over 12 month period



The corresponding table (Table 7) presents the number of people with HbA1c less than 7 percent, greater than 10 percent and missing data. There was an improvement in the proportion of diabetic clients with HbA1c less than 7 percent but not one of statistical significance ($p=0.06$). In 2012, all OVHS clients with diabetes had their HbA1c calculated.

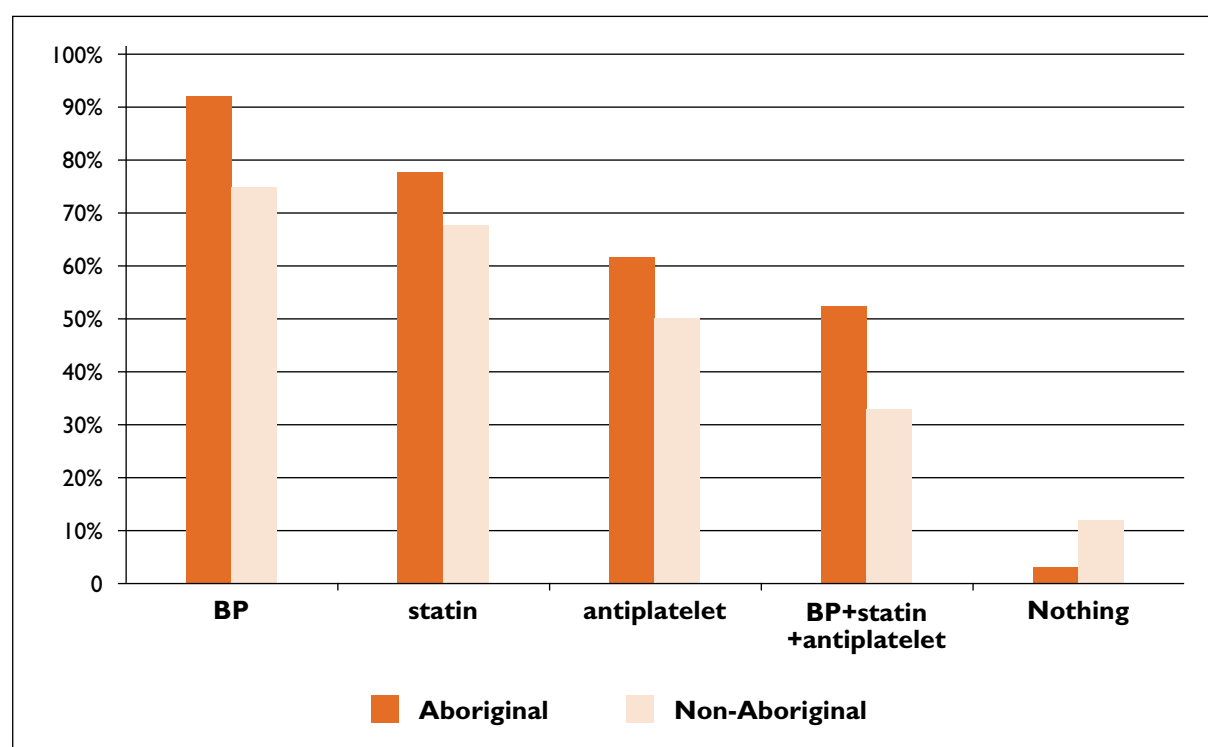
Table 7 – HbA1c ranges – change over twelve month period

	2011		2012	
	Number	%	Number	%
<7.0	24	21	37	32
10+	21	18	16	14
Missing data	6	5	0	0

Prescribing patterns

Figure 9 examines prescribing patterns of major cardiovascular medication groups for OVHS clients with established CVD.

Figure 9 – Prescribing of major cardiovascular medication groups for OVHS clients with established cardiovascular disease (CVD)

