Western Australian Chronic Disease Outreach Program

Broome Regional Aboriginal Medical Service
Final Report

Submitted to the Colonial Foundation
by
The Centre for Chronic Disease
The University of Queensland
and
Kidney Disease Research and Prevention

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Abbreviations

ACEi	Angiotensin Converting Enzyme inhibitor
ACR	Albumin Creatinine Ratio
AHW	Aboriginal Health Worker
ARB	Angiotensin Receptor Blocker
BGL	Blood Glucose Level
BMI	Body Mass Index
BP	Blood Pressure
BRAMS	Broome Regional Aboriginal Medical Services
CD	Chronic Disease
DBP	Diastolic Blood Pressure
GFR	Glomerular Filtration Rate
GTT	Glucose Tolerance Test
HbA1C	Glycosylated Haemoglobin
KAMSC	Kimberley Aboriginal Medical Services Corporation
KDRP	Kidney Disease Research and Prevention
MAP	Mean Arterial Pressure
PHO	Population Health Officer
POC	Point of Care
RN	Registered Nurse
SBP	Systolic Blood Pressure
UQ	University of Queensland

Final Program Summary : 2002-2006.

This report summarises the evolution of chronic disease activities at BRAMS from 2002 to 2006. The Colonial Foundation has helped support these activities for 4.5 years through a grant to the Centre for Chronic Disease at the University of Queensland (UQ).

This support has been translated into the following streams

- Direct payment to BRAMS of about $100,000 per year to use in chronic disease activities
- Some extra money for activities such as back-logged data entry and for educational materials
- Education, training and program planning from Nurse Coordinators from UQ.
- Some suggestions on data items, capture and management from UQ
- Analyses of data from BRAMS to profile clients and chronic disease activity.
- Regular reports derived from such data.

Over the period of interaction BRAMS has progressively expanded and improved the scope of their chronic disease activities. Their current program embraces

- An expanded chronic disease work force
- Embedding of chronic disease care as a dominant priority within primary care.
- Protocols for routine testing of every client presenting to BRAMS for chronic diseases and their risk factors, and their appropriate management.
- Progressively increasing numbers of clients undergoing appropriate testing, and people being diagnosed with, and being treated for, index conditions
- Substantial use of point of care techniques for clinical tests
- More complete data entry into the local information system, catch-up of unentered data, and more systematised capture of medication and its linkage to clinical information
- The ability to analyse client demography, clinical profiles, visits, tests, diagnoses and medication use. Potential uses also analyses of outcomes and health trends over time, estimates of costs and cost-effectiveness, advocacy for improved service and funding models and links to Western Australian birth, mortality and hospital records.

Our support is only one small element in this evolution. BRAMS and the Kimberly Aboriginal Medical Services Corporation were already building up their chronic disease activities and data management systems when approached by Colonial/UQ; they have always been welcoming and supportive, and have aggressively pursued funding. Better practice has evolved throughout the region and KAMSC provides a strong statewide and nationwide voice.

Most ingredients for sustainability are in place; commitment, good leadership and management, good training of staff, structured adherence to regional chronic disease protocols, continuing education coordinated by a full time Population Health Officer and a good clinical information system. In addition the funding situation is promising, with a ten year commitment by OATSIH through the "Healthy for Life" program, and supplementary funding through the National Primary Care Collaborative, as well as Medicare re-imbursements for Adult Health Assessments, and Medicare rebates for client service provided by various health professionals.

The Executive from BRAMS and members of the Centre for Chronic Disease are very grateful to the Colonial Foundation for its generous support. They hope the results can be put to wider advocacy for systematic and well supported primary care for Aboriginal people.

Program Dynamics and Staffing: 2006

Our role has been to train and support BRAMS staff in improved chronic disease awareness and management. For the past 18 months we have focused on helping BRAMS plan and ensure the sustainability of systematic chronic disease surveillance and management activities beyond the current funding cycle. Payments from the Colonial grant have continued through the end of 2006 as they run their own services, and our nurse coordinators have made occasional visits to BRAMS.

BRAMS runs its chronic disease program autonomously now, with activities embedded in their primary care program. Policy dictates that every adult person presenting at BRAMS should have a chronic disease screen at regular intervals and that appropriate management should follow. BRAMS now follows chronic disease protocols developed by KAMSC and the Western Australian Country Health Service (WACHS), officially launched in Sept this year. Adherence to such widely endorsed and supported protocols optimises prospects of sustainability and success. Point of care testing of HbA1c and urine ACR helps fast track management of people with hypertension, diabetes and renal disease. Continuing education is coordinated by the recently appointed full time population health officer.

BRAMS has been successful in its application for the "Healthy for Life" program, which provides robust funding and commitment from the Federal government for the next ten years. Chronic disease care is one main element of this program. Nearly 25% (approximately $100,000) of the allocated budget for each year is dedicated to systematic chronic disease care. Streamlining of processes for reimbursements from Medicare provides additional funding for better primary care.

Staff turnover in BRAMS has been high over the past four years, although not necessarily excessive in relation to other remote area health services. Four Aboriginal Health Workers, two nurses and two Population Health Officers have resigned. There have been two changes of the Chief Executive Officer and Senior Medical Officers over the same time period. Mr. Chris Bin Kali continues in his role as the CEO and Dr. Sally Cornelius has taken over the role of the SMO. Mr. Juan Larranaga has recently been appointed as the population health officer.

Despite this staff turnover BRAMS has increased staff positions for primary care and chronic disease management in the last four years, with much of the increase in the past year. Additional staff positions include an extra data processor (now two positions), two extra Chronic Disease Aboriginal Health Worker positions (now five positions – one renal AHW and four general Chronic Disease AHW), two extra Clinic AHWs (now six AHWs who do the opportunistic screening and follow up checks for chronic disease in the clinic), three student AHW positions, a full time Child Health Nurse and a full time Maternal Health Nurse.

This year, through the UQ connection, BRAMS has hosted visits from two nurses involved in the primary prevention program in Soweto, South Africa, as well as a senior nephrologist from Durban in South Africa who was a three month scholarship from the International Society of Nephrology to enhance her perspectives in early disease detection and management.

Strong leadership and good management support at BRAMS have enhanced their program development and delivery. Links with external agencies enhance the effectiveness of their care. The clinical information system provides reliable decision making support - both for the clinicians and the management team. With better systems of care in place, we anticipate better health outcomes in the years to come.

Activity Report

In this final report, we analyse information related to
1. program uptake and activities
2. the number of people having chronic disease testing
3. the number of chronic disease exams or tests
4. the number of people with recognized morbidities
5. anthropometric profiles of Indigenous clients and their correlation with chronic diseases
6. medication use for chronic diseases.

a) Demography

Analyses were derived from data downloads from Ferret at the end of June 2006. This database maintained by KAMSC includes 6705 Indigenous people. Table 1 shows the demographics of clients who identified themselves as Indigenous.

Table 1. Demographics of people who identified themselves as Indigenous at BRAMS

	<20	20-<40	40-<60	60-<80	80+	Total
Females (n)	1,252	1,215	768	173	26	3,434
%	36.5	35.4	22.4	5.0	0.8	100
Males (n)	1,261	1,137	701	163	9	3,271
%	38.6	34.8	21.4	5.0	0.3	100
Total (n)	2,513	2,352	1,469	336	35	6,705
%	37.5	35.1	21.9	5.0	0.5	100

Of the total of 6,705, 4,513 are aged 18 years or older. All the information presented below is restricted to that group, defined as 'adults'.

b) Existing diagnoses

Table 2 shows the number of Indigenous people with chronic disease diagnoses. The first column gives the number of people for whom condition-specific careplans were allocated in Ferret, and the second column gives the number of people with possible diagnoses by our expanded definitions, as noted in the subscript. The prevalences of hypertension and renal disease and diabetes were estimated to be 24.6%, 16.9% and 14.1% respectively. At this stage, 32.5% of Indigenous people are identified as having one or more chronic conditions by our expanded definition.

Table 2. Number of Indigenous people aged 18+ yrs with chronic disease diagnoses

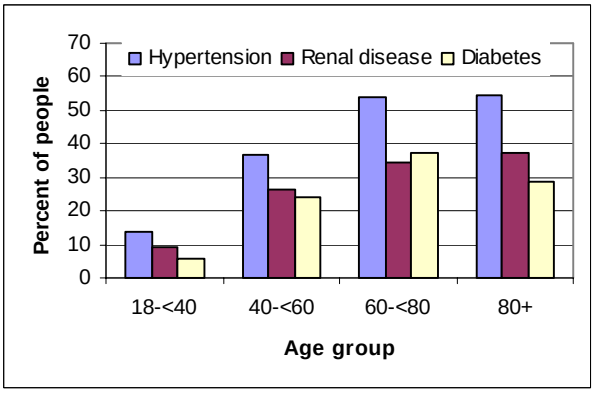
	Careplans in Ferret	Expanded Diagnosis by Ferret and clinical findings/labs
Hypertension	432 (9.6%)	1112 (24.6%)
Renal disease	296 (6.6%)	761 (16.9%)
Diabetes	527 (11.7%)	637 (14.1%)
Any morbidity	768 (17.0%)	1466 (32.5%)

@Hypertension=History and or one blood pressure measurement ≥140/90
#Renal disease= History and or urine protein by dipstick ≥1 and or urine ACR ≥3.4 g/mol
*Diabetes=History and or blood glucose ≥11.1mmol/L and or HbA1c ≥6.5%

Figure 1 shows the percentage of Indigenous people aged 18+ years with chronic disease diagnoses using our expanded definitions, by age group. Rates of all conditions increase with increasing age.

Figure 1. Percent of Indigenous people aged 16 + years at BRAMS with potential chronic disease diagnoses and any morbidity.

Chronic disease diagnoses



Any of these diagnoses

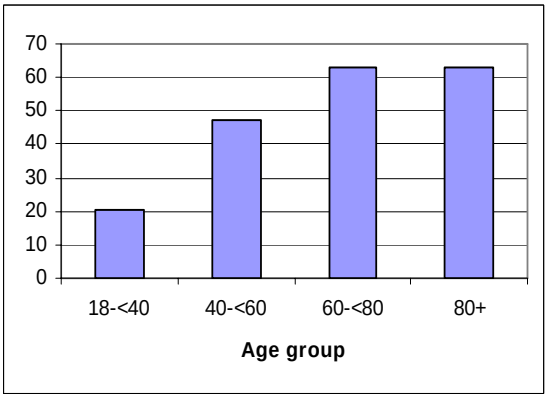


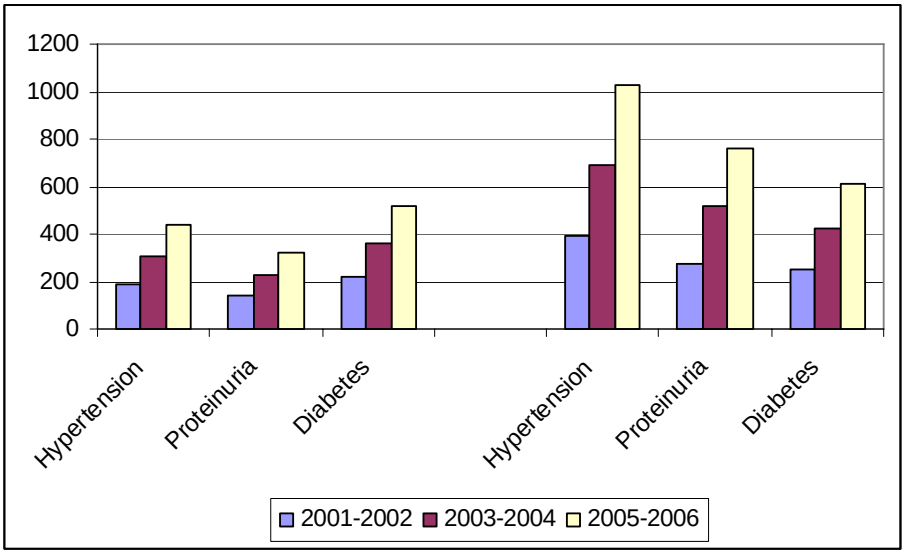
Table 3 shows the number of people by year since 2001-2002, with chronic disease careplans in Ferret and again, by our expanded definition. Figure 2 summarises this graphically. The numbers for each diagnosis were higher in 2005-06 than ever before.

Table 3. Number of people with various diagnoses visiting per year, by Ferret diagnoses and our expanded definition

Calendar Year	Hypertensives Ferret	Hypertensives Expanded@	Renal disease Ferret	Renal disease Expanded#	Diabetics Ferret	Diabetics, Expanded*
2001-2002	185	389	140	271	216	254
2003-2004	303	693	230	515	361	425
2005-2006	438	1027	321	761	520	613

@Hypertension=History and or one blood pressure measurement ≥140/90
#Renal disease= History and or dipstick ≥1 and or ACR ≥3.4
*Diabetes=History and or blood glucose ≥11.1mmol/L and or HbA1c ≥6.5%

Figure 2. Number of people aged 18+ years at BRAMS with various diagnoses visiting, by year



c) Tests

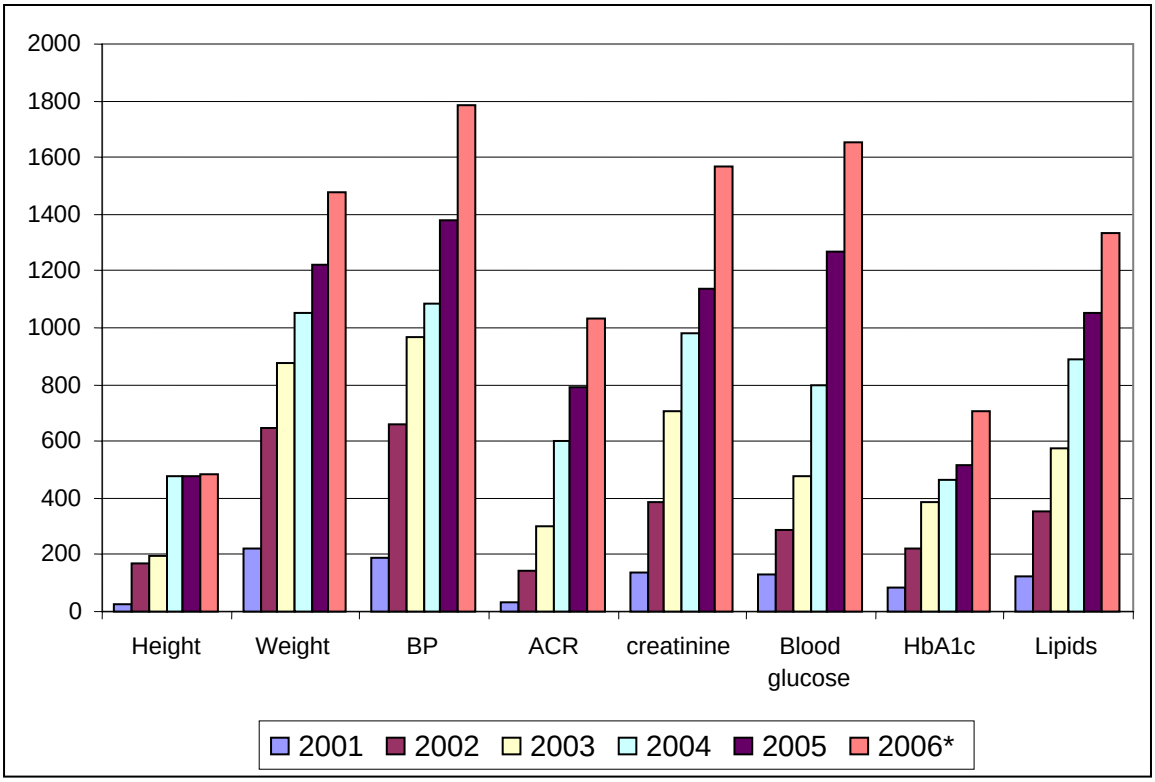
Table 4 shows the number of observations or lab tests relevant to chronic disease care performed by year since 2001, and Figure 3 shows this graphically. From 2003 there was a dramatic increase in the numbers of people with weights and BPs recorded. Blood glucose, lipid and HbA1c levels were recorded on 2-3 times as many people. Urine ACR levels were ordered on almost 20-30 times more participants than in 2001.

Table 4. Number of individuals aged 18+ years at BRAMS having specified observations, by year

Calendar Year	Height	Weight	BP	ACR	Creatinine	Blood glucose	HbA1c	Lipids
2001	25	225	190	30	136	130	83	126
2002	167	649	663	142	383	289	223	353
2003	199	874	965	300	703	475	385	578
2004	474	1050	1083	599	978	800	466	890
2005	476	1224	1382	790	1139	1267	518	1055
2006*	484	1474	1784	1034	1566	1656	706	1336

*Annualised numbers for the year 2006

Figure 3. Numbers of people aged 18+ years at BRAMS having specific observations or lab tests, by year



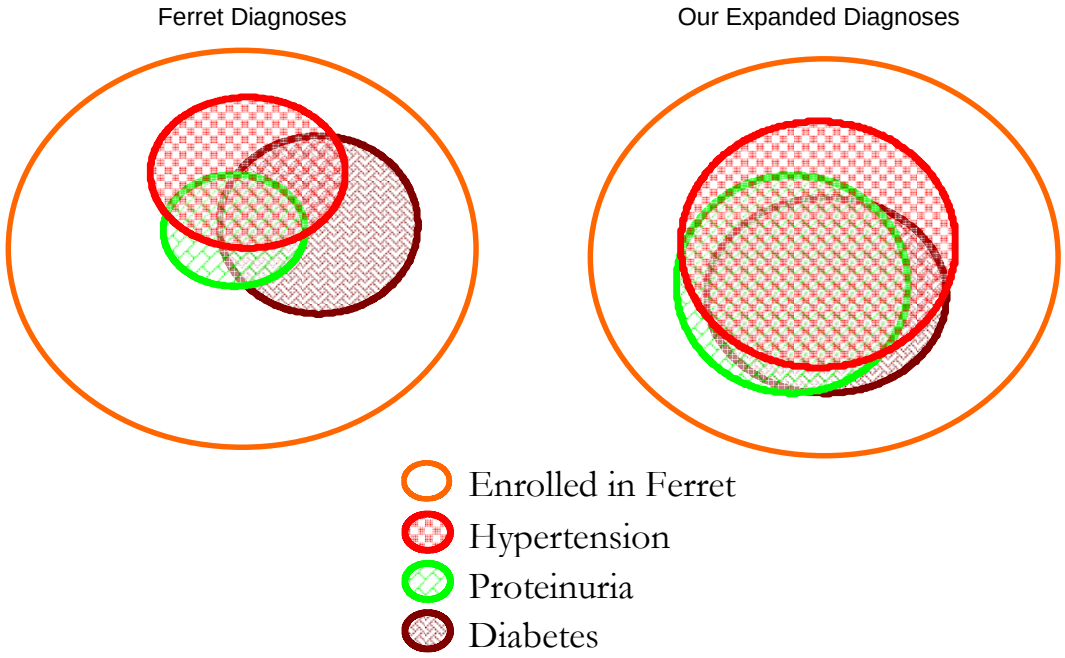
d) Adherence to algorithms

Our screening protocols recommend that all people with chronic disease diagnoses have at least a weight and blood pressure measurement done on every visit. They also recommend regular HbA1c testing for diabetics, an ACR test at least annually for people with diabetes or hypertension, and regular creatinine levels for people with renal disease.

e) Multiple morbidities and overlapping morbidities

Figure 4 shows overlapping of morbidities in people with chronic diseases, using Ferret diagnoses and also by our expanded definition. With both definitions, extensive overlap of conditions is obvious. As in the other communities we have examined, (NT Outreach report, Bega Chronic disease report) these conditions are intimately related and are, indeed, probably part of the same syndrome. Thus screening for all these conditions should be integrated and disease specific. Moreover, people will usually require medication for more than one condition.