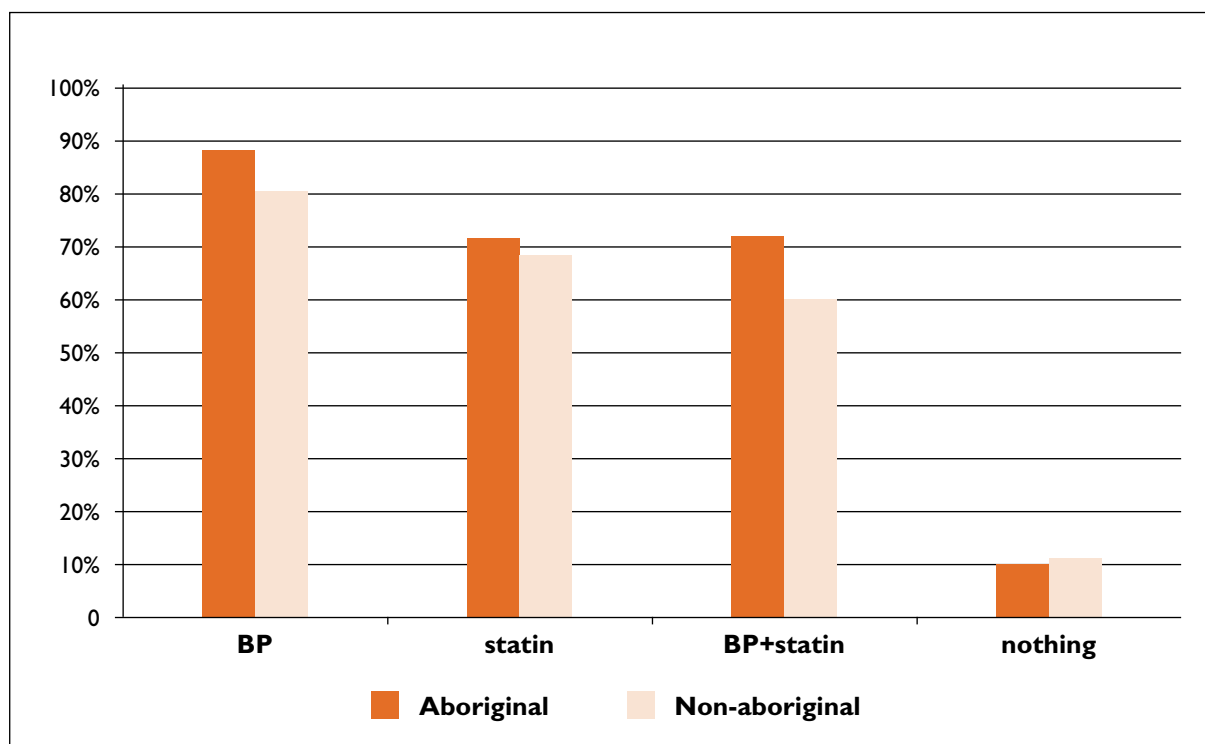


47% of OVHS clients with established CVD were prescribed triple therapy (a BP lowering medication, a statin and an anti-platelet medication) as per guidelines.⁶

6 National Aboriginal Community Controlled Health Organisation. National guide to a preventive health assessment in Aboriginal and Torres Strait Islander peoples, Melbourne: Royal College of General Practitioners, 2012.

Figure 10 shows prescribing patterns of major cardiovascular medication groups for OVHS clients at high CVD risk.

Figure 10 – Prescribing of major cardiovascular medication groups for OVHS clients at high CVD risk*

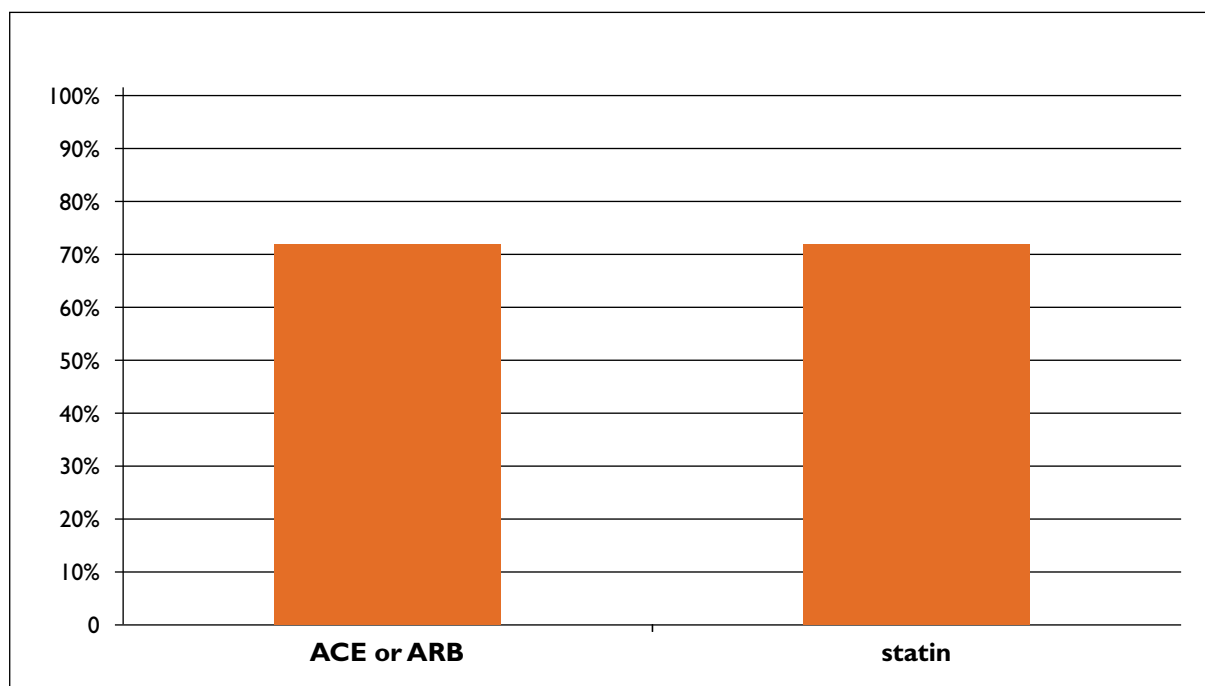


* Five year cardiovascular disease risk was estimated using the 2004 National Heart Foundation of Australia adjustments to the 1991 Anderson Framingham equation.⁷

7 National Vascular Disease Prevention Alliance. Guidelines for the management of absolute cardiovascular disease risk. 2012

According to current evidence based guidelines, 46 out of the 47 OVHS clients with CKD should be on either an Angiotensin Converting Enzyme (ACE) Inhibitor or ARB (Angiotensin Receptor Blocker)¹ and all CKD client should be on statin therapy.² Figure 11 presents this data.

Figure 11 – Prescribing of BP lowering medication and statin therapy for CKD clients



More than 70% of OVHS clients with CKD were prescribed guidelines-recommended blood pressure- and cholesterol-lowering therapy.

8 Caring for Australians with Renal Impairment: <http://www.cari.org.au/guidelines.php> (accessed October 2012)

9 Baigent,C, Landray,M J, Reith, C et al. The effects of lowering LDL cholesterol with simvastatin plus ezetimibe in patients with chronic kidney disease (Study of Heart and Renal Protection): a randomised placebo-controlled trial. The Lancet Vol 377, Issue 9784, pages 2181-2192, 25 June 2011.

9 Overall Findings

Overall findings of the evaluation are as follows

Service performance

- The OVHS is well regarded at Maari Ma and supports the implementation of the Maari Ma Chronic Disease Strategy. There is significant goodwill and commitment by a range of people involved in the OVHS. A sense of community ownership is developing.
- Embedding the OVHS in the primary care health service environment was a defining feature of the OVHS. This meant that clients were seen in an environment familiar to them and with Maari Ma staff who were seen as part of the OVHS team.
- Professional relationships were seen to be very important. Communication and relationship building between specialists and clients, between specialists and health service staff and between the OVHS and other secondary and tertiary services is critical.
- Access to some sub-specialty secondary services in Broken Hill and tertiary services in Adelaide is at times challenging, particularly for Aboriginal clients. The OVHS has focused attention on improving access to many of these services and since the OVHS has commenced, there has been the introduction of two cardiology-specific diagnostic tests, the cardiac stress test and the echocardiogram, as well as a visiting smoking cessation specialist and echo technician.
- A unique and defining characteristic of the OVHS model is the presence and involvement of an AHW in the specialist consultation. This involvement benefited the AHW as well as the specialist. This opportunity for role modeling, knowledge transfer and up skilling was unstructured and ad hoc in nature.
- Face-to-face handover of the specialist's clinical recommendations was seen as a unique and important form of knowledge transfer and up skilling and considered to be of value to both health service staff and specialists.
- Specialists tailored their recommendations to suit the individual client, modifying their suggested management to a plan that was more likely to be used and have desirable outcomes.
- The intended cross-disciplinary nature of the OVHS has not become a defining feature of the service. Specialists, although demonstrating awareness of multi-morbidity, have not commonly operated as generic vascular disease specialists, but as sub-specialists in their particular discipline.