Figure 4. Overlapping morbidities among Indigenous people aged 18+ years at BRAMS with Ferret diagnoses and our expanded diagnoses



Hypertension=History and or one blood pressure measurement ≥140/90
Renal disease= History and or urine protein by dipstick ≥1 and or urine ACR ≥3.4
Diabetes=History and or blood glucose ≥11.1mmol/L and or HbA1c ≥6.5%

f) Medication

BRAMS had adapted the 'standard drug list' prepared by the KAMSC. After extensive consultation with stakeholders and clinicians, the therapeutic agents routinely used in this region have been grouped into 1) essential drug list 2) supplementary drug list 3) emergency drug list. Use of such lists across this region is expected to improve "consistency in care across health services". The clinical information system and the medication dispensing systems are linked together, providing us opportunities to monitor dispensed medications and, potentially, outcomes of their use.

However, the linkage of medication information was designed to happen prospectively with a change to existing medication or start of a new medication. For analytic purposes, we grouped angiotensin converting enzyme inhibitors, angiotensin receptor blockers, calcium channel blockers, beta blockers and diuretics as 'vaso-active' agents, because of their influence on blood pressures.

Table 5 compares activity for new medicines or changes of dose in downloads for 2005 and, annualised, for 2006. New of changed prescribing for people vasoactive, hypoglycaemic and hypolipidaemic agents increased in 2006. There are, of course, additional people on each class of medication whose initial prescription was earlier than 2005 and for whom no dose changes have been captured.

Table 5. Numbers of Indigenous people aged 18+ years at BRAMS who have had a start or change in their medications in 2005 and 2006.

	Numbers of people (2005)	Numbers of people (2006)*
Vaso-active agents	306	354
Hypoglycaemic agents	151	170
Hypolipidaemic agents	186	230
Aspirin	145	152

*Numbers for 2006 are annualised.

g) Body habitus measurements and their correlations with chronic conditions

BRAMS is striving to improve its ascertainment of body habitus measurements. The anthropometric measurements we recommend include weight on every visit, height, at least once, and waist circumference whenever possible.

We pooled all the results collected over the years and then considered the first available result as an individual's baseline characteristic. This profiling could help illuminate relationships between anthropometric measurements and chronic diseases. However, weight has still not been recorded in many adults; this could mean that many have not had a check up in the analytic interval, that weight was not measured during their check ups and or that weight was measured but not entered into Ferret. Capture of height remains is very deficient indeed (Table 6).

With this deficient and selective sampling not too many generalisations should be made; it is possible for example, that there was a bias towards recording weight in the heavier participants because or more concern or focus on their weight. As shown in Table 6, with the data that were captured, Indigenous females were shorter (by 12.3 cms) and lighter (by 8.2 kgs) than males. Mean BMI, in both females and males were in the range traditionally considered as overweight by Caucasian standards. Mean waist circumference for males and females were similar.

Table 6. Characteristics of Indigenous adults aged 18+ years

	Females			Males			Total			F Vs M
	n	Mean	SD	n	Mean	SD	n	Mean	SD	p
Age, years	2347	38.0	14.6	2166	37.6	14.2	4513	37.8	14.4	0.304
Height, cm	764	161.9	7.2	578	174.2	7.8	1342	167.2	9.6	<0.001
Weight, kg	1378	69.5	18.9	1066	77.7	19.4	2444	73.1	19.6	<0.001
BMI, kg/m^2	763	26.2	7.1	574	25.2	5.8	1337	25.8	6.6	0.006
Waist, cm	945	95.8	17.0	742	97.3	15.0	1687	96.5	16.2	0.068

BMI: Body mass index; SD: Standard Deviation

Table 7 shows categorical classification of overweight and obesity. More than half the adults had 'normal' BMI by Caucasian standards. Nearly 25% of females and 19% of males were 'obese'. Rates of overweight and obesity were much higher by waist measurements and females were more likely to be obese than males.

Table 7. Prevalence of overweight and obesity

	Females	Males	All	F Vs M, P
BMI <25 (normal)	48.9	52.8	50.6	0.069
BMI 25-<30 (overweight)	26.5	27.9	27.1	
BMI ≥ 30 (obese)	24.6	19.3	22.4	
Obese by waist circumference#	68.3	36.1	54.1	<0.001
Overweight and or obese by waist circ^	82.7	55.9	70.9	<0.001

*Test for significance of difference in the distribution between males and females.

Obese by waist circumference (WC): For females WC≥ 88 cms; for males WC ≥ 102 cms

^ Overweight and or obese by waist circumference: For females WC ≥ 80 cms; for males WC ≥ 94 cms

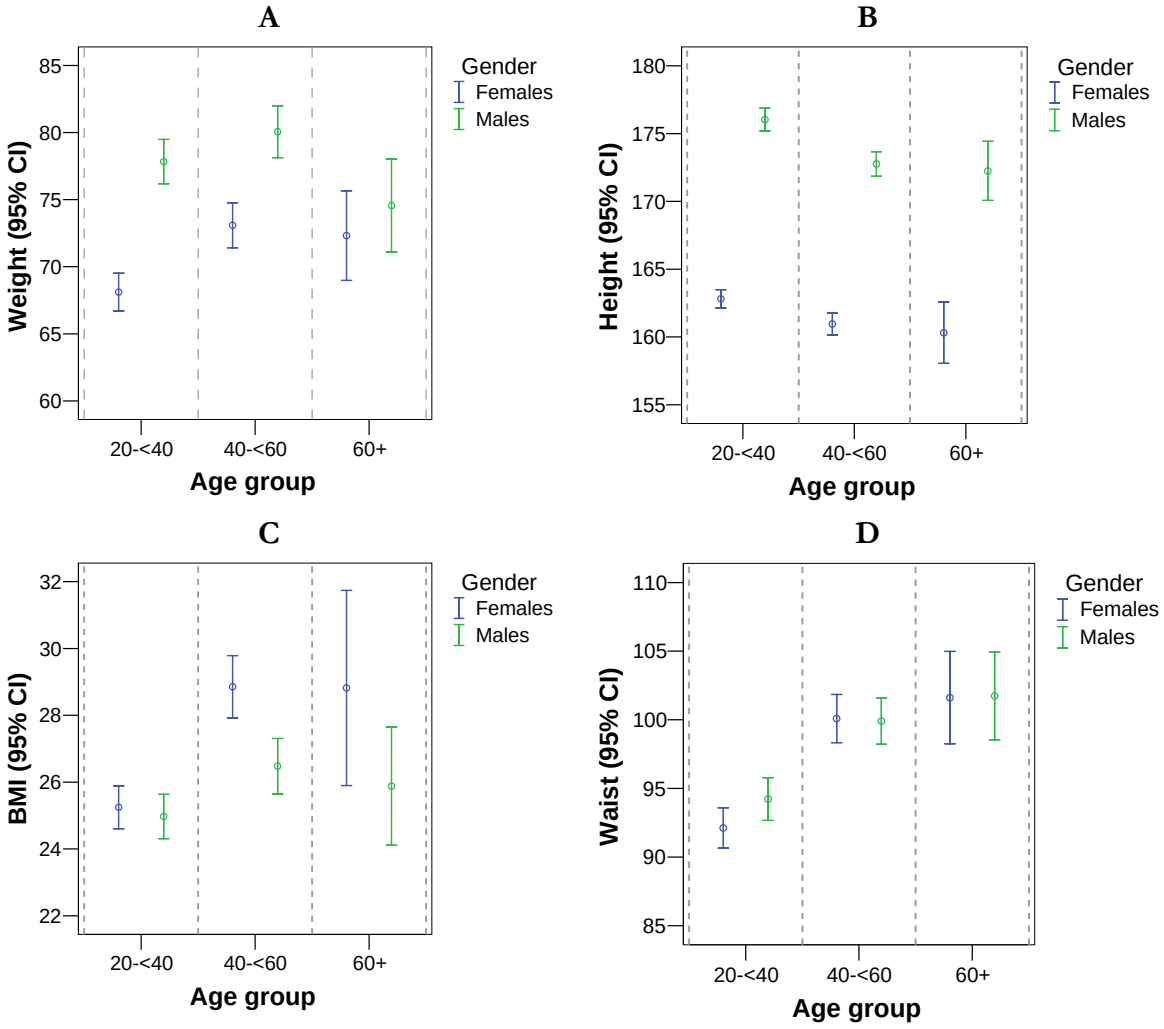
Average body size measurements are shown graphically in Figure 5 by gender and age group. Figure 5A shows average weight. Females in the young and middle age group had significantly lower body weight when compared to males. However, those in the oldest age group did not differ.

Figure 5B shows average height measurements. Females were significantly shorter than males. Both females and males showed declining trend in their mean height over the age groups.

Figure 5C shows average body mass index by gender and age group. Values for females and males in the youngest and oldest age group did not differ significantly. However, females in the middle age group had higher BMI than males.

Figure 5D shows average waist circumference by gender and age group. No significant differences between females and males could be seen by age group. However, both females and males in the middle and oldest age group had significantly higher waist circumferences when compared to those in the youngest age group.

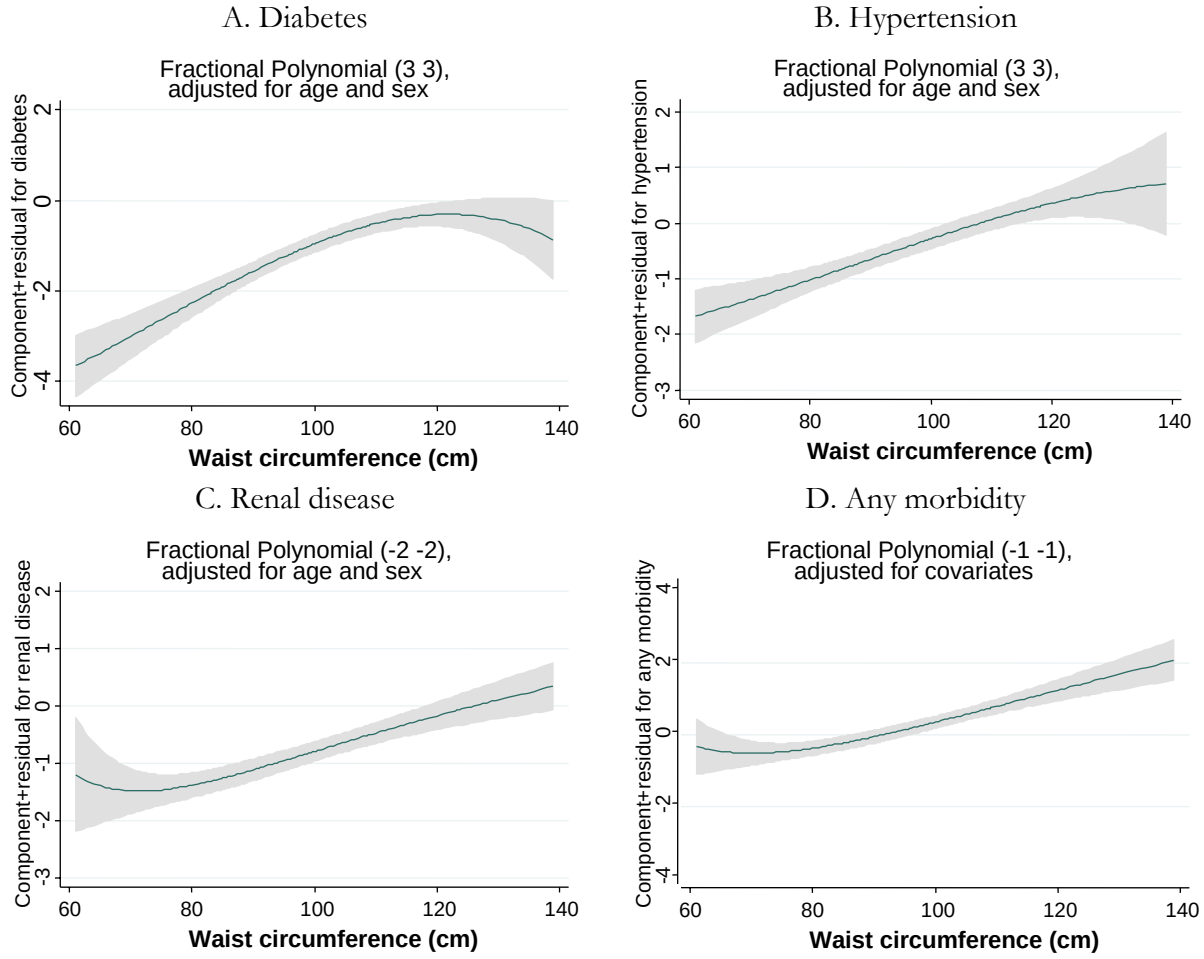
Figure 5. Body size measurements by gender and age groups



h) Associations of anthropometric measurements with chronic diseases

All the measures of body size showed significant positive associations ($p<0.05$) with hypertension, renal disease and diabetes, with the exceptions that renal disease and diabetes correlated negatively with height. Waist measurements showed the strongest association with all these three chronic conditions when compared to other parameters. Using fractional polynomial regression models adjusting for age and gender we assessed the relationships of increasing waist circumference to diabetes, hypertension, renal disease, and to any of these three morbidities. Figure 6 shows that increase in waist circumference is strongly associated with increased risk of all these three chronic conditions.

Figure 6. Waist circumference and chronic conditions



We also examined the correlations of these three conditions with one another. Table 8 shows that hypertension was increased four-fold among those with renal disease and vice versa. This dropped to three-fold after adjustments for age, sex and waist circumference. Diabetics had a five-fold increase in hypertension and vice versa, with this differential dropping to three-fold after adjustment for other significant factors. Diabetics were 10 times more likely to have renal disease and vice versa, with an eight-fold difference persisting after adjustment.

Table 8. Odds ratios (95% CI) for associations of morbidities with each other

Adjustment	Hypertension and renal disease	Hypertension and diabetes	Renal disease and diabetes
None	4.0 (3.4 – 4.7)	5.1 (4.2 – 6.1)	9.7 (8.0 – 11.8)
For age and sex	3.8 (3.1 – 4.6)	3.9 (3.2 – 4.9)	7.8 (6.3 – 9.6)
For age, sex and waist	3.2 (2.5 – 4.1)	2.9 (2.1 – 3.9)	7.6 (5.8 – 9.9)

i) Data quality

Any observed differences between our analyses and those reported by BRAMS are probably due to differences in the data downloads from KAMSC.

Appendices

Appendix A: Nurse coordinator's report
Appendix B: Population Health Annual Report 2005-2006
Appendix C: Population Health Monthly Program report June-July 2006
Appendix D: Diabetes Clinical Audit results May 2006
Appendix E: AHC Clinical audit results BRAMS 2006
Appendix F: BRAMS Chronic Disease ACIC April 2006

Appendix A: Nurse coordinator's report

Compiled by Joanne Smith

Positive Overview
In the past sixteen months there have been significant positive changes and quality improvements in the delivery of the Health Service and of the Chronic Disease Program at BRAMS.

More evident, and strong now, is the overall goal of the Health Service to include the holistic view of chronic disease from preconception through adulthood - in all areas of chronic disease prevention awareness, screening, and management.

Augmented Staff Levels
The significant increase of staff positions at BRAMS (mostly in past year) since the commencement of the Chronic Disease Program four years ago is very positive in view of viability and sustainability of the Program. The additional staff positions are:

- One extra data processor (now two positions)
- Two extra Chronic Disease Aboriginal Health Worker positions (now five positions – one renal AHW & four general Chronic Disease AHW)
- Two extra Clinic AHWs (now six AHWs who do the opportunistic screening & follow up checks for chronic disease in the clinic)
- Three student AHW positions
- Full time Child Health Nurse
- Full Time Maternal Health Nurse

Chronic Disease Program Leadership
Juan Larranaga has been Population Health Officer since June 2006 and has been extremely active and effective in creating a happy & positive work environment. Juan has strong leadership skills and has quickly gained the respect of the health workers. He is gifted with excellent organisational skills and has a good command of the needs of the Chronic Disease Program. He began at a time when the Population Health Officer position remained unfilled for several months and almost all AHWs had been once again based in the clinic.

Chronic Disease Program

Program work and organisation
Juan reintroduced the program work in the community and commenced bi-weekly meetings to plan activities and to give feedback on what was happening in the program.

Health Promotion Activities
Four Health Promotion Activities have already been achieved in the community since June 06 – one major one and three smaller activities.

Cooking classes have been held, especially for the young mums, they talked about the nutritional value of food and healthy ways to prepare food. Links with other services are strong and activities are often combined with those services. The antenatal mum's recently took a trip to an organic farm.

Olympian Nova Perris was invited to promote – "Strong Children build strong families & Strong Families build strong Communities"

Men's Health Day – Brazilian Martial arts expert Capoera was invited with music & drums – to enhance motivational and healthy lifestyle activities.

284 primary school children from St Mary's Primary School were screened for Hb, Mild/Mod hearing loss, Visual impairment, head lice, skin diseases and obesity. This activity focused on Prevention and early detection of chronic disease; Health Promotion – teach youth to be healthy, making healthy choices, emphasise importance of yearly health checks; Education.
Positive feedback was received from parents and the school staff and a request has been made to BRAMS to conduct the health checks yearly.

Tuesdays – fruit platters are provided for the clinic waiting area – to encourage health food intake.
Thursdays – fruit platter provided for the child health clinic

Chronic Disease Health Workers
Chronic Disease Health Worker positions currently have three vacancies – advertised awaiting recruitment. Maryanne Clements is the Renal Health worker based in the Renal Dialysis Unit and Selena Helwend is CD Program AHW currently continuing client recall, retinal screening, medication delivery to clients unable to come to BRAMS, visit CD clients at Bran Nue Dae (community aged care facility), and health promotion activities.