OVHS client population

- The OVHS conducted 74 clinics between November 2009 and May 2012.
- 72% of OVHS clients were Aboriginal.
- 199 people attended one or more OVHS appointments and there was greater than 70% attendance in each of the years.
- OVHS clinics were found to be 100% booked (often more than 100% booked) in comparison to Maari Ma's Broken Hill chronic disease appointment lists which were 80% booked with 64% attendance.
- Diabetes was the most common vascular disease, followed by cardiovascular disease and chronic kidney disease. These vascular diseases made up the majority of the specialists' clinics. Specialists also saw clients with other chronic diseases such as uncontrolled high blood pressure, thyroid disease and rheumatic heart disease.

Processes of care

- Coordination of OVHS clinics was multi-faceted and required clinical knowledge as well as high-level administrative expertise. Key coordination areas were:
 - Preparation, development and management of the patient lists for the specialist visits,
 - Support the clinic on the day,
 - Overall maintenance and monitoring of patient lists across region and over time.
- Appointment lists, clinics and follow up are well organised but could be resourced more appropriately.
- The OVHS was offered to all Maori Ma chronic disease clients. GPs refer based on their clinical expertise, their knowledge of the clients or guideline oriented need for specialist review, rather than clearly defined criteria that could be systematically described.

Clinical management of OVHS clients

- Over a twelve-month period, there was a improvement in the proportion of OVHS clients with diabetes with HbA1c <7%.
- In 2012, all OVHS clients with diabetes (n=116) had a recorded HbA1c result.
- 47% of OVHS clients with established CVD were prescribed triple therapy (a BP lowering medication, a statin and an anti-platelet medication).
- According to current evidence based guidelines for OVHS clients with CKD, 72% were on appropriate BP lowering medication and 72% were on appropriate statin therapy.

10 Recommendations

Based on the evaluation findings, the evaluation team has developed nine recommendations for consideration.

1. Continue the OVHS.

The evaluation has shown that the OVHS was well regarded, widely accepted and viewed as accessible to Maari Ma chronic disease clients. Clinics are well attended by Aboriginal and non-Aboriginal clients. There is significant goodwill and commitment by a range of people involved in the OVHS. A sense of community ownership of the OVHS is developing and the Maari Ma community has trust and confidence in the service.

1

RECOMMENDATION 1:

Continue the OVHS as an outreach vascular health specialist service, providing care to Maari Ma clients in Far West NSW.

2. Keep the OVHS embedded in the primary care environment.

A defining feature of the OVHS was its place within the primary care environment. Clinics were actually conducted in the rooms of the health service and in such a way that Maari Ma staff were seen as part of the OVHS team.

2

RECOMMENDATION 2:

Keep the OVHS embedded in the primary care environment, with a continued emphasis on Maari Ma staff being actively involved in the OVHS team.

3. Resource and support the coordination and management of the OVHS.

The OVHS has demonstrated strong operational capabilities as evidenced through its highly organized and fully booked clinics as well as the committed specialists and health service staff it attracts. The strong operational performance is also evidenced by its thorough collection of data for quality improvement and evaluation purposes. However, the coordination and management requires clinical as well as administrative expertise and should be resourced accordingly.

3

RECOMMENDATION 3:

Provide appropriate resources and clinical and administrative support to the coordination and management of the OVHS to ensure strong operational performance and effective service delivery.

4. Broaden the OVHS model to include the ophthalmology service.

Bringing the visiting ophthalmology services into the OVHS model of care appropriately broaden the scope of the OVHS and potentially improve the efficiency of follow up of ophthalmology service clients.

4

RECOMMENDATION 4:

Broaden the OVHS model to include an ophthalmology service.

5. Develop formal training opportunities for Aboriginal Health Workers.

Conceptually, the OVHS model has the ability to build capacity and provide up skilling opportunities to local Maari Ma staff, particularly its AHWs. In the next phase of development for OVHS, it would be appropriate to build something more systemic that ensures capacity is built and skills are enhanced.

5

RECOMMENDATION 5:

Develop formal training opportunities for Maari Ma staff, particularly its AHWs, to build capacity at an individual and organisation level.

6. Continue efforts to strengthen professional relationships.

There are two aspects to this that are necessary for long-term success. Firstly, relationship building between specialists and Maari Ma staff health has been a strength of the service and this needs to continue. Secondly, there needs to be continued effort to build the professional relationships between OVHS specialists and secondary services in Broken Hill and tertiary services in Adelaide.

6

RECOMMENDATION 6:

Develop a clear strategy to build communication and the professional relationship between other visiting cardiology services in Far West NSW and secondary and tertiary services in Adelaide.

7. Maintain institutional links

Formal links between Maari Ma, a primary care health service, and RPAH, a metropolitan-based tertiary hospital, aim to embed the OVHS within the hospital's medical departments. These relationships act to support the sustainability of the OVHS, building institutional support as opposed to individual, practitioner dependent services.