Screening & Follow Up Checks
The unfilled CD AHW positions has limited the work in the community and slowed the recall process, however, the catch up on clients overdue for follow up checks has continued. Once the CD AHW staffing is at full complement and CD follow up is up to date it is the goal of the CD program manager to notify people *when they are due for follow up instead of overdue*. There is significant improvement in the day to day practice of opportunistic screening & follow up for clients accessing the clinic. It was very noticeable in the clinic files, as patients accessed the clinic for various reasons, that the client health checks were more up to date.

Retinal Screening & Foot Checks
Retinal screening and podiatry clinics have continued on a limited basis due to staff shortages. Foot checks are occurring more on a regular basis now by the AHW's with more referrals to the podiatrist. Several in-services on foot inspection and care over the last four years have contributed to this

Medications
Medications are dispensed via the Drug Management System (DMS) using Ferret. All medications prescribed for patients are now processed through the DMS and hence are recorded electronically in the patients' file in Ferret. A printout is entered into the patient hard copy files. This allows medication data to be viewed on all people with Chronic Disease.

Medication blister packs are prepared by the local chemist and are again being delivered to the Chronic Disease Clients by the Chronic Disease Health Worker. The health workers are using this opportunity to educate the clients on the action & side effects of the medications, promote prevention, good management strategies and timely follow up checks.

Ferret Data

BRAMS staff were generally happy with the Ferret Database system – most use was patient Data. The patient health chart is printed out on each person as soon as they present to the clinic and this assists the AHW's with speedy and up to date requirements for that person's care, screening and follow up. The patient's clinical data is entered into the Ferret database on that day by Phillipa and Pippi.

Bidyadanga & Beagle Bay Clinics are now linked to BRAMS allowing sharing of consultation & test results.

The database now has 18,204 clients. 13,357 are older than 18yrs (six years ago there were 10,000 people on the database). Of these clients 5,572 people are regulars with 4,270 being indigenous.

Next Staff training on Ferret is on 20th /21st September
Waist measurement has been added to the data field;

Height & weight are added manually but automatic calculation of BMI still does not occur.
There is no facility to enter Height/Waist Ratio, foot check results, GFR, Hb yet.

Webster Pack distribution is now marked in the patient profile field. This enables a list to be printed out of all people using Blister Packs. This list also assists with ensuring that recall & follow up checks are done regularly.

Both Phillipa & Juan felt that the Ferret system provides very useful data analysis, however, one difficulty for BRAMS reporting is that BRAMS staff cannot access Ferret clinical statistical data to analyze data themselves. BRAMS staff currently have to wait for the KAMSC Ferret trained staff to do the data extraction and profiling for them. BRAMS have requested that the Population Health Officer and the Data Processor have access to the extraction of health profile data, particularly in the absence of the KAMSC Ferret staff member for graphs, statistics and reports. They would like to see a visible register of clients, and automatic recall lists. Obtaining population lists on a spreadsheet are still an issue.

Phillipa is confident the BRAMS data on Ferret is clean data now.

The Ferret Care plans and Recall prompts are still to be revised on a regional basis. BRAMS do not have access to changing these parameters. Several recall prompts need updating.

Recommendations by BRAMS & Centre for Chronic Disease UQ have been submitted to KAMSC on the parameters deemed to be necessary - they are as follows:

1. Diabetes Care Plan
-HbA1c needs to be 3 monthly (not six monthly)
-Lipids (fasting) needs to be yearly
-Urea and Electrolytes Yearly (K+ in use of ACI's)
-Dentist yearly
-BP 3 monthly

2. Hypertension
-ACR yearly
-Urea and Electrolytes yearly
-Fasting lipids yearly
-Retinal examination 1-2 yearly

3. Renal Impairment
-Urea and Electrolytes yearly
-Fasting Lipids yearly

4. Scabies / skin infections
-Need ACR

5. Mood – for early intervention

6. Height/Waist Ratio

7. Foot examination & care

8. Hb

9. Glomerulofiltration Rate (GFR)

10. The question of Medication Compliance is not addressed on the Recall Prompts eg. "do you take your medicines – daily / sometimes/ not at all?." This may be important to include to avoid increasing patient medication doses unnecessarily.

Yearly Clinical Audits
The following Clinical audits have been done in the last six months - **see attached documents for results.**

1. A sample size of 30 clients with diabetes was randomly selected for the clinical audit. The ABCD DIABETES only Vascular and Metabolic Syndrome Clinical Audit form (February 2006) was used for the audit.

2. Clinical audit results - AHC (15-55year) Health Check BRAMS (Adult Health Checks subject to Medicare rebates) Population search on Ferret identified 1914 people in this age group. Clients with chronic disease (n = 311) was subtracted making 1603 clients eligible for an AHC

3. Broome Regional Aboriginal Medical Service Assessment of Chronic Illness Care, April 2006, using the ABCD Systems Assessment Tool.

Funding for Chronic Disease Program
December 2006 sees the completion of the $90,000 Annual Colonial Foundation funding to BRAMS. BRAMS has prepared for this in securing the "Healthy for Life" funding to ensure sustainability of the Program and to augment the numbers of Aboriginal Health Workers who conduct the program.

Funding to BRAMS is multi sourced as follows:
1. A successful submission to OATSIH by BRAMS obtained "Healthy for Life (H4L) Program" funding from the Commonwealth Government with commitment for ten years. (Life Course)

This is to the value of $400,000 funding per year. Approximately $300,000 is used for staffing of programs, education activities and health checks from pre-conception, maternal, infant & child health, 0-5 program, teenagers and adults. $100,000 of these funds are utilised for the Adult Chronic Disease Program alone.

2. National Primary Care Collaborative (based in Darwin) $8,000.00

3. Colonial Foundation $90,000/year for Chronic Disease Program (ceases December 2006)

4. Medicare Reimbursements of approximately $160.00 per client are available for comprehensive annual health checks e.g:

   Adult Health Assessment Medicare Rebates for ATSI 15 – 55Yrs Item 710
   GP Management Plan – GPMP Item 721
   GPMP Review - Item 725
   Social & Emotional Wellbeing Item 10950
   Team care Arrangements Item 723 (yearly)
   And many more.

   These moneys are used for staffing and activities of Chronic Disease Prevention

5. Patient contact rebates from Medicare are available for professional service to patients. A "Patient Episode Slip" is attached to each patient's file as the patient present to BRAMS clinic so that all staff attending to the patient can record their clinical contact with the patient. The record of contact on the slip allows administration staff to apply for reimbursement for the service from Medicare. This process has been significantly improved over the last twelve months and increased revenue. These moneys are used by BRAMS as discretionary funds.

BRAMS Staff

Though staff turnover appears to be high at BRAMS in the overall staffing picture there has still been remarkable progress in service delivery over the past four years. There have been four Aboriginal Health Worker resignations in four years, two clinic nurses, two Population Health Officers and two driver resignations. There have been two changes of CEO, two changes of the Senior Medical Officer Position, relatively stable medical officer positions and rotational Medical Registrar doctors.

Executive Committee

Chairperson	Phillip Matsumoto
Vice Chair	Maryanne Martin
Treasurer	Peter Matsumoto
Secretary	Johanna Cox

Current Staff:

Administration

Chief Executive Officer	Chris Bin Kali (Chips)
Executive Officer	Margaret Mahony (Gingy)
Human Relations officer	Jenny Hempsall

Finance Officer	Helen Clements
Bookkeeper	Amanda Gregory
Data Processor	Phillipa McKenna
Data Processor	Audrey Bin Swani (Pippi)
Medicare Officer	Kachina King
Administration Assistant	Melanie Edgar
Receptionist	Suzette Edgar

Drivers - Michael Pigram & Geoff Cox

Doctors
Sally Cornelius (Senior Medical Officer)
Sjef De Jong
Carmen Quadros
David Atkinson (Medical Student Program)
Anne Cawley – Part time
Anji Sam
Wendy Cavilla (Registrar)
Ingelborg Shee (Registrar)
Catherine Rolfe (Registrar)
Cherelle Fitzclarence – Renal & Peritoneal Dialysis Medical Officer

Program Staff

Population Health Officer	Juan Larranaga (Chronic Disease Coordinator,
Women's Health AHW	Raylene McKenna
Maternal Health Nurse	Carolyn Newman
Child Health AHW	Patricia Lawford (Budga)
Child Health AHW	New Position – Vacant to be recruited
Child Health Nurse	New Position – Vacant to be recruited Currently Natasha – one day per week
Men's Health AHW	Shane Wright
Chronic Disease AHW Renal	Maryanne Clements
Chronic Disease AHW	Selena Helwend
Chronic Disease AHW	Position vacant to be recruited
Chronic Disease AHW	New Position – Vacant to be recruited
Chronic Disease AHW	New Position – Vacant to be recruited

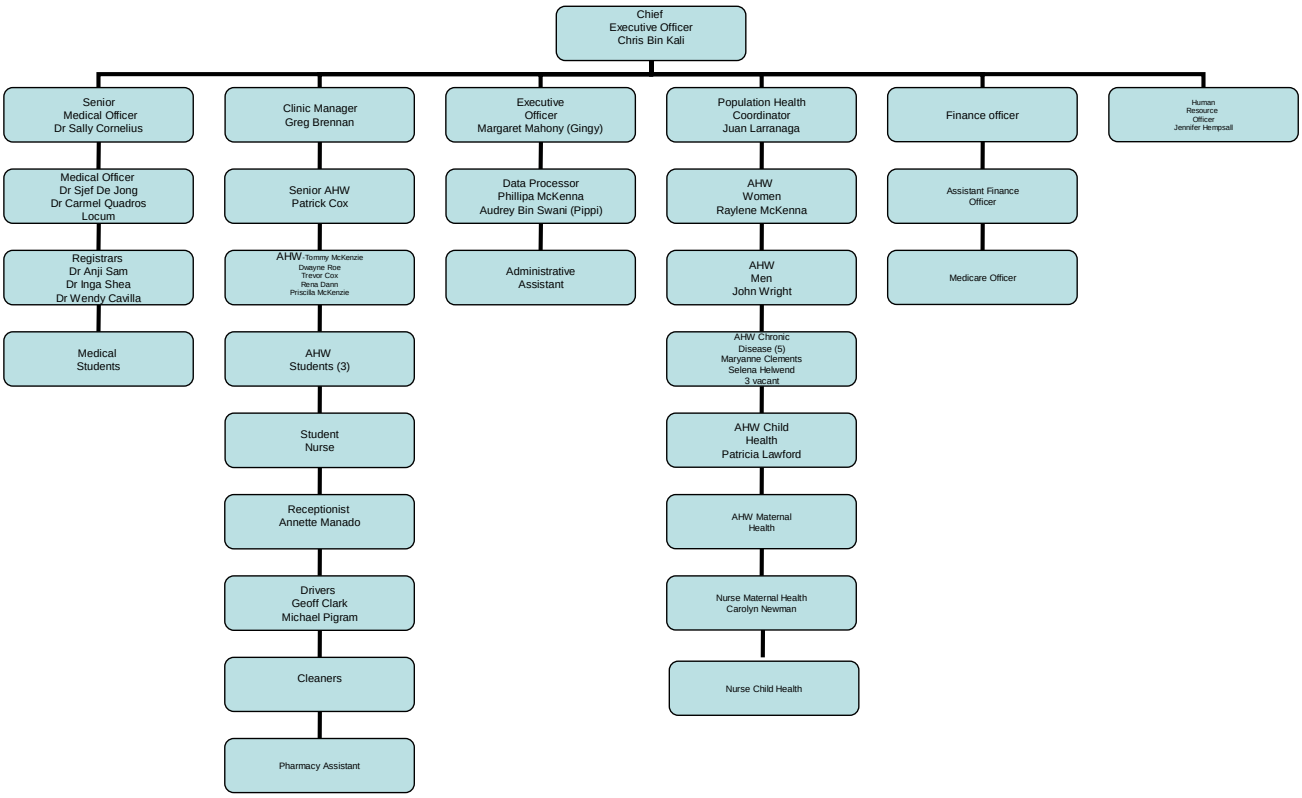
Clinic Staff

Clinic Manager	Greg Brennan
Clinic Coordinator, Senior AHW	Patrick Cox
Paediatric Nurse	Sam
AHW	Tommy McKenzie
AHW	Dwayne Roe
AHW	John Edgar (Scully)
AHW	New Position - Rena Dann
AHW	New Position - Priscilla McKenzie
AHW	Trevor Cox
AHW	Jeffrey
Student Nurse	

Contact details for further information:

Administration – Chris Bin Kali - brams@wn.com.au
Finance - Helen Clements – Email: helenc@brams.org.au
Senior Medical Officer – Sally Cornelius: sallyc@brams.org.au
Data Processing – Phillipa McKenna: Phillipam@brams.org.au
Population Health Officer – Juan Larranaga: juanl@brams.org.au
Clinic Manager – Greg Brennan: gregb@brams.org.au

BRAMS Organisational Structure:



BRAMS POPULATION HEALTH 2006 REPORT

BRAMS has continued to experience difficulty in maintaining a stable work force unit over the last financial year. However, as of the beginning of June 2006, a Population Health Coordinator has since been employed which is anticipated to help resolve some of the difficulties experienced in running the programs over the last financial year.

Prior to commencement of Population Health Coordinator, the position had been unfilled for a number of months and unfortunately some of the systems that had been in place previously had become a little neglected. Since commencing, the program plans have been re introduced. Furthermore, the recruitment of the coordinator position for BRAMS has been progressing an application and Action plans to commence involvement in the "Healthy for Life" (H4L) project. This will provide an enormous boost to BRAMS in assisting with attention to gaps in child and maternal health.

A permanent midwife has been employed since may 2006 to commence the maternal health program. At the printing of this report the maternal health program definition is under development. In addition, a health worker had also been assigned to work with child health program and similar to the maternal health, the Child and Maternal Health programs are progressing slowly and it is anticipated a that formal program definition will be developed over the early part of the new financial year.

In an attempt to rebuild the team, fortnightly team meetings were commenced – on every second Monday. The purpose of the Monday meeting is to obtain a wrap up and inform each other of what would be happening over the week for each program area and this is an opportunity to report on how each program is going. Any new issues/ business are discussed and documented and actions for follow up are noted. All meetings have a set agenda and the minutes are distributed to all staff and Senior managers. Weekly work log planners and activity sheets are distributed during this time. These work planners and activity sheets have been used in the past and now have been re introduced with some modifications to develop a mechanism with which to accurately report back on program activity.

The Friday afternoon meeting is an opportunity meet with staff to see how the week evolved, wrap up on activities and report any new developments and to plan for ensuing new week.

Population Health Team

Name	Position
Juan Larranaga	Population Health Coordinator
Raylene McKenna	Women's Health HW
Carolyn Newman	Maternal Health midwife (H4L)
Patricia Lawford	Child Health HW
Vacant to be recruited	Child Health HW (H4L) ???
Vacant to be recruited	Child Health Nurse (H4L)
John Wright	Men's Health HW
Selena Helwend	Chronic Disease HW
Vacant to be recruited	Chronic Disease HW
Maryanne Clements	Chronic Disease (Renal) HW
Vacant to be recruited	Chronic Disease HW (H4L)
Vacant to be recruited	Chronic Disease HW (H4L)

Chronic Disease

The program has been experiencing a considerable amount of difficulty due to absence of staff. At present only one of two designated program workers is currently in place with the other position vacant firstly due to illness and since June has become permanently vacant. Funding for "Healthy for Life" is anticipated soon and the proposed care plan presented to OATSIH by BRAMS will incorporate the creation of two additional chronic disease health worker positions this financial year and possible another to follow in the following year. Despite limited staffing, and obligations to other areas of the program, considerable progress has been achieved in capturing numerous over due chronic disease clients. Other responsibilities to this program is a focus on performing Well Person's Checks – Medicare item 710, home visits to BRAMS elderly clients, retinal camera screening as well as linking in with the visiting regional podiatry services.

Women's Health

The Women's health program is one of the more established programs and the senior health worker responsible for the program works autonomously and is self directed. The capacity of the program has potential for expansion and it is anticipated that with the recruitment of the midwife, the team will work more collaboratively in the area of family planning, sexual health and women's health screening.

The program has five key components –

1) Sexually transmitted infections which requires contact tracing and referrals,
2) Women's health surveillance for breast cancer, cervical cytology (Pap Smears),
3) Rheumatic heart fever female clients,
4) Family planning recall(implanon, Depo prevera) and
5) School and young peoples sexual Health promotion .

The women's health clinic is conducted on Thursday and the numbers vary depending regardless of the number of invitations sent out. New incentives are currently being discussed to explore ways of capturing overdue pap smears.

Male Health

The Male health program is one of the more established programs, however is quite limited in its role and the program needs greater role clarification. The capacity of the program has potential for expansion and it is anticipated that with the recruitment of the more health workers through H4L, the team will work more collaboratively in the area of

Adult health checks, sexual health and male health screening. This position also assists with male chronic disease recalls and with elderly home visits to male clients.

The program has four key components –
1) Sexually transmitted infections which requires contact tracing and referrals,
2) Assist with male Chronic disease clients
3) Rheumatic heart fever female clients,
4) Young peoples sexual Health promotion .

The male health clinic is conducted on Wednesday evening and the numbers vary depending regardless of the number of invitations sent out. New incentives are currently being discussed top explore ways of capturing male clients to attend for well persons checks.
The Service provision to Broome Men's Outreach (BMO) has been postponed for some months now due to difficulty with staff availability. Discussions at the senior managers meeting in 19th July looked at the possibility of sending the Male health worker to recommence service and act as the link between the Outreach clients and the clinic.

Child Health
BRAMS has successfully been awarded funding from OATSIH for *"Healthy for Life"* (H4L) and an Action Plan for the funding submission has been developed. The Action Plan have been developed to address gaps in the child health service provision based on the ABCD audits of Child health services conducted earlier in May 2006. In addition, the Evaluation of Primary health care service delivery to children in the 0-5 year age undertaken in 2005 also identified numerous service delivery gaps relative to BRAMS. These gaps identified from both audits have formed the foundation of the capacity building program for BRAMS to improve its child health service delivery.

To date the service has predominantly focused on clinical service delivery and no formal recall system has been in place. The only form of recall has been for clients needing to see the child health nurse. KPHU operates a half day child Health clinic every Thursday from 0830 to 1100am. This service was predominantly focused on the Kimberley childhood immunization program. The child health nurse faxes through a list of clients needing immunization, and BRAMS field officers were responsible for trying to encourage the child and parent to attend. The service provision although worked well, it still did not capture children potentially at risk and those needing close attention and catch up immunizations remained at risk.