7

RECOMMENDATION 7:

Maintain the institutional links between Maari Ma and RPAH to enable and sustain the OVHS.

8. Undertake a cost-benefit analysis of the OVHS model of care.

A cost-benefit analysis of the OVHS model of care would seek to model the costs and potential benefits of improving access to specialist services and of improving the quality of care for complex chronic diseases.

8

RECOMMENDATION 8:

Undertake a cost-benefit analysis of the OVHS.

9. Consider the broader implications of extending this model of care to other Aboriginal communities.

One of the aims of the OVHS was to use the lessons learnt from the development, implementation and evaluation of the service to design a scalable model directly relevant to other Aboriginal communities in Far West NSW. The model requires a committed specialist workforce, well developed institutional links, dedicated GPs, sufficient resourcing, well-designed systems and processes for care, patience and a long-term view. This report provides rationale for these fundamental elements and provides suggestions to build sustainability and develop the existing OVHS model. When considering how the OVHS model might be implemented in a particular community setting, it would be crucial to consider local factors at the community, client and health service level.

9

RECOMMENDATION 9:

In conjunction with a cost-benefit analysis, use the lessons learnt from the development, implementation and evaluation of the OVHS to consider its ongoing sustainability and the broader implications of extending the OVHS model of care to other communities.

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12 Appendices

Appendix I – OVHS Evaluation Interview Guide

Specialist – INTERVIEW GUIDE:

1. BACKGROUND INFORMATION:

To help establish rapport and hear of their involvement in other specialist vascular services.

Q: What is your current position?

Q: Your involvement in other outreach and rural clinics (past and current)?

2. CURRENT SERVICE INFORMATION:

To gain an understanding (of the knowledge and opinions) of what the OVHS is and the service it provides.

Q: OVHS started in late 2009. What do you think of this service?

Probe areas:

– Understanding of the fundamental concept – ‘Specialist guidance in primary care management.’

3. VIEWS ON SERVICE PROVISION:

To explore whether the OVHS has added benefit, and if so how?

Q: What works and what doesn't?

Probe areas:

- Individual specialist's approach to clinics and service provision
- Change in physician/GP relationship? – supportive?
- Documentation and communication processes – videoconferencing, education sessions etc
- Handover vs dictation of letters.
- Videoconference – what is good about them? How could they be improved?
- IT and experience using MD etc
- Institutional links

4. CARE COORDINATION PROCESSES:

To understand the systems within the OVHS which enable care to be given to the patients with complex chronic disease.

Q: What do you think of the current care coordination processes?

Probe areas:

- GP referral, follow up, referral to further tertiary services?
- What do you consider to be a complex chronic disease client?
- Patients who have had an ‘Assessment of risk’
- Do you see your care as an interdisciplinary approach?
- Assessing and arranging tertiary care/intervention – what do you do?

5. TRANSFERABILITY:

To explore what is considered to be an ideal vascular specialist outreach health service.

Q: What aspects of the OVHS would you maintain, what would you change to broaden to other communities?

GP – INTERVIEW GUIDE:

1. BACKGROUND INFORMATION:

To help establish rapport and hear of the specialist vascular services that existed prior to OVHS.

Q: What specialist service was there before OVHS? What was it like?

2. CURRENT SERVICE INFORMATION:

To gain an understanding (of the knowledge and opinions) of what the OVHS is and the service it provides.

Q: OVHS started in late 2009. What do you think of this service?

Probe areas:

– Understanding of the fundamental concept – ‘Specialist guidance in primary care management.’

3. VIEWS ON SERVICE PROVISION:

To explore whether the OVHS has added benefit, and if so how?

Q: What works and what doesn't?

Probe areas:

- Individual specialist's approach to clinics and service provision
- Change in physician/GP relationship? – supportive?
- Communication processes – VC, handover, education sessions etc
- Videoconference – what is good about them? How could they be improved?
- IT and experience using MD etc
- Institutional links
- Up-skilling/job satisfaction – confidence to managing complex disease?

4. CARE COORDINATION PROCESSES:

To understand the systems within the OVHS which enable care to be given to the patients with complex chronic disease.

Q: Can you tell me a bit about current referral and follow up of patients seen by the OVHS team?

Probe areas:

- What defines eligibility? Is there a systematic approach?
- Silo approach or an interdisciplinary approach?
- Those not seen, what happens? ‘Do not attend’, as well as those not identified.
- What is your involvement in the referral/follow up

5. TRANSFERABILITY:

To explore what is considered to be an ideal vascular specialist outreach health service.

- Q: What aspects of the OVHS would you maintain, what would you change to broaden to other communities?

Health Service Manager/RN – INTERVIEW GUIDE:

1. BACKGROUND INFORMATION:

To help establish rapport and hear of the specialist vascular services that existed prior to OVHS.

- Q: What specialist service was there before OVHS? What was it like?

2. CURRENT SERVICE INFORMATION:

To gain an understanding (of the knowledge and opinions) of what the OVHS is and the service it provides.

- Q: OVHS started in late 2009. What do you think of this service?

Probe areas:

- Understanding of the fundamental concept – ‘Specialist guidance in primary care management’
- Tell me about a normal OVHS clinic day. At Menindee, Wilcannia, BH.

3. VIEWS ON SERVICE PROVISION:

To explore whether the OVHS has added benefit, and if so how?

- Q: What works and what doesn't?

Probe areas:

- Individual specialist's approach to clinics and service provision – your perception of this?
- Change in physician/GP relationship? Your perception?
- Communication processes –
 - between HSM and GP,
 - between HSM and specialist
 - handover, education sessions
- Videoconference – what information do you receive about these case mgt sessions?
- Up-skilling/job satisfaction for you.

4. CARE COORDINATION PROCESSES:

To understand the systems within the OVHS which enable care to be given to the patients with complex chronic disease.

- Q: Can you tell me a bit about current referral and follow up of patients seen by the OVHS team?

Probe areas:

- Silo approach or an interdisciplinary approach?
- Those not seen, what happens? 'Do not attend', as well as those not identified.
- Integration into other primary care services/teams – case management.

5. TRANSFERABILITY:

To explore what is considered to be an ideal vascular specialist outreach health service.

- Q: What aspects of the OVHS would you maintain, what would you change to broaden to other communities?

Maari Ma Management – INTERVIEW GUIDE:

1. BACKGROUND INFORMATION:

To help establish rapport and hear of the specialist vascular services that existed prior to OVHS.

- Q: What specialist service was there before OVHS? What was it like?

2. CURRENT SERVICE INFORMATION:

To gain an understanding (of the knowledge and opinions) of what the OVHS is and the service it provides.

- Q: OVHS started in late 2009. What do you think of this service?

Probe areas:

- Understanding of the fundamental concept – ‘Specialist guidance in primary care management’
- Do you directly line manage any of the staff directly involved in OVHS?

3. VIEWS ON SERVICE PROVISION:

To explore whether the OVHS has added benefit, and if so how?

- Q: What works and what doesn't?

Probe areas:

- Institutional links
- Up-skilling/job satisfaction for staff.

4. CARE COORDINATION PROCESSES:

To understand the systems within the OVHS which enable care to be given to the patients with complex chronic disease.

- Q: Can you tell me a bit about current referral and follow up of patients seen by the OVHS team?

Probe areas:

- Those not seen, what happens? ‘Do not attend’, as well as those not identified.
- Integration into other primary care services/teams.

5. TRANSFERABILITY:

To explore what is considered to be an ideal vascular specialist outreach health service.

- Q: What aspects of the OVHS would you maintain, what would you change to broaden to other communities?

Community Perspective – INTERVIEW GUIDE:

1. BACKGROUND INFORMATION:

To help establish rapport and hear of the specialist vascular services that existed prior to OVHS.

Q: What specialist service was there before OVHS? What was it like?

2. CURRENT SERVICE INFORMATION:

To gain an understanding (of the knowledge and opinions) of what the OVHS is and the service it provides.

Q: OVHS started in late 2009. As a member of the local community what do you think of this service?

Probe areas:

- Understanding of the fundamental concept – ‘Specialist guidance in primary care management’
- Use of the AMS for clinics – ‘safe’
- Staying in BH rather than travel interstate.

3. TRANSFERABILITY:

To explore what is considered to be an ideal vascular specialist outreach health service.

Q: What aspects of the OVHS would you maintain, what would you change to broaden to other communities?

Appendix 2 – OVHS Evaluation Consent Form and Record of Interview



THE GEORGE INSTITUTE
for Global Health

INTERVIEW CONSENT FORM:

Before you sign this form please be sure that you understand what it means to be part of the study. Please ask the study team member to answer any questions you have.