Maternal Health
BRAMS has recently recruited a community midwife to oversee the maternal health program focusing on developing its formal antenatal program. The program consists of opportunistic care of antenates presenting to the clinic. The antenatal program commenced in this haphazard fashion since the end of May 2006 and is currently under development with the recruited position currently developing the BRAMS antenatal care plan and a register of all antenatal clients attending BRAMS for their care. As a direct consequence of the recruitment of this position, the half day Antenatal clinic day has been expanded to a full day due to increased demand.

Quality Improvement
NPCC – Data has been entered for the last two months. BRAMS was visited by Kerry Copley from NPCC 28th and 29th August to help with training and auditing. The data for the NPCC has dropped below the expected levels, but it appears that there have been

some difficulties with the approach to in-putting the required data. After the visit from Kerry, a more systematic approach to the data collection has been put in place which is anticipated to detect a more accurate picture of the management of Chronic disease by BRAMS.

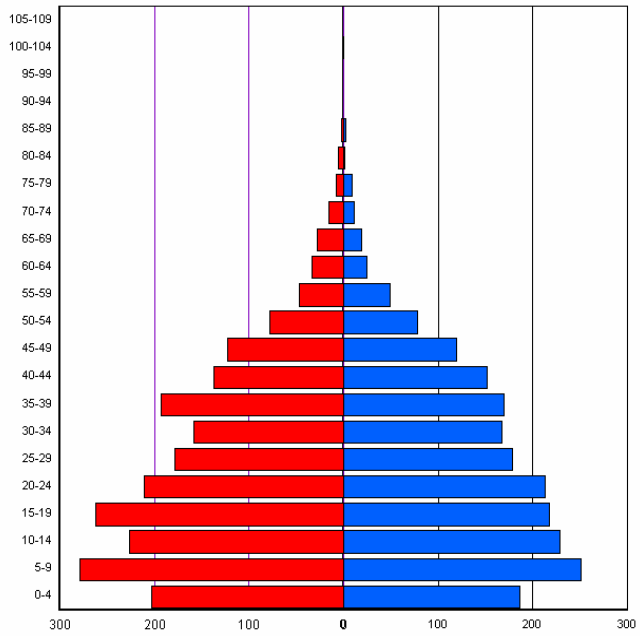
ABCD/E – BRAMS has enlisted onto the ABCD/E project following participation in the ABCD workshops in Darwin in July. Rhonda Cox the ABCD/E project coordinator for WA visited in August the 22 -23 to present to all BRAMS staff an information session on ABCD and what it means. Rhonda then spent the afternoon with Population Health staff to provide more comprehensive training on the ABCD tools and on the website. The data from the paper based audits have been commenced to be placed onto the website. The Adult Health Check audit has been completed and placed on to the website as well as the Systems Assessment Tool.

As of this report, the diabetic audit data is currently being put onto the website.

Population Health

Broome Regional Aboriginal Medical Service (BRAMS) Practice population

BRAMS uses the Ferret patient information and recall system to assist the delivery of client care and organization of health information. The following graphical information has been created using the BRAMS Ferret database, with searches undertaken in October for the 2005/ 2006 financial year period.



Graph 1. BRAMS regular Aboriginal client population.

The BRAMS practice population is considerable with 4270 regular Aboriginal clients, an increase of 856 from the previous year.

A further 1043 Aboriginal casual clients with a Broome address also access BRAMS services.

Furthermore, 1038 regular Non Aboriginal regular clients also access the services.

Over the period 2005 -2006, BRAMS recorded 25,050 episodes of care of which 22,469 accessed services at the clinics, and increase of 9% over the same period last year. A further breakdown of the figures are listed below.

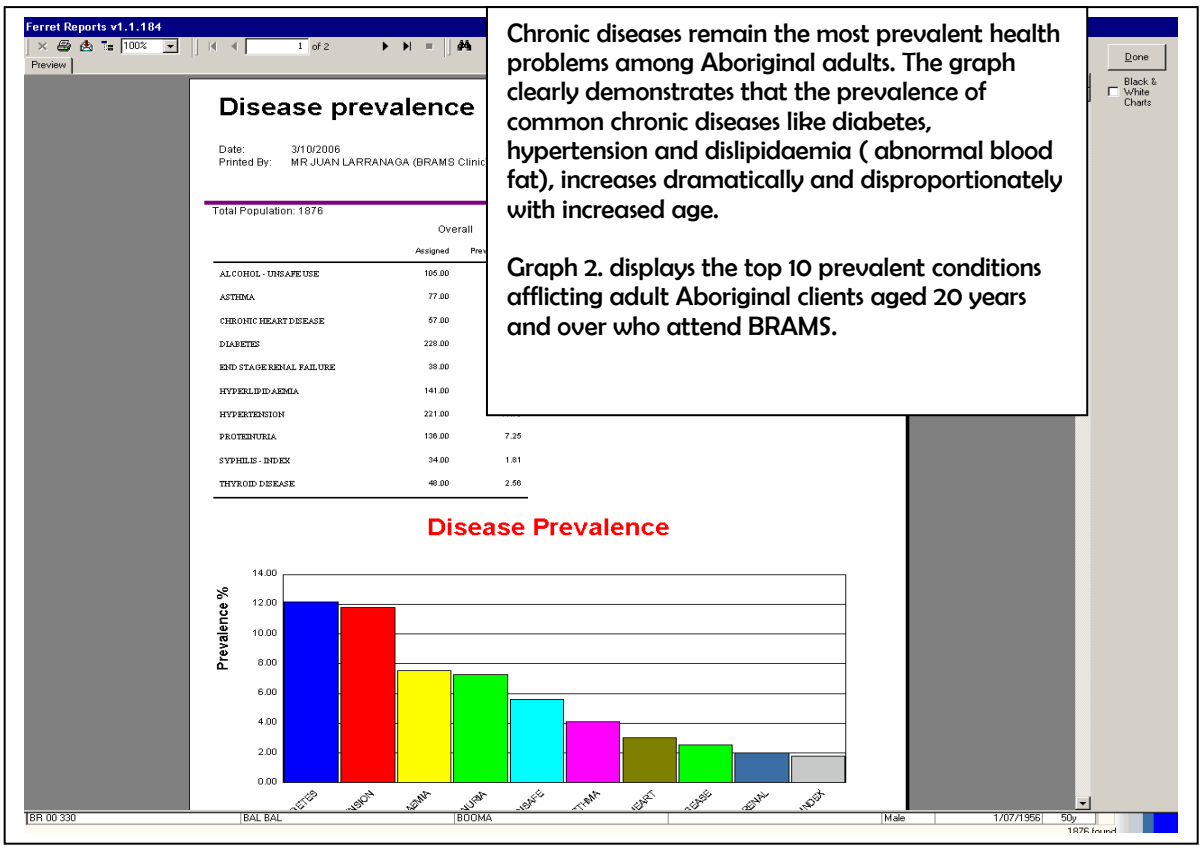
Table 1. BRAMS Staff contacts by worker type:

Provider	Clients Contacts
Medical Officer	14,413
AHW or Nurse	8,867
Visiting specialist	326
Visiting Allied health	828

Disease Prevalence

The Disease prevalence within BRAMS regular adult Aboriginal clients are displayed in the following graphs.

Graph 2. Overall prevalence in regular Aboriginal clients aged 20+



Chronic diseases remain the most prevalent health problems among Aboriginal adults. The graph clearly demonstrates that the prevalence of common chronic diseases like diabetes, hypertension and dislipidaemia (abnormal blood fat), increases dramatically and disproportionately with increased age.

Graph 2. displays the top 10 prevalent conditions afflicting adult Aboriginal clients aged 20 years and over who attend BRAMS.

Table 2 and graph 3 shows the overall prevalence at 20 years or older, and 40 years and older. Note how the prevalence more than doubles in the population over 40 years or older.

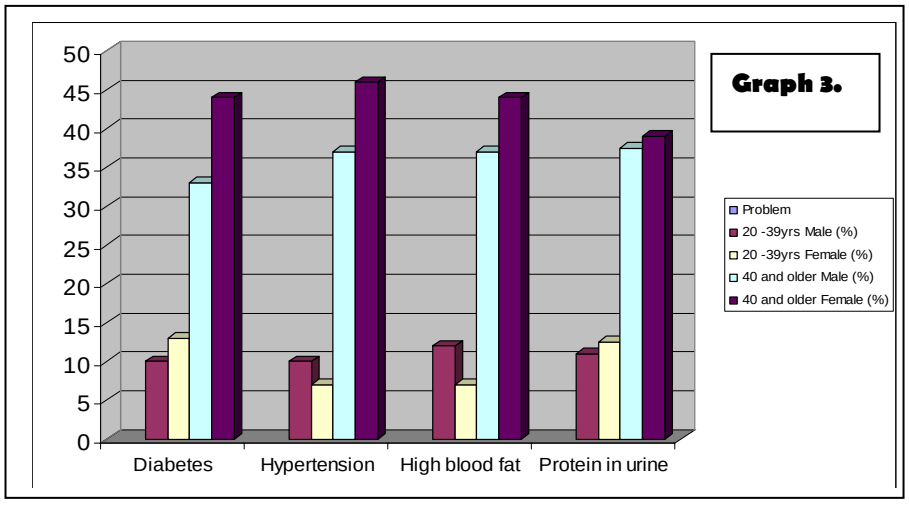


Table 2. Prevalence of Chronic Diseases

Problem	20 -39yrs		40 and older	
	Male (%)	Female (%)	Male (%)	Female (%)
Diabetes	10	13	33	44
Hypertension	10	7	37	46
High blood fat	12	7	37	44
Protein in urine	11	12.5	37.5	39

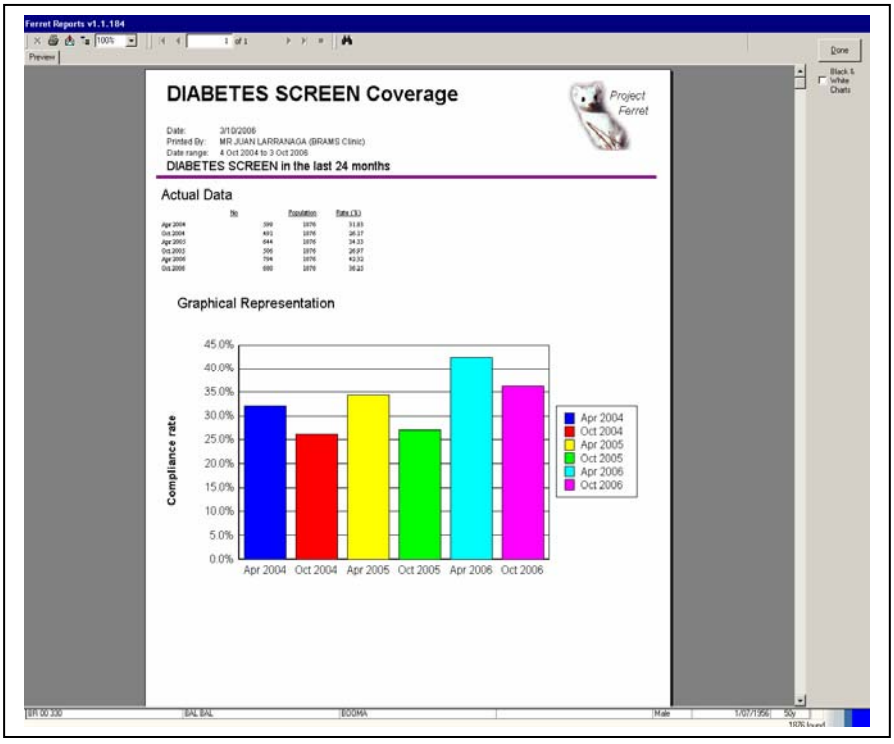
Population Health Activity

Screening for Chronic Disease

BRAMS undertakes population health screening as clients attend the clinic opportunistically and as part of targeted follow ups as clients attend for timely treatments or because they have become significantly overdue for monitoring, review or treatment of their chronic disease.

The prevailing trends in screening rates within the regular Aboriginal clients, remains encouraging, however whilst the coverage is gradually improving, there is still considerable room for improvement. The following graphs demonstrate the level of screening coverage over the last financial year 2005- 2006.

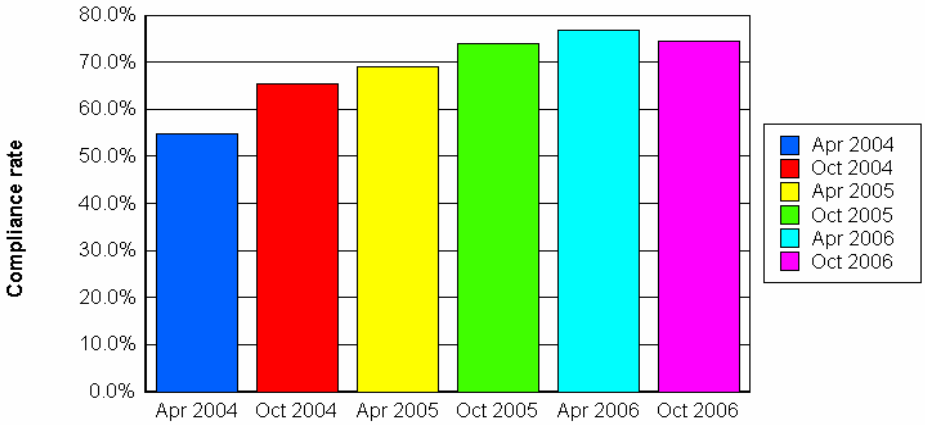
Furthermore, with the increasing size of regular Aboriginal client population as well as increased numbers of regular non Aboriginal population attending BRAMS services for acute care presentations, continues to provide a challenge to staffs ability to provide opportunistic screening. In addition, attaining higher rates of screening is further compounded by the limited clinical space and physical resources available. The proceeding reports provide a snapshot of the extent of screening coverage attained over the 2005 -2006 year when compared to previous years.



Graph 4. Blood sugar (glucose) screening

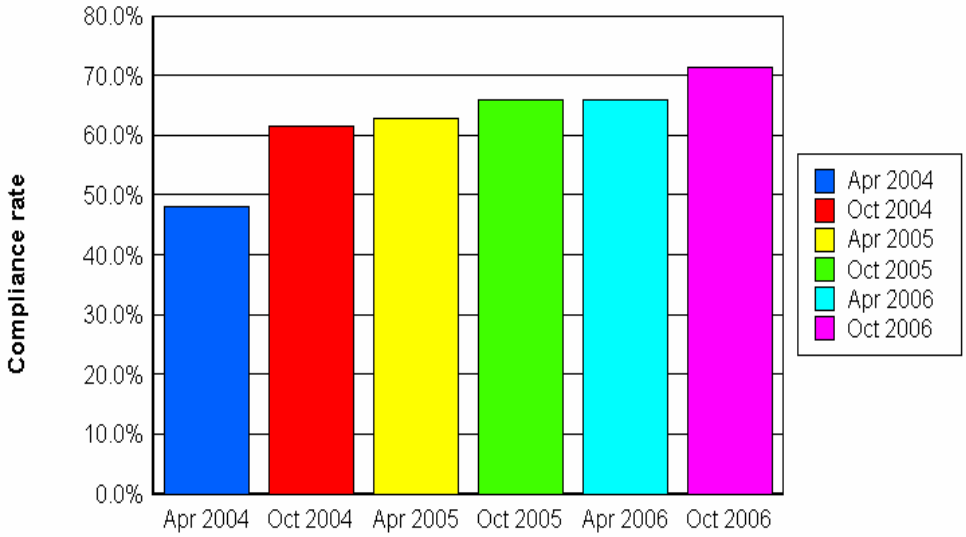
Just over 40% of regular Aboriginal clients aged 20 yrs or older had a screen for diabetes within the last 2 years. Although rates appear to have dropped off over the later months, overall the coverage levels appear to be increasing.

BP Coverage over last 12 months



Graph 5. Blood Pressure screening.
Over 70% of regular Aboriginal clients aged 20+ years are having their blood pressure screened within the last 12 months. A 30% improvement from the same period last year.

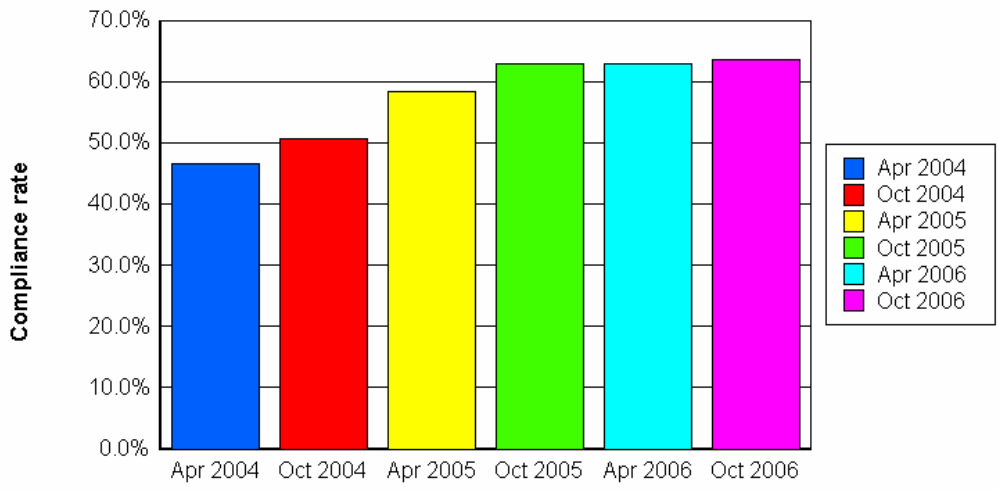
Lipids Coverage over last 12 months



Graph 6. Coverage of screening for high blood (dislipidaemia).
Just over 70% of regular Aboriginal clients aged 20+ have been screened for high blood fat within the past 2 yeas, an overall improvement of 30%.

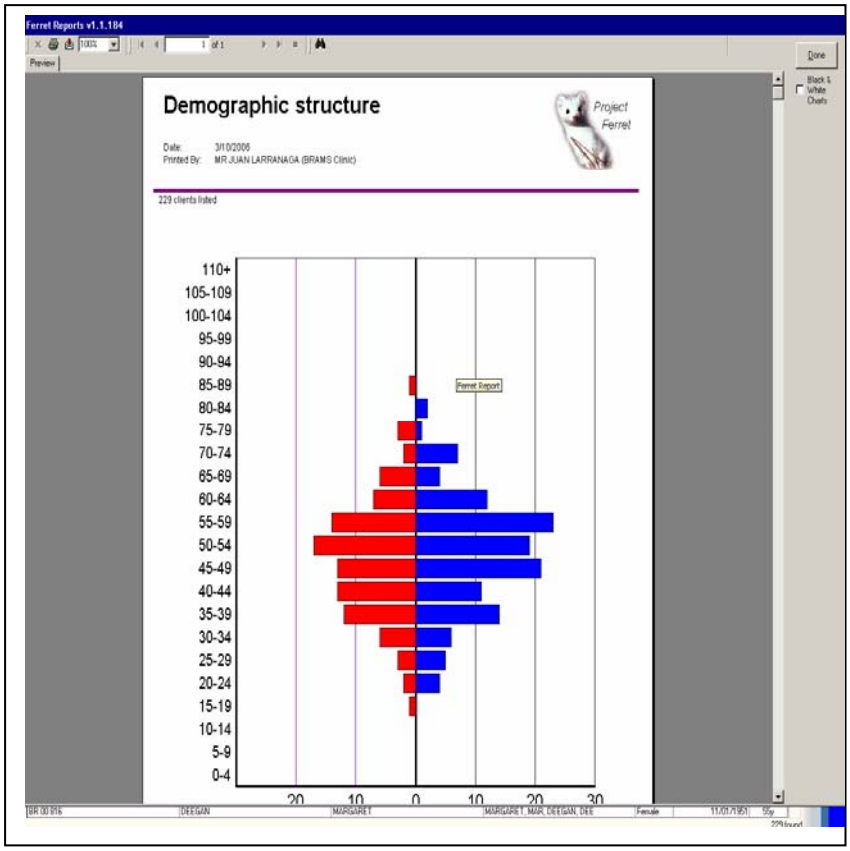
Smoking Coverage over last 12 months

Graph 7. Coverage of screening for smoking.
Just over 60% of regular Aboriginal clients aged 20+ have been screened for smoking as the primary modifiable lifestyle risk factor, within the last 12 months. A total of 701 clients identified have had brief intervention.



Monitoring clients with known health problems

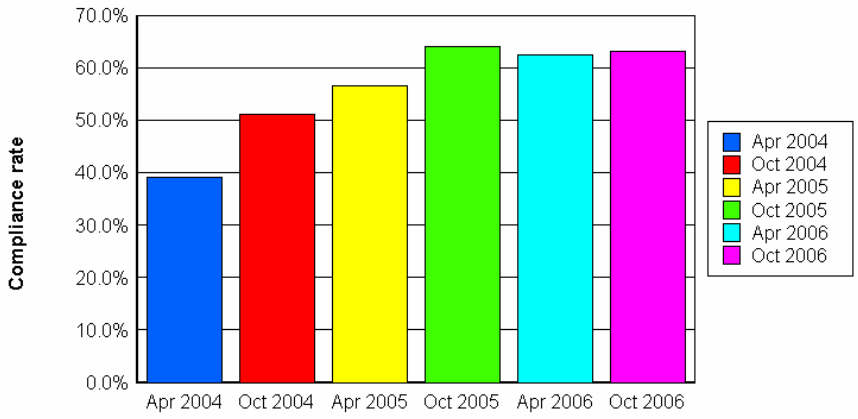
229 regular Aboriginal clients with diabetes have a Broome address, were managed in this period by BRAMS. The following graphs provide demographic details and an overview of the level of coverage of recall and follow up achieved for this chronic disease group during the 2005 -2006 year.



Graph 8. Regular Aboriginal Population with diabetes.(229)

This graph depicts the demographic and gender spread of clients diagnosed with diabetes. As in the previous years, considerable more women than men are diagnosed, indicating an under diagnosis of diabetes in the male population. This is possibly explained by the difficulty with capturing male clients for opportunistic screening.

ACR Coverage over last 12 months (diabetics)

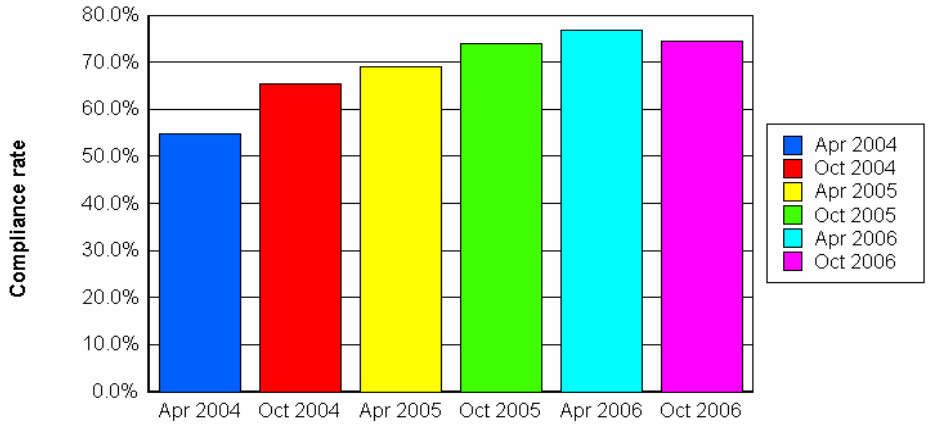


Graph 9. Clients with diabetes with ACR urine tests in last 12 months.

ACR is a simple but effective test which measures the amount of protein in the urine. Protein in the urine can indicate an increased risk for cardiovascular disease and or kidney damage.

Clients with elevated ACR will benefit from ACE inhibitor blood pressure medicine to protect the kidneys from further damage. Over 70% of clients with diabetes have had this screen within the last 12 months.

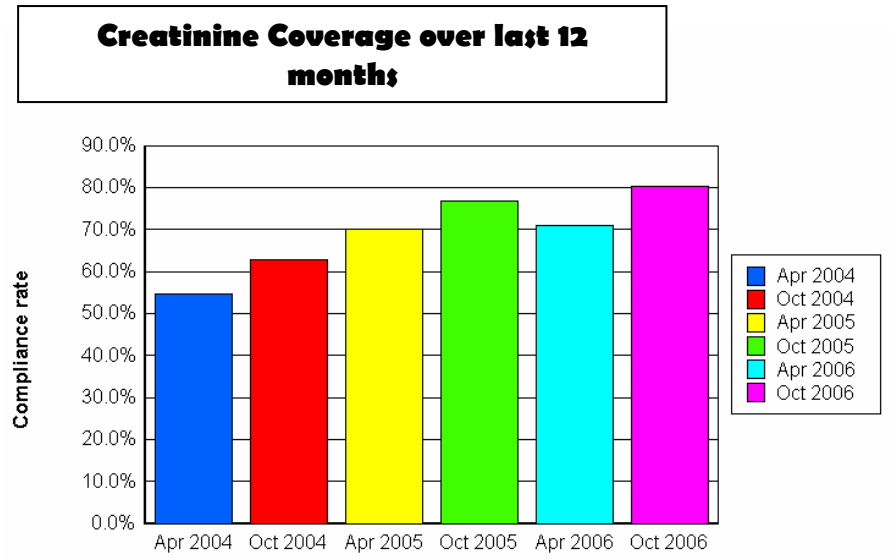
BP Coverage over last 12 months



Graph 10. Clients with diabetes with blood pressure in last 12 months.

ACR is a simple but effective test which measures the amount of protein in the urine. Protein in the urine can indicate an increased risk for cardiovascular disease and or kidney damage.

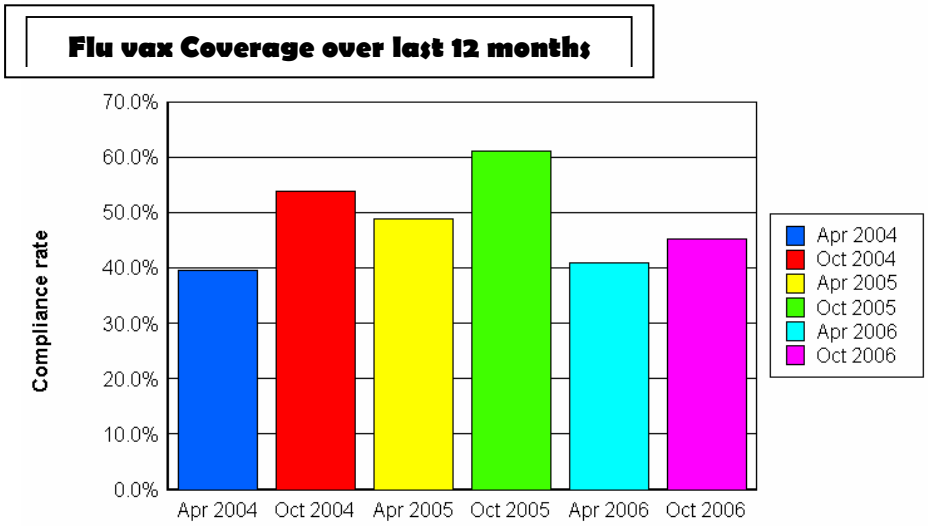
Clients with elevated ACR will benefit from ACE inhibitor blood pressure medicine to protect the kidneys from further damage. Over 70% of clients with diabetes have had this screen within the last 12 months.



Graph 11. Clients with creatinine blood test.

Creatinine levels indicate how well the kidneys are functioning. 80% of clients with diabetes have received this blood test as part of their kidney health check within the last 12 months.

The graphs demonstrate the gradual improvement over the last 2 and half years in relation to prevention of kidney disease in diabetes clients.

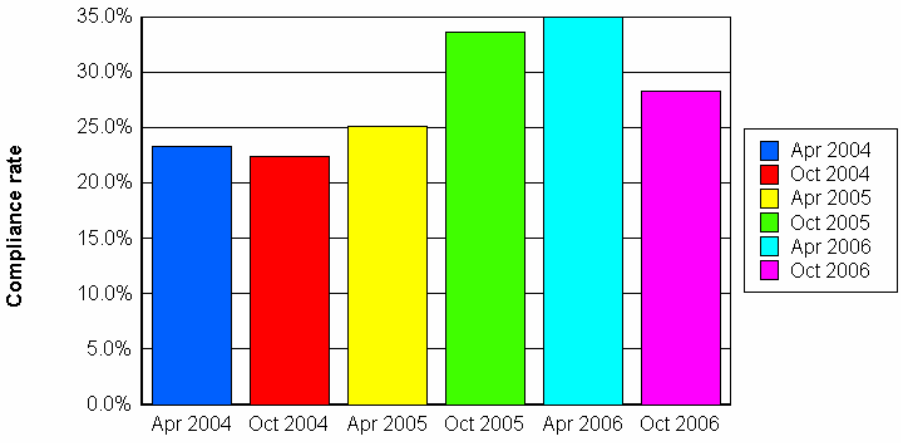


Graph 12. Clients with diabetes and fluvax immunization.

The level of immunization was 45%, a 20% drop when compared to the same period last year.

A more dedicated effort will need to be made to ensure that clients with chronic disease such as those with diabetes are protected during the most vulnerable pandemic months.

Retinal Exams in the last 24 months

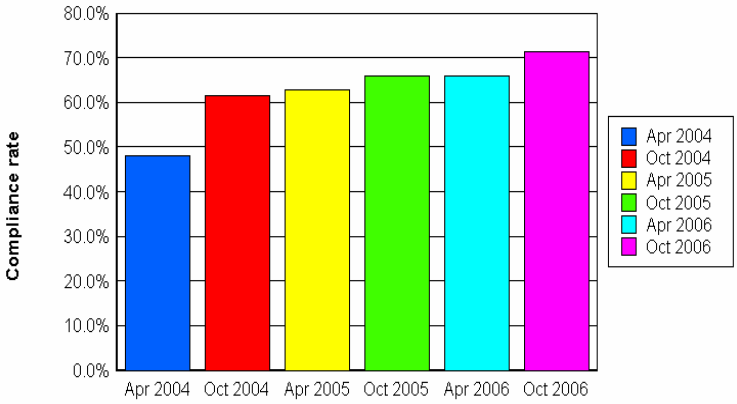


Graph 13. Clients with diabetes who have been screened for diabetic eye disease.

The level of immunization was 28%, a slight drop when compared to the same period last year and from April. This probably reflects the period with staff shortages and the need for program workers to cover the clinic.

A more dedicated effort will need to be made to ensure that clients with chronic disease such as those with diabetes are being monitored for preventable complications and early detection of retinopathy.

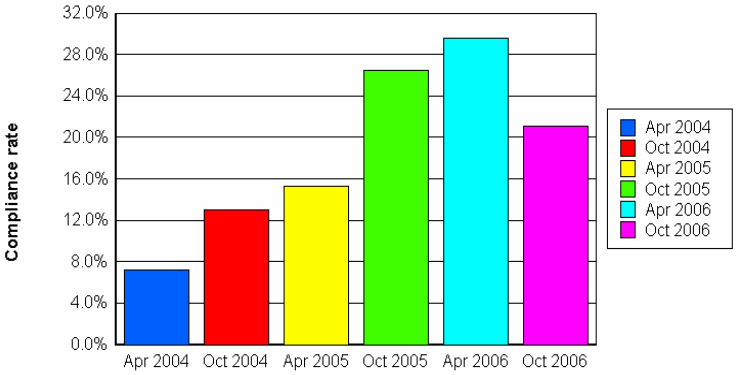
Lipids in the last 24 months



Graph 14. Clients with diabetes with screen for Lipids (blood fat).

Clients with diabetes have increased risk for developing cardiovascular disease and anyone with high blood fats is a t a greater risk for developing coronary artery disease. Controlling body weight and blood fats are more important strategies in the management of diabetes. Over 70% of clients have a lipid (blood fat) review within the last 12 months.

Podiatry care in the last 24 months



Graph 15. Diabetes clients with foot assessment.

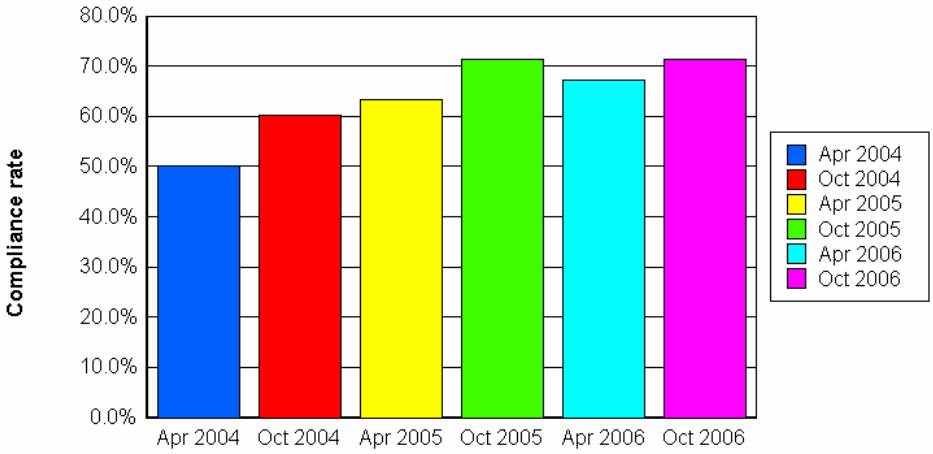
It appears that only 22% of clients have been assessed for diabetic foot care, a fall of 7% from the same period last year. Whilst the prevailing trend still appears to be improving , there is still considerable room for attention in this area. It is anticipated that with better liaison and collaboration from KDGP Podiatry services providing in house training, the numbers will be expected to continue improving.

HbA1C in the last 24 months

Graph 16. Clients with diabetes with HbA1C.

Controlling blood sugar is one of the main aims of diabetes management and central to the prevention of many complications of diabetes.

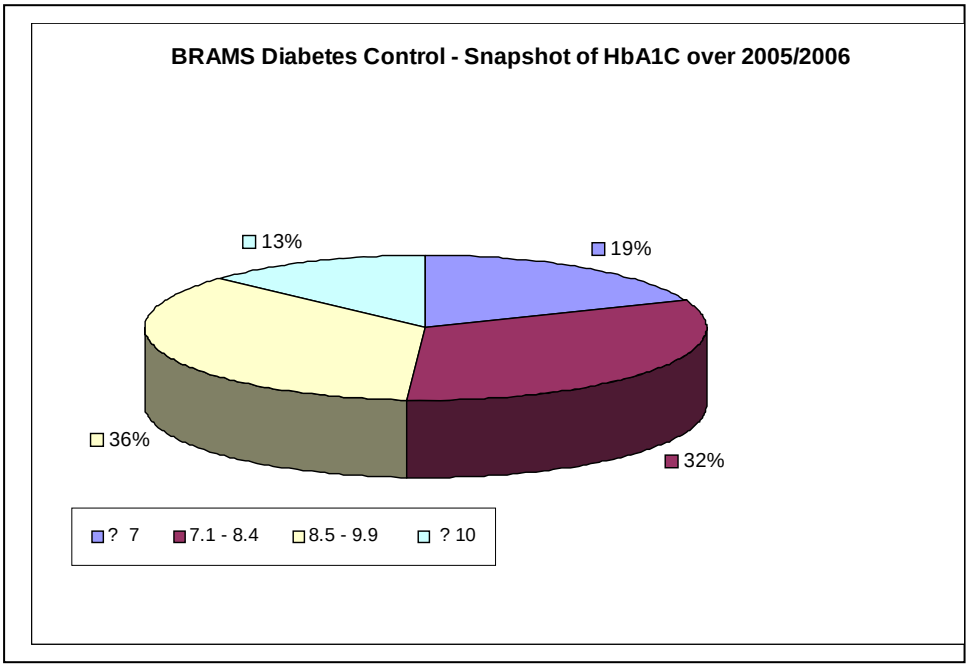
The HbA1C test indicates how well blood sugar has been controlled over the last 3 months. Over 70% of all diabetes clients have received at least one HbA1C within the last 6 months.

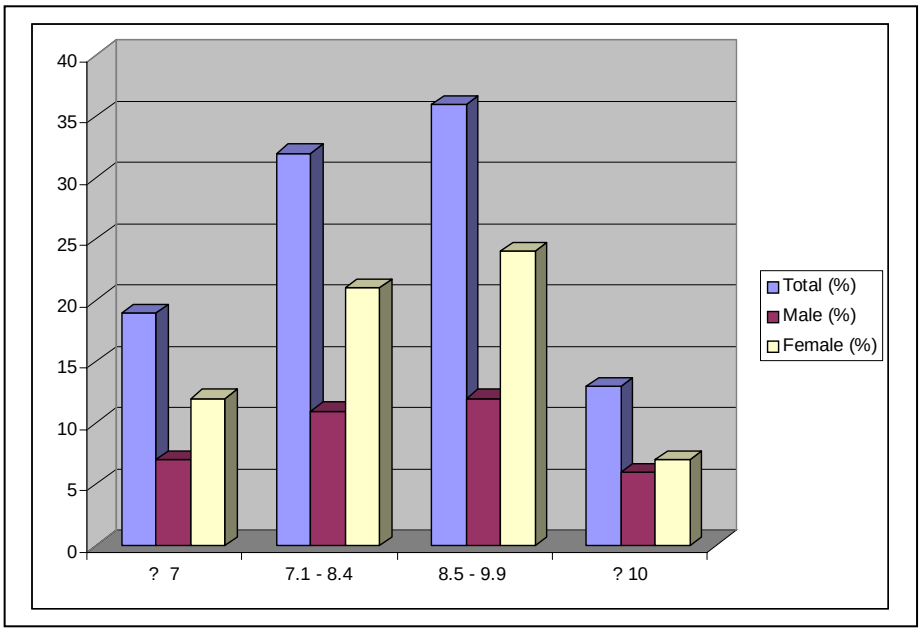


BRAMS register has 229 regular Aboriginal clients who are identified as having diabetes management plans. 19% of clients have registered a HbA1C reading below 7 indicating blood sugars that are well controlled. Those with slightly elevated sugars above 7.1 made up the bulk of the diabetes clients. Grossly out of control sugars were only a smaller proportion of 13%, which by the standards is extremely poor management of their conditions. BRAMS needs to aim to further reduce this number of poorly controlled blood sugars and focus on increasing the proportion of clients in the 7 and below rage, indicating good control of blood sugars and therefore better management of their diabetic condition.