It is important to understand:

- You do not have to take part in this interview if you do not wish to.
- You can stop taking part at any time.
- Information you give will be only used in relation to the Evaluation of the OVHS. It will be stored in a secure place. Only research team members will have access.
- Your name and details **will not** be made public. Nothing written in reports will link you personally to the study.

- | | | |
|---|------------------------------|-----------------------------|
| 1. I agree to take part in an interview for the study | YES <input type="checkbox"/> | NO <input type="checkbox"/> |
| 2. Do you agree that the interview be taped? | YES <input type="checkbox"/> | NO <input type="checkbox"/> |
| 3. Would you like a (written) copy of your interview? | YES <input type="checkbox"/> | NO <input type="checkbox"/> |
| 4. Do you wish to check the interview? | YES <input type="checkbox"/> | NO <input type="checkbox"/> |
| 5. Do you agree that some of your words (not your name) be used in the study reports? | YES <input type="checkbox"/> | NO <input type="checkbox"/> |
| 6. Do you have any objections to the interview record being kept at the end of the study? | YES <input type="checkbox"/> | NO <input type="checkbox"/> |

Participant to complete:

I _____

Signature: _____

Date: _____

Investigator:

Name: _____

I have explained the nature and purpose of the study to the above participant and have answered their questions.

Signature: _____

Date: _____

Contact Details:

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RECORD OF INTERVIEW:

Interview Date	Site	Interview Type	Interviewer(s)	Study ID No
		Group/Individual		

Gender	Female <input type="checkbox"/>	Male <input type="checkbox"/>
Ethnicity (tick as many as apply to you)	Aboriginal	<input type="checkbox"/>
	Torres Strait Islander	<input type="checkbox"/>
	Both Aboriginal & Torres Strait Islander	<input type="checkbox"/>
	Other (please specify):	<input type="checkbox"/>
What is your job title?		
How long have you been working in this position?		
For GP's: – What is your rostered time at Maari Ma? – Which health service(s) do you work at?	<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>_____</div> <div>_____</div> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>Menindee</div> <div>Wilcannia</div> <div>Broken Hill</div> <div>Ivanhoe</div> </div>	

The OVHS evaluation interview guide

POINTS TO MAKE:

- Talk briefly about who you are, who the George are – role, involvement in OVHS (give business card to provide contact details)
- Give them the record of interview and ask them to complete whilst you set up equipment (ensure it is working!!)
- Talk a little about the OVHS evaluation
- This interview is confidential – you have allocated an ID number so all information you give us is de-identified. I will give you the opportunity to read the transcript once it is complete overseeing for correctness and accuracy.
- The interview will go for about an hour – we have around 7 broad questions to ask aiming to get an overview of your opinions, knowledge and feelings about the OVHS.
- Is there anything in particular you'd like to say before we go through these questions?

Interview notes: (Impressions/ observations post interview)

Appendix 3 – Maari Maa's Audit Form

Audited by:		Audit Date: / /
Client number:		
1. General Information		
1.1	Health Service code	<input type="checkbox"/> Broken Hill <input type="checkbox"/> Ivanhoe <input type="checkbox"/> Menindee <input type="checkbox"/> Wilcannia
1.2	What is the Indigenous status of the client?	<input type="checkbox"/> Aboriginal <input type="checkbox"/> Torres Strait Islander <input type="checkbox"/> Aboriginal & Torres Strait Islander <input type="checkbox"/> Non-Aboriginal <input type="checkbox"/> Not recorded
1.3	Date of Birth	/ /
1.5	Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
2. Past Medical History		
Is there a recorded history of any of the following?		
2.1	Coronary Heart Disease	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Year of Diagnosis	_ _ _
	↳ If yes, record if the client has had the following:	
2.1.2.3	<input type="checkbox"/> CHD Cardiologist review recorded	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.2	Stroke or TIA	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Year of Diagnosis	_ _ _
2.3	Peripheral Arterial Disease	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Year of Diagnosis	_ _ _
2.5	Diabetes	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Year of Diagnosis	_ _ _
2.5.1	↳ If Yes then record which type	<input type="checkbox"/> Type 1 <input type="checkbox"/> Type 2 <input type="checkbox"/> Gestational Diabetes <input type="checkbox"/> Impaired Glucose Tolerance/Impaired fasting <input type="checkbox"/> Type Unknown
	↳ If yes, record if the client has had the following:	
2.5.2	<input type="checkbox"/> DM Endocrinologist review recorded	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.5.3	<input type="checkbox"/> DM Ophthalmologist review recorded	<input type="checkbox"/> Yes <input type="checkbox"/> No
	↳ If yes for ophthalmologist review, record the following:	
	<input type="checkbox"/> DM Date of last ophthalmologist review	/ /
	<input type="checkbox"/> DM Date for next review present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
	<input type="checkbox"/> DM Date for next review	/ /