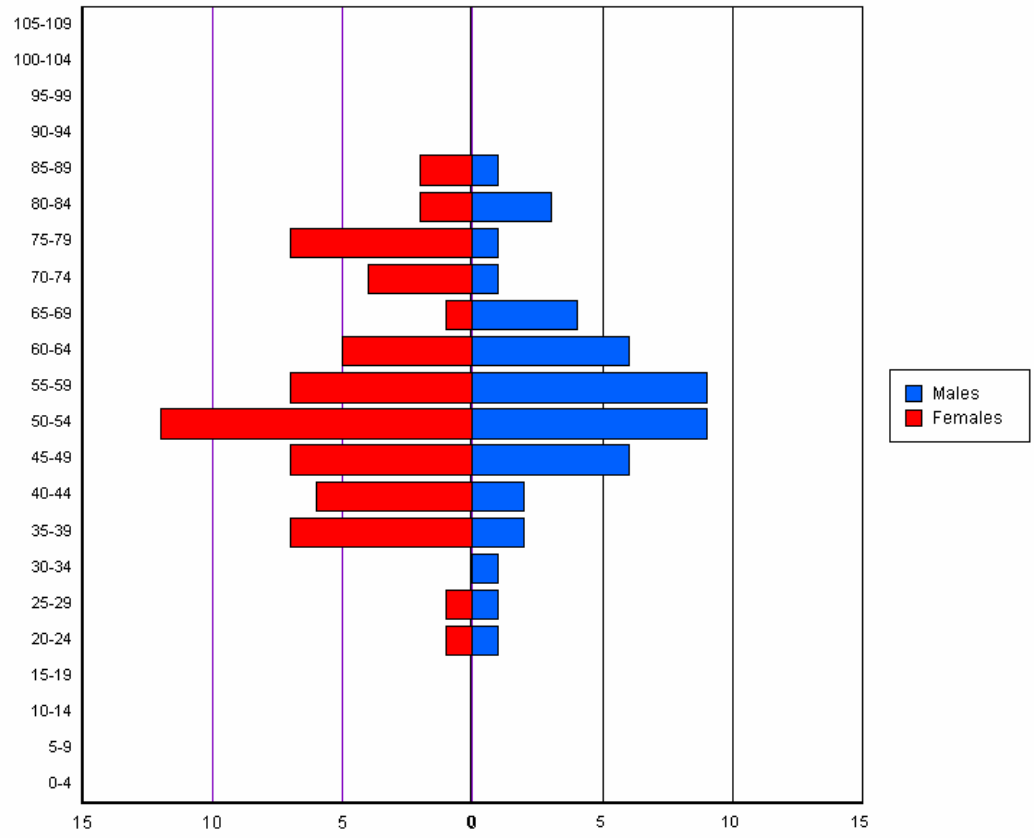
Graph 17. and 18. BRAMS diabetes control – Snapshot of HbA1C.

An audit of BRAMS clients with diabetes to examine the results of HbA1C tests performed over the last 12 months.



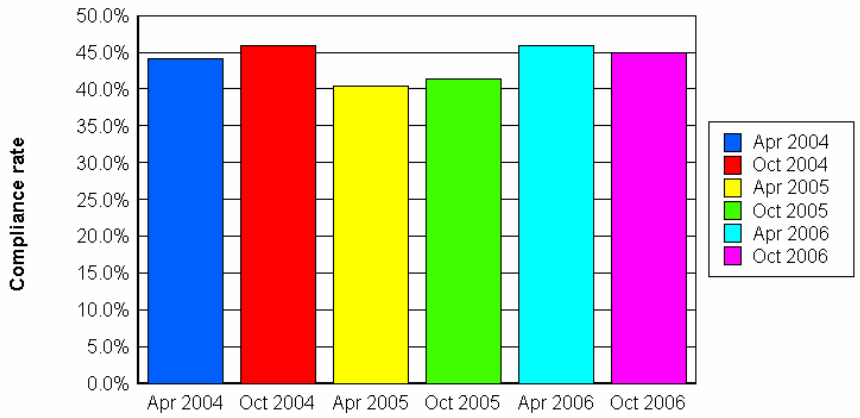


Demographic population of clients with chronic renal impairment (CRI)



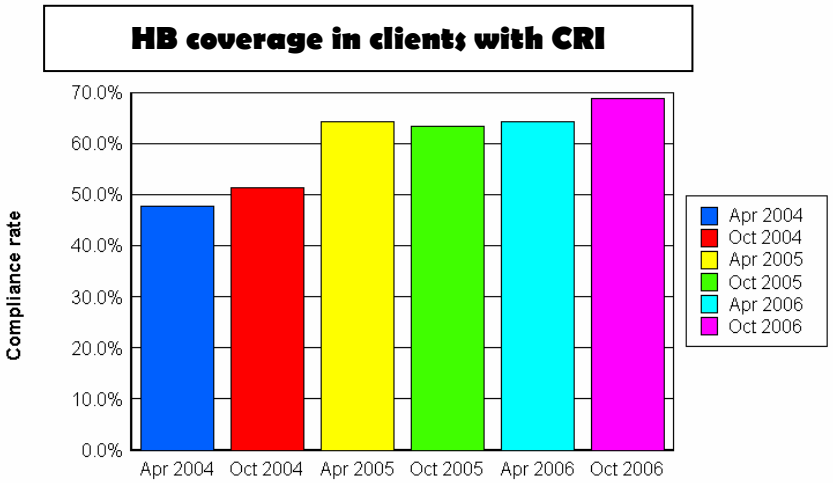
Graph 19. Demographic population of Regular Aboriginal clients with CRI.
109 clients are registered with BRAMS as having chronic Renal impairment with raised creatinine levels of greater than 120 and below 350mmol/L. expected to continue improving.

BP Coverage in clients with CRI over the last 12 months



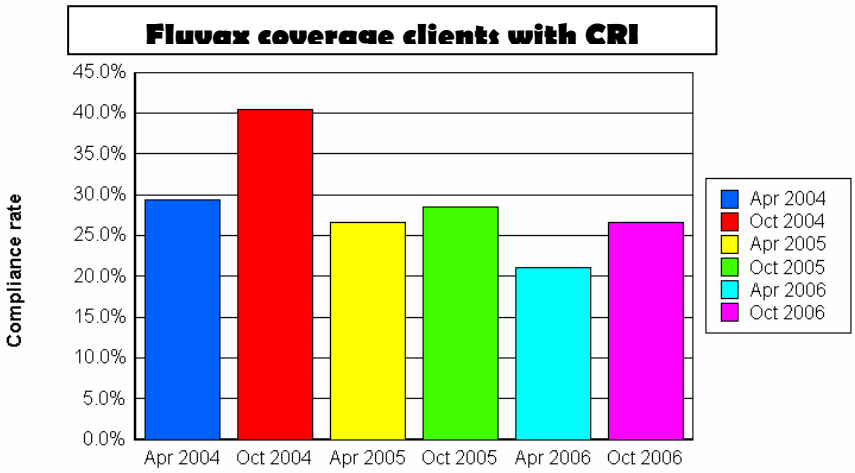
Graph 20. Clients with CRI and coverage of blood pressure check.

All clients with CRI need to have regular BP checks, however while coverage appears to be improving slightly, there is still considerable room for improvement.



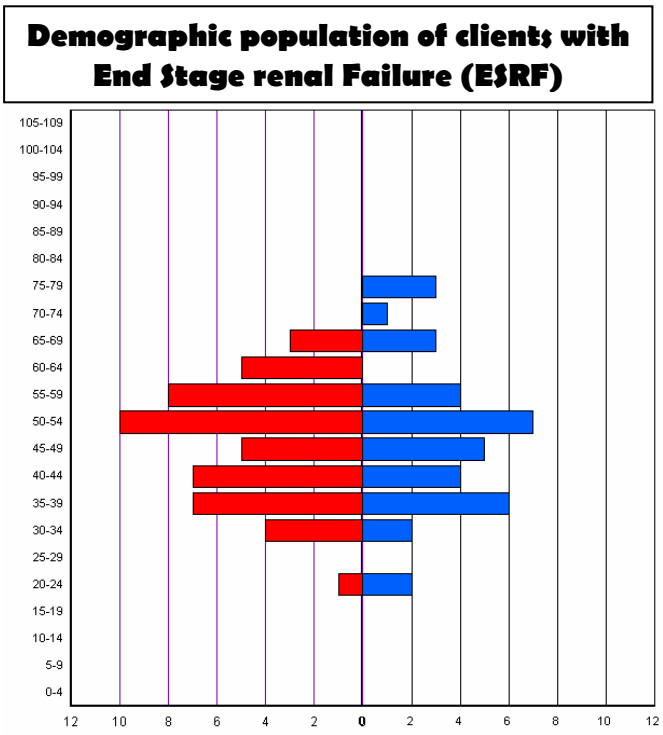
Graph 21. Regular Aboriginal clients with CRI and coverage of haemoglobin .

70% of all clients with CRI are having their Hb levels checked. The levels are consistently being captured and progressively improving.



Graph 22. Regular Aboriginal clients with CRI and fluvax coverage .

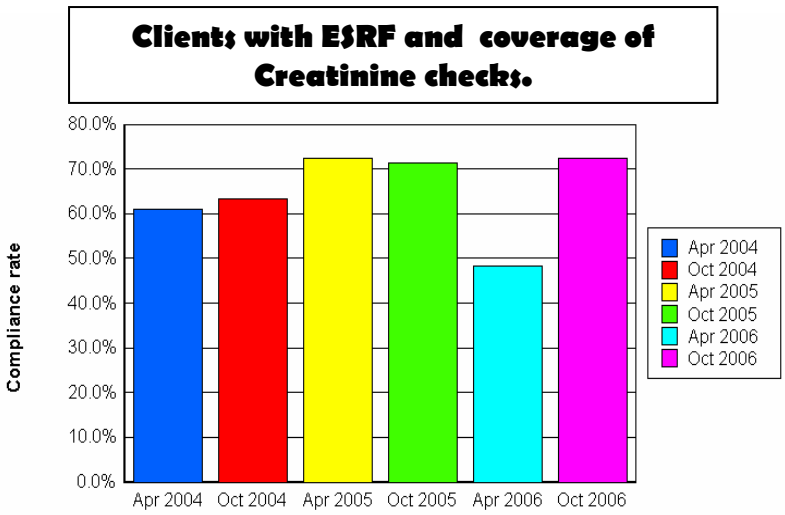
The coverage of fluvax remains poor, however, there is some concern about how the field work data is being captured.



Graph 23. Demographic population of Regular Aboriginal clients with ESRF.

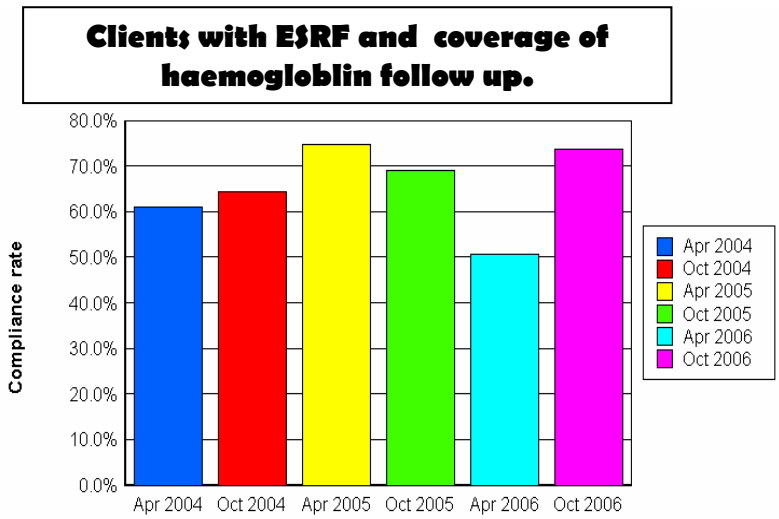
87 clients are registered with BRAMS as having ESRF, indicating that these clients have creatinine levels greater than 350mmol/L and includes clients already on peritoneal or haemodialysis.

A revision of clients known to be dialyzing, or diagnosed with renal problems and elevated creatinine levels is strongly recommended. The following graphs are not depictive and does not realistically capture the extent of service activity directed at these clients.



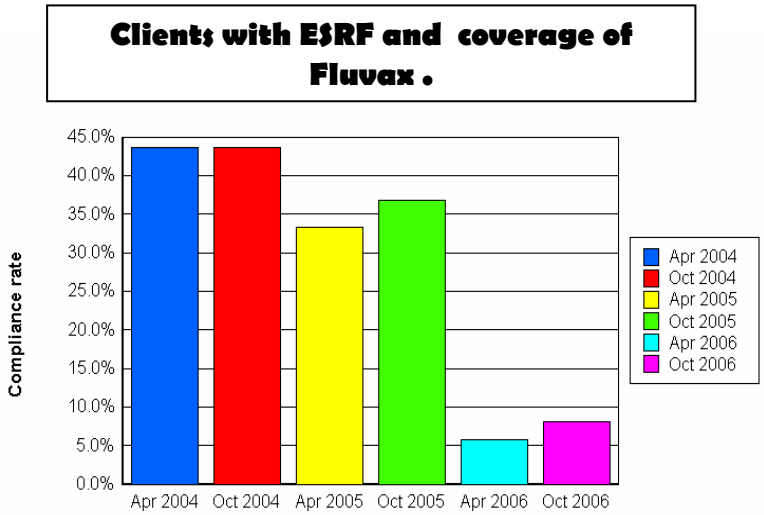
Graph 24. Clients with E$RF and coverage of creatinine checks.

70% of clients with ESRF are having regular monitoring of their creatinine levels. Creatinine levels are an important measure to determine the extent of kidney disease and allows for early identification of worsening disease or complications.



Graph 25. Clients with E$RF and coverage of creatinine checks.

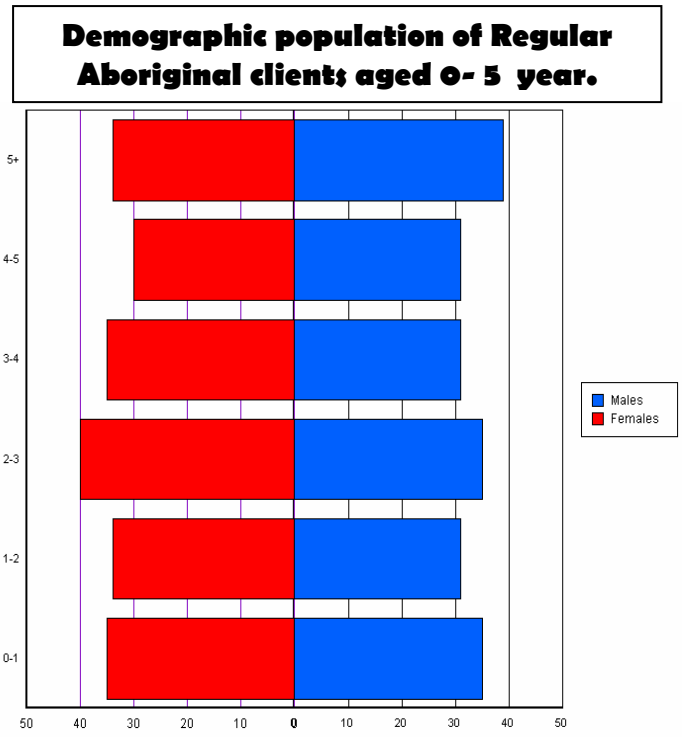
Good consistent monitoring for anaemia



Graph 26. E$RF and coverage of Fluvax.

Lapse of issues with improper data entry or capture most likel;y explains this poor coverage.

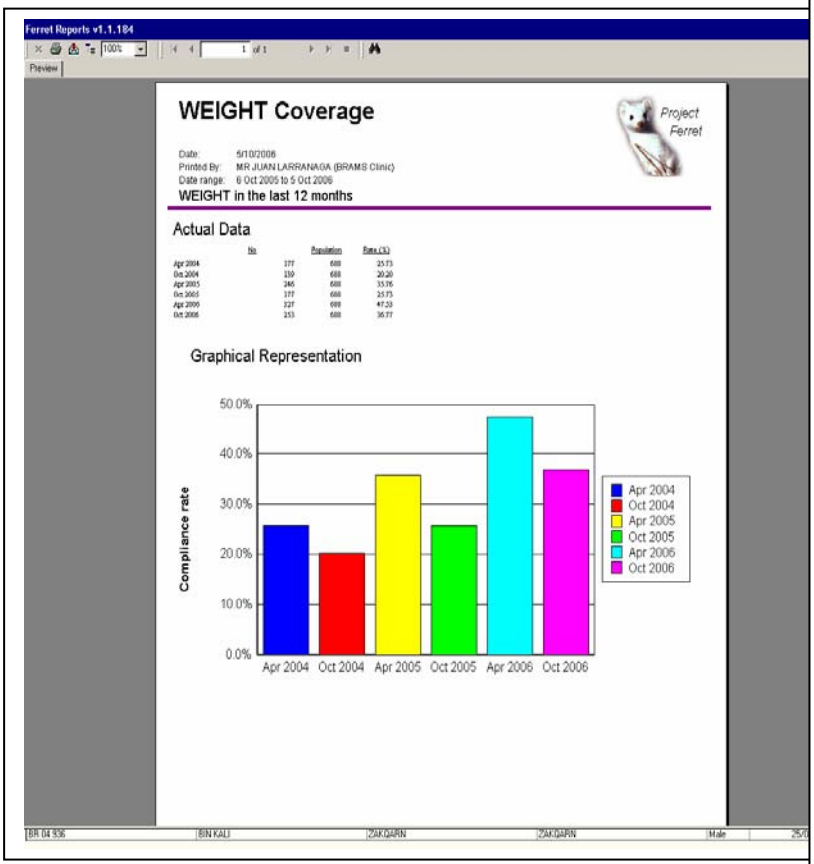
Monitoring of Children 0 -5 years old.



Graph 27. Demographic population of Aboriginal children 0 -5 age group.
BRAMS has 668 regular Aboriginal children in the 0 -5 age group. The adjacent graph demonstrates the demographic spread of these children.

BRAMS has been experiencing considerable difficulties in ascertaining discharge information from the Broome Hospital with regards to children being born to mothers who are regular BRAMS clients. However, considerable progress has been made to address the gap and quality in information flow. BRAMS now participates in the monthly Child and maternal local group which feeds back to the regional steering committee looking at developing regional child and maternal protocals for the Kimberley.

Addressing some of these issues will assist and contribute to capture of improved and more accurate information of children in this group.



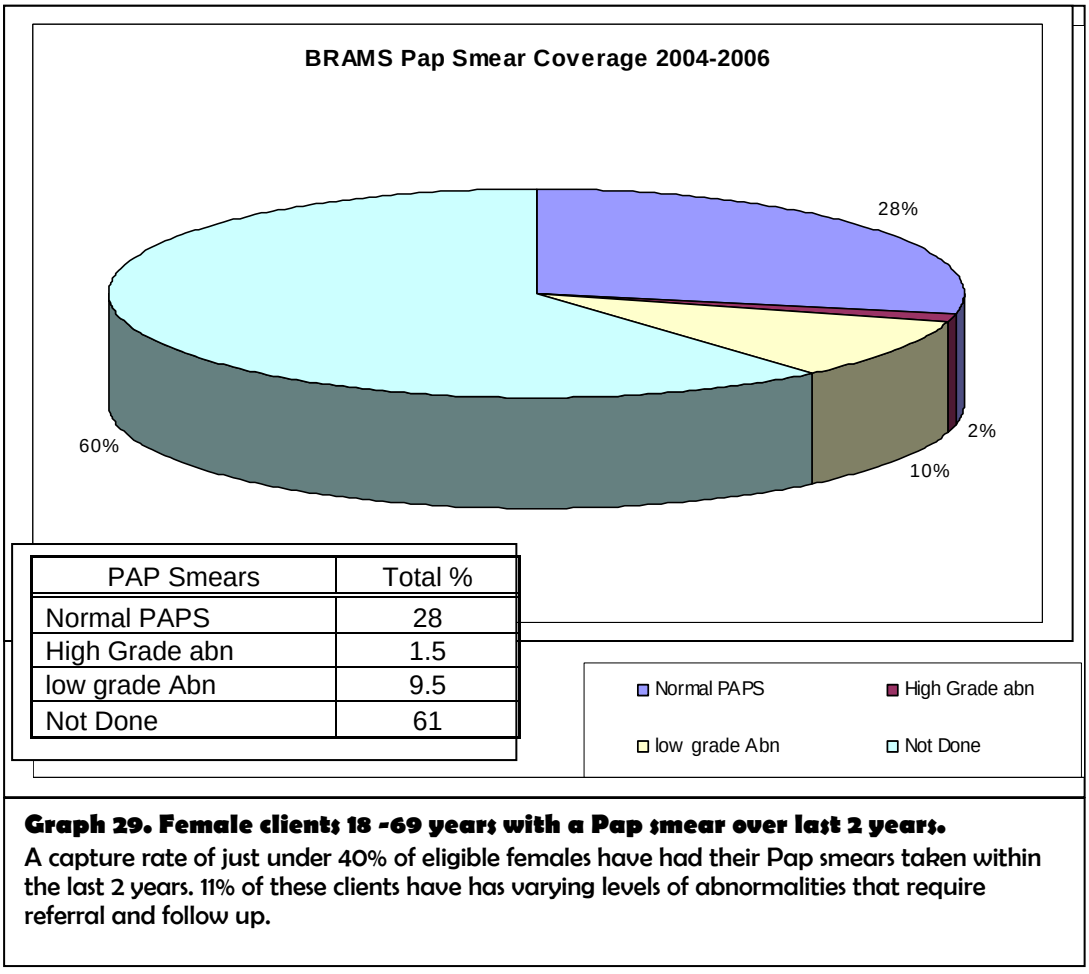
Graph 28. Children 0 -5 years with 1 or more weight assessment within the last 12 months.
Periodic monitoring of child growth and development is prompted through the Ferret recall system. The adjacent graph demonstrates the number of children who have had a weight taken on presentation. B RAMS has .

The graph demonstrates an apparent lack of monitoring of weight and an understanding of the importance of monitoring weight as an indicator of growth. In an attempt to address this area BRAMS, has recently renewed efforts to improve services to children, especially in this age group. With the awarding of funds through "Healthy for Life" and employment of a dedicated AHW to the program, it is anticipated that activity in this area will increase and improve.

BRAMS have acted on identified gaps and those highlighted by a recent audit of child health services in the Kimberley 2005. The recommendations from those audits have been addressed and a greater effort and resources has been directed into this important target group.

Monitoring of Women's Health Issues

The Women's health program is one of the more established programs and the senior health worker responsible for the program works autonomously and is self directed. The capacity of the program has potential for expansion and it is anticipated that with the recruitment of the midwife, the team will work more collaboratively in the area of family planning, sexual health and women's health screening



PAP Smears	Total %
Normal PAPS	28
High Grade abn	1.5
low grade Abn	9.5
Not Done	61

Graph 29. Female clients 18 -69 years with a Pap smear over last 2 years.
A capture rate of just under 40% of eligible females have had their Pap smears taken within the last 2 years. 11% of these clients have has varying levels of abnormalities that require referral and follow up.

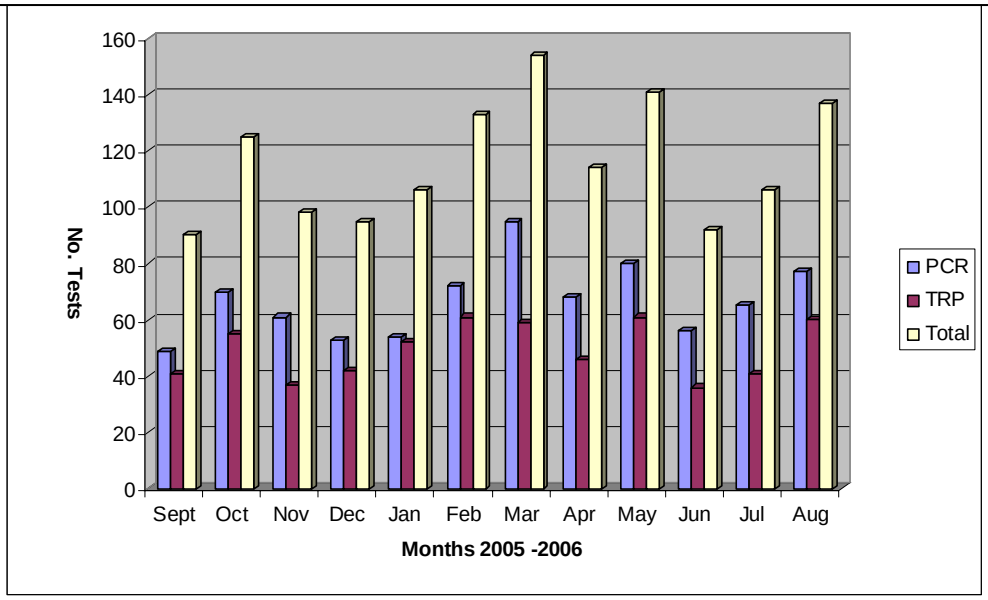
Currently, the register for clients on implanon and depo ravera is urgently being updated. The Cervical Cytology register is also currently being updated and the list of outstanding pap smears remains quite long. However, with the growing maternal health team the plan is to provide training to the midwife position to allow her to become a pap smear provider and assist with the women's health program. The available data for the last year is not complete and does not give an accurate reflection of the work carried out within this program. At present the women's health program remains a one person show and links in with the doctor assigned to the women's health program. It is anticipated that once the additional AHW's are recruited for H4L that there will be some room for expansion

Monitoring and management of Sexually Transmitted infections (STI's)

BRAMS works in close liaison and collaboration with Kimberley Public Health unit in the management, control of STI's in the Kimberley, in particular Broome clients. BRAMS has representatives on the Sexual health network meetings and participates in the regional STI group meetings facilitating good communication to allow for more efficient management of communicable infections and blood borne viruses.

Graph 30. Number of STI's tested for by month over the last 12 months.

On average BRAMS performs approximately between 100- 120 STI screens per month with PCR for Chlamydia and gonorrhea being the bulk of the tests at 50 -60 per month and Syphilis being tested for approximately 50 per month.



TEST	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
PCR	49	70	61	53	54	72	95	68	80	56	65	77	800
TRP	41	55	37	42	52	61	59	46	61	36	41	60	591
Total	90	125	98	95	106	133	154	114	141	92	106	137	1391

Appendix C: Population Health Monthly Program report June-July 2006

Population Health Monthly Report
Month: June - July 2006

Team:	Position:
Juan Larranaga	Population Health Coordinator
Raylene McKenna	Women's Health HW
Carolyn Newman	Maternal Health midwife (H4L)
Patricia Lawford	Child Health HW
Vacant to be recruited	Child Health HW (H4L) ???
Vacant to be recruited	Child Health Nurse (H4L)
John Wright	Men's Health HW
Selena Helwend	Chronic Disease HW
Vacant to be recruited	Chronic Disease HW
Maryanne Clements	Chronic Disease (Renal) HW
Vacant to be recruited	Chronic Disease HW (H4L)
Vacant to be recruited	Chronic Disease HW (H4L)

Prior to commencing my position as Population Health Coordinator, the position had been unfilled for a number of months and unfortunately some of the systems that had been in place previously had become a little neglected. Since commencing, the program plans have been re introduced. Furthermore, I commenced the position during an exciting period whereby BRAMS have been progressing an application and Action plans to commence involvement in the "Healthy for Life" (H4L) project.

On arrival I discovered that a midwife had recently been employed to commence the maternal health program, but as no program definition had been developed, there was little guidance for with to work against. A health worker had also been assigned to work with child health and similar to the maternal health, the Child and Maternal Health programs lacked direction and coordination.

In an attempt to rebuild the team Bi weekly team meetings were commenced – Monday and Fridays. The purpose of the Monday meeting was to obtain a wrap up and inform each other of what would be happening over the week for each program area and this is an opportunity to report on how each program was going. Any new issues/ business are discussed and documented and actions for follow up are noted. All meetings have a set agenda and the minutes are distributed to all staff and Senior managers. Weekly work log planners and activity sheets are distributed during this time. These work planners and activity sheets have been used in the past and now have been re introduced with some modifications to develop a mechanism with which to accurately report back on program activity.

The Friday afternoon meeting is an opportunity meet with staff to see how the week evolved, wrap up on activities and report any new developments and to plan for ensuing new week.

Current Activities / Programs work

Chronic Disease

The program has been experiencing a considerable amount of difficulty due to absence of staff. At present only one of two designated program workers is currently in place with the other position vacant firstly due to illness and since June has become permanently vacant. Funding for "Healthy for Life" is anticipated soon and the proposed care plan presented to OATSIH by BRAMS will incorporate the creation of two additional chronic disease health worker positions this financial year and possible another to follow in the following year.

Chronic Register Recall: The recall sheets are generated week to week and great emphasis is being placed on following up Diabetes clients on medication regimen with grossly overdue health worker and medical review. Tuesday has been designated the Diabetes clinic day and the health worker arranges for diabetes to attend preferably on the Tuesday. Tuesday the health worker based out of the clinic will capture opportunistically other chronic disease clients presenting to the clinic for other matters regarding their health. Despite limited staffing, and obligations to other areas of the program, considerable progress has been achieved in capturing numerous over due chronic disease clients.

Well Person's Check: A new degree of emphasis has been placed to explore all possible avenues to encourage more Well Person's checks. This program has combined the program workers for Chronic disease, Women and male health. As part of the recall work sheet generated for the month, a number of clients at risk as well as client currently on the chronic disease register are recalled and invitations are sent out and followed up. The capture rate has been slow on the uptake and difficult at present as only one health worker for the program area is available and she has also the responsibility of conducting all retinal screen referrals and recalls, the home visit program for community aged clients at risk. Despite the heavy workload, there has been a number of those clients invited who have attended and been screened.

Home Visits: The home visit program has been re established and the home visits are scheduled for Wednesday and Friday. As a result of the home visit program two clients have been identified at risk and medical home visit has been coordinated to review medical management and to refer to other services. One client will be assessed by ACAT for consideration for permanent placement.

Good collaboration has been initiated between Aged Care services, Disability Services Commission and Southern Cross. BRAMS is actively now involved in the fortnightly Combined Aged Care services meeting as well the occasional case conferences as required.

Home Visits: The Renal Health worker is currently positioned with the Kimberley Satellite Dialysis Centre(KSDC). The role of the position is currently being discussed with senior management regarding bringing the position under the umbrella of Chronic Disease in an attempt to give the role working with Home dialysis and pre renal clients are more definitive line of management and guidance.

ACTION: 1. Advertise and recruit vacant Chronic disease AHW position

2. Await confirmation of H4L funding to advertise and recruit additional 2 chronic disease AHW positions.

3. Complete program definition for Chronic Diseases

4. Explore mechanisms to encourage more Adult Health checks.
5. Review Renal AHW JDF and incorporate into Chronic disease program.

Maternal Health

BRAMS has recently recruited a community midwife to oversee the maternal health program focusing on developing an antenatal program. The program consisted of opportunistic care of antenates presenting to the clinic. The antenatal program commenced in this haphazard fashion since the end of May 2006.

The first impressions identified a need for a more systematic approach to the maternal health program and discussions were commenced with the midwife to examine how this could evolve. It was evident that BRAMS did not have a standard Antenatal care plan and the Ferret Patient Information System did not incorporate a complete care plan. It was agreed that a care plan specific to BRAMS needed development and processes were commenced to develop an appropriate care plan suiting the needs of our clientele. Consultations included BRAMS medical staff, KAMSC, midwives from Broome Health Services and the community midwife from Kimberley Population Health unit. A particular emphasis focused on an area to document key Brief education interventions such as tobacco, drugs and alcohol use and nutrition. The care plan has since finalized and endorsed by BRAMS committee and has been in use since 1st July 2006.

Antenatal Register: Although the Ferret PIS is a useful tool for recall system of overdue visits, it was difficult to visualize and plan when to recall clients for timely appointments. The following phase involved development of an Antenatal register and wall planner. The register listed all antenatal clients and is a useful tool to plan for client visits. The wall planner was commenced in middle of June and currently has 31 registered clients presenting for antenatal care at BRAMS. Due to the increase in workload that the register has generated, the Wednesday antenatal clinic has been extended from half a day to a full day.

Occasions of Service: For the month of July there have been 32 presentations for timely antenatal checks, 8 new antenates have attended BRAMS with only 2 clients not presenting within the first trimester for their first presentation. 5 new babies born in July and only 1 baby weighing below 2500grams (born pre- term). There have been 14 “Did not Attend” which have required home visits to follow up.

The ABCD audit as part of the H4L on antenatal health identified many areas needed for improvement; one recommendation has been to improve communication and information sharing with the hospital. Particular focus has involved identifying methods to improve information sharing regarding hospital separations / discharges. Good communication channels have since been developed with the hospital and a communication box has been set up on the ward that is checked frequently by the midwife. Information on separations has improved considerable; however, there still appears to be considerable room for improvement.

BRAMS has now been invited and involved in the intra- agency monthly Child Maternal health Local group which has discussed issues such as improving the mechanisms for information sharing and case management.

With the register now established and up and running the program has commenced to work more efficiently and this has increased awareness in the community of the comprehensive

antenatal service that is been delivered at BRAMS. Consequently, the recent figures, although still premature it appears that more women are now choosing to attend BRAMS for their care.

ACTION: 1. Continue inter agency collaboration
2. Continue to monitor communication issues
3. Complete program definition for Maternal Health

Child Health

BRAMS has successfully been awarded funding from OATSIH for *"Healthy for Life"* (H4L) and an Action Plan for the funding submission has been developed. The Action Plan have been developed to address gaps in the child health service provision based on the ABCD audits of Child health services conducted earlier in May 2006. In addition, the Evaluation of Primary health care service delivery to children in the 0-5 year age also identified numerous service delivery gaps relative to BRAMS. These gaps identified from both audits have formed the foundation of the capacity building program for BRAMS to improve its child health service delivery.

Prior to (H4L) there was a senior health worker assigned to the child health and a part time children's nurse based out the clinic. The program focused on targeting all children presenting to the clinic. The service was predominantly focused on clinical service delivery and no recall system was in place. The only resemblance of a recall was for clients needing to see the child health nurse from KPHU who operated a half day child Health clinic every Thursday from 0830 to 1100am. This service was predominantly focused on the Kimberley childhood immunization program. The child health nurse would fax through a list of clients needing immunization, and BRAMS field officers were responsible for trying to encourage the child and parent to attend. The service provision although worked well, it still did not capture children potentially at risk and those needing close attention and catch up immunizations remained at risk.

0-2 Planner: Based on the recommendations from both the KPHU and H4L audits a more systematic approach to the child health program is urgently needed. Initial discussions were commenced in late June involving the doctor and health worker assigned to the Child Health program. It was agreed and noted that an improved method for recalling clients was required especially considering that with the present format many children at risk were not being identified. A number of systems were examined and discussed and an attempt to maintain some standardization of programs across all agencies government and non government across the Kimberley.

Based on current level of staffing (1 health worker) and experience, a wall planner was developed to target all children in the 0-2 year ages group only. Ferret PIS was used to populate the wall planner with the names of all children in the Broome area. After cross checking all names on the recall list, a total of 70 children have been added and follow up was commenced. The Kimberley Health 0-5 Protocols have been implemented to maintain consistency across all agencies.

Occasions of Service: The implementation of the wall planner has facilitated a more efficient and effective use of the visiting child health services. In the past the dedicated clinic achieved limited and inconsistent presentations, of which most were for immunizations. At present the clinic is averaging between 7 – 11 clients per clinic. More importantly, with dissemination of information about BRAMS current service delivery and as a direct result of the 0-2 program

parents and children are now presenting for developmental checks. Improved collaboration and communication networks between Broome Community Health and BRAMS, the number of children due for health surveillance and immunizations have dramatically increased.

22 -25 children per week are currently being recalled for basic measurements, doctor follow ups and for Thursday clinics.

Tympanometery and audiometric surveillance is now routine component of child health program and the health worker averages between 5-7 checks per week. The service now incorporates a home visiting service to children highly at risk and to ensure greater compliance with follow up by specialist services.

BRAMS has now been invited and involved in the intra- agency monthly Child Maternal health Local group which has discussed issues such as improving the mechanisms for information sharing and case management.

With the register now established and up and running the program has commenced to work more efficiently and this has increased awareness in the community of the comprehensive child health service that is been delivered at BRAMS. Consequently, the recent figures, although still premature it appears that more children and families are now choosing to attend BRAMS for their care and the Thursday clinic is being monitored to consider possible expansion to one whole day.