2.6	Chronic Kidney Disease	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Year of Diagnosis	_ _ _
	↳ If yes, record if the client has had the following:	
2.6.3	CKD Renal physician review recorded	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2.10	Elevated Blood Pressure	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Date of diagnosis	/ /
2.11	Dyslipidaemia	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Date of diagnosis	/ /
2.13	What is the client's smoking status?	<input type="checkbox"/> Current <input type="checkbox"/> Ex-smoker <input type="checkbox"/> Never <input type="checkbox"/> Not recorded
3. Risk factors		
3.1	Blood Pressure	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
3.1.1	Result 1: Systolic	_ _ _ mmHg / /
	Result 1: Diastolic	_ _ _ mmHg
		Date
3.1.2	Result 2: Systolic	_ _ _ mmHg / /
	Result 2: Diastolic	_ _ _ mmHg
3.2	Weight	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
3.2.1	↳ If yes Result	_ _ _ kg / /
3.3	Height	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
3.3.1	↳ If yes Result	_ _ _ cm / /
3.4	BMI	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
3.4.1	↳ If yes Result	_ _ _ kg/m ² / /
	Waist circumference	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
	↳ If yes Result	_ _ _ cm / /
3.6	eGFR	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
3.6.1	↳ If yes Result	_ _ _ ml/min/1.73m ² / /
3.7	Urinary Albumin/Creatinine ratio	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
3.7.1	↳ If yes Result	_ _ _ mg/mmol / /
3.8	HbA1c	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date
3.8.1	↳ If yes Result	_ _ _ % / /

3.9	Blood Glucose Level	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	
3.9.1	↳ If yes Result	mmol/l	/	/
3.9.2	Venous	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NR Not Recorded		
3.9.3	Fingerprick	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NR Not Recorded		
3.9.4	Fasting	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NR Not Recorded		
3.10	Total Cholesterol	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	
3.10.1	↳ If yes Result	mmol/l	/	/
3.10.2	Fasting	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NR Not Recorded		
3.10.3	HDL	mmol/l		
3.10.4	LDL	mmol/l		
3.10.5	Triglycerides	mmol/l		
4. Health care provided				
4.4	Adult health check 715	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
4.7	GP management plan 721	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
4.9	TCA 723	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	Alternative TCA	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
Imm.	Fluvax	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	Pneumovax	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date 1	/ /
			Date 2	/ /
Brief interventions	BI - Smoking	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	BI - Nutrition	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	BI - Alcohol	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	BI - Physical activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
Other	Alcohol risk level	<input type="checkbox"/> High <input type="checkbox"/> Low <input type="checkbox"/> Not stated <input type="checkbox"/> Non-drinker	Date	/ /
	Oral health check	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	K5 / K10	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	Foot check <input type="checkbox"/> DM	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	<input type="checkbox"/> DM Last BP abnormal (≥130/80)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	↳ If yes, was there:			
	A plan for follow-up	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Documented follow-up	<input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> DM	Last HbA1c abnormal (≥7.0)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date	/ /
	↳ If yes, was there:			
	A plan for follow-up	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Documented follow-up	<input type="checkbox"/> Yes <input type="checkbox"/> No		

6. Medications			
6.1	Does the client have any recorded allergies or intolerances to any medications? → If yes then list these medications:		<input type="checkbox"/> Yes <input type="checkbox"/> No
	Medication 1:		
	Medication 2:		
	Medication 3:		
6.2	Does the client have any recorded contraindications to any medications? → If yes then list these medications:		<input type="checkbox"/> Yes <input type="checkbox"/> No
	Medication 1:		
	Medication 2:		
	Medication 3:		
List the medications the client is currently taking: (List Heart, BP, Diabetes, Lipid medications first)			
	Name	Strength	Frequency
6.3.1			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.2			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.3			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.4			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.5			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.6			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.7			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.8			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.9			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.10			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.11			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.12			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.13			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.14			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN
6.3.15			<input type="checkbox"/> Daily <input type="checkbox"/> BD <input type="checkbox"/> TDS <input type="checkbox"/> QID <input type="checkbox"/> MDU <input type="checkbox"/> PRN