As part of H4L the proposal is to recruit a qualified specialist child health nurse which will assist with the ability of BRAMS to better target the 0-5 population and this will enable to work in collaboration with KPHU to place greater emphasis on health promotion. The job description for the Child health was completed in mid July 2006 and the program definition and policy are currently under development. However, the position will not be advertised and filled until these program definition and policy documents are in place and formally endorsed by the BRAMS committee and CEO. Furthermore, careful consideration will need to be taken in relation to where the position will be located. Space in the current facility is extremely limiting, and BRAMS needs to be conscious that we have all the systems in place to ensure that when the position is recruited and filled that workable systems have been modified to ensure realistic expectations of what is to be achieved and by when.

ACTION:
1. Continue inter agency collaboration
2. Continue to monitor communication issues
3. Complete program definition for Child Health
4. Recruit Child health nurse
5. Expand program to incorporate 3-5

Women's Health

The Women's health program is one of the more established programs and the senior health worker responsible for the program works autonomously and is self directed. The capacity of the program has potential for expansion and it is anticipated that with the recruitment of the midwife, the team will work more collaboratively in the area of family planning, sexual health and women's health screening. The program has five key components –

1) Sexually transmitted infections which requires contact tracing and referrals,
2) Women's health surveillance for breast cancer, cervical cytology (Pap Smears),
3) Rheumatic heart fever female clients,
4) Family planning recall(implanon, Depo prevera) and
5) School and young peoples sexual Health promotion .

The women's health clinic is conducted on Thursday and the numbers vary depending regardless of the number of invitations sent out. New incentives are currently being discussed to explore ways of capturing overdue pap smears.

Currently, the register for clients on implanon and depo ravera is urgently being updated. The Cervical Cytology register is also currently being updated and the list of outstanding pap smears remains quite long. However, with the growing maternal health team the plan is to provide training to the midwife position to allow her to become a pap smear provider and assist with the women's health program. At present the women's health program remains a one person show and links in with the doctor assigned to the women's health program. It is anticipated that once the additional AHW's are recruited for H4L that there will be some room for expansion. Furthermore, the position has been complicated by the unexpected extended sick leave taken by the Male health program worker who was also assisting with the updating and reviewing the STI program. This meant that the Women's health AHW needed to also cover the STI contact referrals and organize clinic staff to follow up appropriately.

Occasions of Service:
The figures vary from day to day and can depend on the number of recalls presenting to the clinic and the number of clients required to be recalled for contact tracing.

ACTION: 1. Continue to examine ways of supporting program
2. Recruit Health workers to support program
3. Collaborate with KAMSC Health Promotion to work on initiatives to attract women for well Women's checks
4. Needs greater emphasis on Adult health Checks / Well Person's Checks.

Male Health

The Male health program is one of the more established programs, however is quite limited in its role and the program needs greater role clarification. The capacity of the program has potential for expansion and it is anticipated that with the recruitment of the more health workers through H4L, the team will work more collaboratively in the area of Adult health checks, sexual health and male health screening.

The program has four key components –

1) Sexually transmitted infections which requires contact tracing and referrals,
2) Assist with male Chronic disease clients
3) Rheumatic heart fever female clients,
4) Young peoples sexual Health promotion .

The male health clinic is conducted on Wednesday evening and the numbers vary depending regardless of the number of invitations sent out. New incentives are currently being discussed top explore ways of capturing male clients to attend for well persons checks.

The Service provision to Broome Men's Outreach (BMO) has been postponed for some months now due to difficulty with staff availability. Discussions at the senior managers meeting in 19th July looked at the possibility of sending the Male health worker to recommence service and act as the link between the Outreach clients and the clinic. The plan was then discussed with BMO manager and she agreed that the service was desperately needed and that the visit by a health worker would be highly beneficial. The plan would then be for the health worker to visit on a weekly basis and as well as screen clients with needs to look at providing a referral service to BRAMS or identifying clients in need for medical management / review.

Unfortunately since then 10th July the Male health program health worker has taken extended leave due to unexpected injury. BRAMS has experienced some difficulty in trying to back fill the position. It is anticipated that the position will be filled before the end of August. In the meantime, the program has been covered in part by various sectors. The STI referrals have been coordinated through the Women's health, the chronic disease and RHD clients through the clinic by the field officers.

ACTION: 1. Continue to examine ways of supporting program
2. Recruit Health workers to support program
3. Collaborate with KAMSC Health Promotion to work on initiatives to attract males to well person's checks.
4. Recommence close links with Broome's Men's Outreach service

Linkages / Partnerships

Broome Health Service:

Better communication networks are being explored and tested especially in relation to improve the sharing of patient information between the hospital and BRAMS. In particular, a special focus on receiving timely information of hospital separations and discharge summaries of antenatal/ postnatal and children.

Extensive networking and liaising has been conducted by the midwife and the mechanism currently in place is starting to improve the level of communication between services and ensuring improved and more complete client information. However, still many issues remain and the information is needing constant reinforcement.

KPHU/ Broome Community Health:

The maternal Child Health team is now involved in the local child Maternal health group and the meetings are held on a monthly basis. The group is part of the 2005 KPHU audit that recommended improved intra agency collaboration. The regular meetings is an ideal forum for all agencies to explore better ways of linking in, sharing resources and ensuring that all services complement each other.

The Thursday child health clinic now has improved procedures for ensuring that the visit from the Child Health nurse is adequately utilized. In addition, the sharing of information as a result of the wall planners has enabled a greater number of children being captured.

KPHU Health promotion unit was recently involved in a collaborative health promotion initiative targeting antenatal and female clients. BRAMS together with KPHU health promotion

officer held a healthy cooking demonstration. The objective of the day was to demonstrate an easy no fuss preparation of high iron and nutritious soup and a simple fruit salad with yogurt. This was also a good opportunity for BRAMS to promote other positive health initiatives being delivered by other agencies and available to BRAMS clients.

Bran Nue Dae:
BRAMS has now become involved in the fortnightly Community Aged Care services meeting. Since commencing in July, it was noted that many of BRAMS client receiving home visits by Chronic disease workers, were also receiving HACC services from Southern Cross out of Bran Nue Dae. The initial discussions revolved about how to better service these clients while avoiding unnecessary duplication.

Since July BRAMS has been invited to all case conferences involving clients serviced by BRAMS and the improved communication between BND and BRAMS has improved and ensured a more holistic care and timely management of client conditions.

KAMSC:
Improved liaising has between BRAMS Health Promotion and the Population Health Unit. Regular meetings have been held to explore ways that both agencies can work collaboratively in health promotion projects. The Jalygur Guwan NAIDOC day celebrations was a good example.

Staff Development/ Training/ Conferences

- Australian Hearing Training (Kalgoolie) – Selena and Patricia, Kalgoolie
- Breast Cancer Foundation(Perth) – Raylene
- ABCD (Darwin) – Carolyn and Juan

All professional development and training information for each employee is recorded in staff files. However, there is no other accessible process with which to track what training has been attended by staff etc. It would be beneficial for line managers to develop a register of standard training and professional development essential to each individual programs field of work. In addition it would serve as an effective tool to see which staff members have attended what. The proposal will be to develop a staff development/ training register.

ACTION: 1. Develop a register for staff development and training.

Clinical Audit results
Diabetic BRAMS

Sample
BRAMS has 206 people recorded as having diabetes. A sample size of 30 clients was randomly selected for the clinical audit. The ABCD DIABETES only Vascular and Metabolic Syndrome Clinical Audit form (February 2006) was used for the audit.

General Information

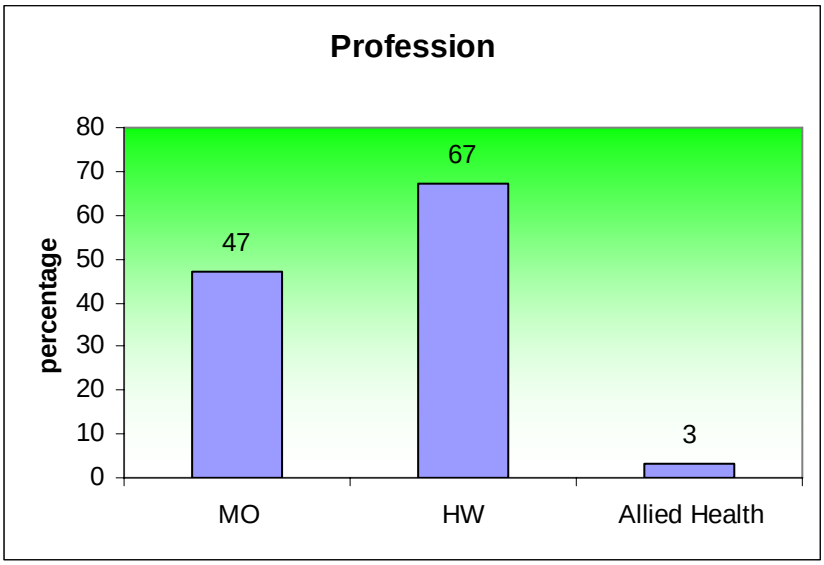
30 clients – 19 (63%) female; 11 (37%) male
Average age 48 years

Date of diagnosis of diabetes known in 27 (90%) of clients.

Date of last attendance

2006	24 (80%
2005	4 (13%)
2002	1 (3%)
1999	1 (3%)

Clients seen by
Some clients were seen by more than one practitioner
MO – 14 (47%)
HW – 20 (67%)
Allied Health – 1 (3%)



Record of unsuccessful follow-up

Yes – 1 (3%)

No – 29 (97%)

Record of co-morbidities, risk factors and complication
Smoking status

Smoker	12 (40%)
Non-smoker	13 (43%)
Ex-smoker	5 (17%)
Not stated	0

Alcohol misuse
12 (40%) of diabetics drink at unsafe levels as recorded in Medical Record.

6 or 50% of these clients are recorded on Ferret at drinking at safe levels

Record of Obesity (that is a BMI > 30)

9 (30%) clients had a recorded BMI of > 30 in Medical Record
0 recorded on Ferret (BMI is not one of the processes on Ferret)

Care plans on Ferret vs Medical Record findings

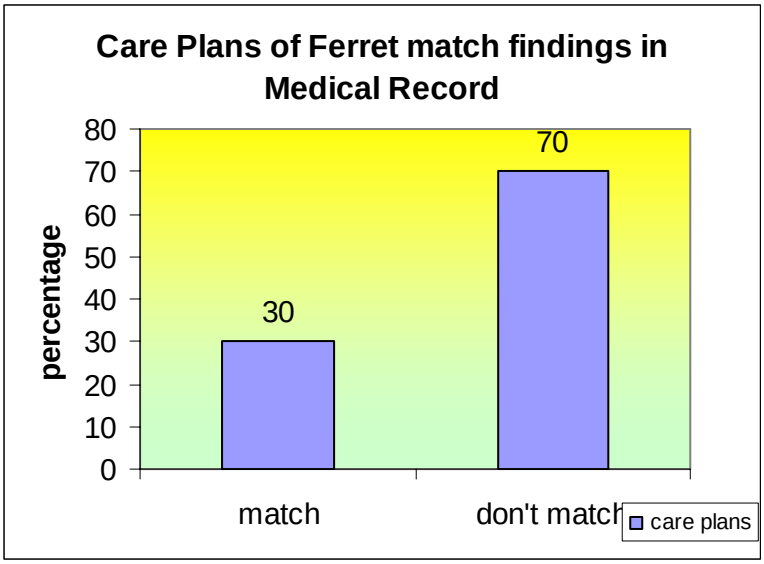
9 (30%) of clients care plans on F match findings in MR
21 (70%) clients care plans do not

2 clients are on Alcohol Unsafe use care plans on Ferret, status recorded as 'safe drinker' under results.

? for clients with retinopathy, neuropathy or amputation – no specific care plans is follow-up through user defined.

No mental health (depression) care plan on F

7 (23%) clients are on Asthma care plan on Ferret



Current Care plans / management plans

26 (87%) have care plans in MR – of these 21 (81%) had clinical goals or self management goals recorded
4 (13%) do not have care plan in MR
100% of clients have care plan on ferret

Hospital admissions in the last 12 months
There were 13 (43%)admissions to hospital recorded in MR. Of these 7 (54%) were related to diabetes, 6 or (46%) were for other reasons.

Documentation of scheduled services

Average weight of clients audited = 84.5kg

	MR	**F**
Blood pressure (within last 6mths)	**29 (97%)**	**1 on F but not in MR**

Waist circumference (within last 6 mths)
17 (57%) on MR and 21 (70%) had record on Ferret
4 clients had WC recorded on F but not in MR

BMI (within 12 mths)
8 (27%) had BMI recorded in MR; 0 on F

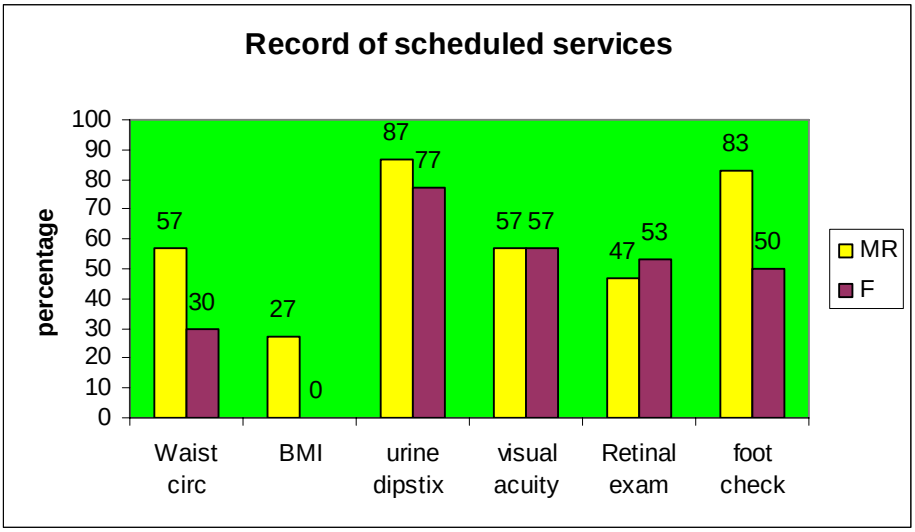
Urine Dipstix (within 12mths)
26 (87%) clients had urine dipstix result recorded within the last 12 months on MR and 23 (77%) had urine recorded on Ferret.
4 had urine results recorded on F which were not in MR

Visual Acuity (within 12 mths)
17 (57%) had VA recorded in MR
17 (57%) had VA recorded on F
However they were not the same 17 clients – **5 had VA recorded on F which were not in the MR**

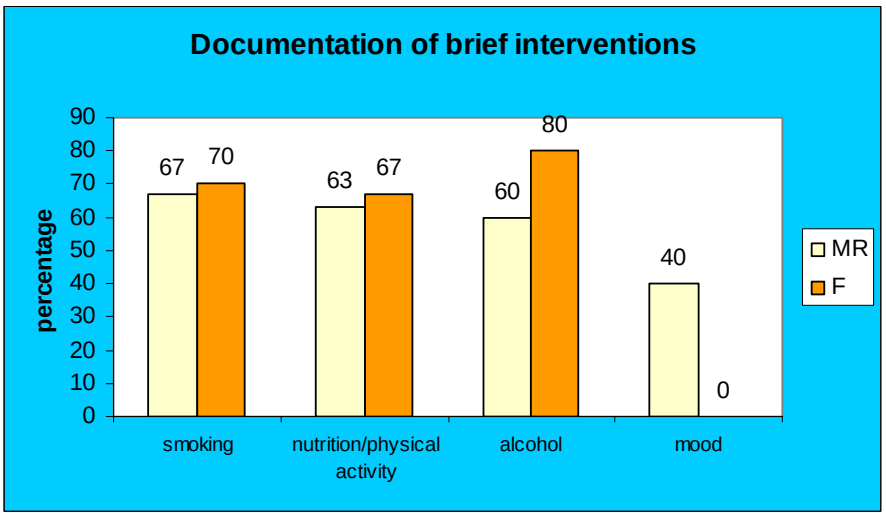
Retinal examination, dilated eye check, ophthalmologist, retinal camera or optometrist (within 24mths)

14 clients (47%) had this process completed in MR
16 (53%) recorded on F
6 clients had recorded on F, but not in MR

Feet check (check done, within 12 mths)
25 (83%) clients had a foot check documented in MR
15 (50%) had a record on F
of the 25 clients who had a foot check, 13 (52%) had Sensation, Peripheral pulses and Pressure areas documented

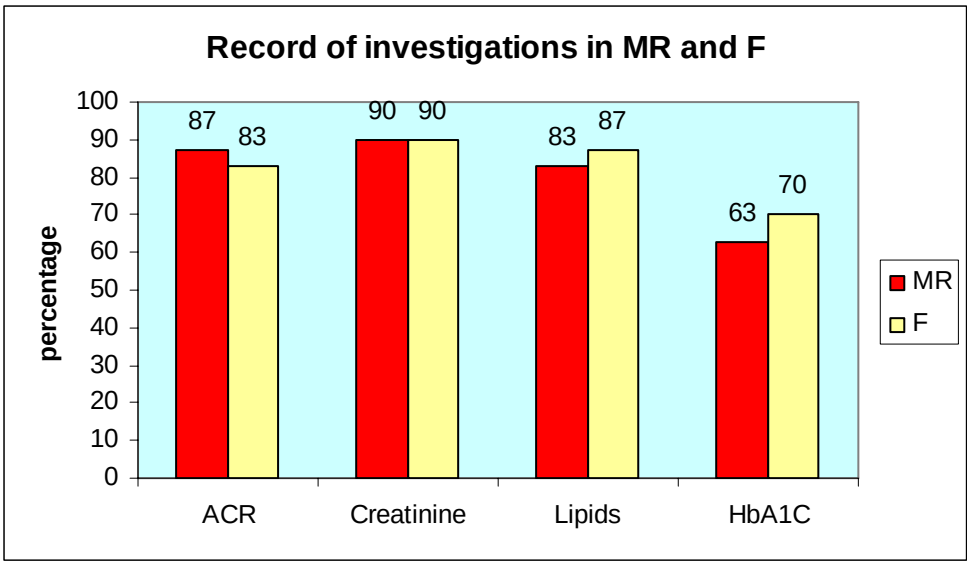


Brief interventions



Record of Investigations

All within the last 12 months except for HbA1C which is within 6 months
Note – HbA1C (19 or 63%)



Follow-up of abnormal clinical findings

- **Blood Pressure ≥ 130/80**

41 recorded abnormal BP.
27 (66%) were followed up
16 (39%) had not been followed up in the 2 weeks immediately prior to the audit being conducted.
8 (30%) clients had their medication adjusted (from the MR)

- **HbA1c ≥ 7%**

31 recorded abnormal HbA1c
20 (67%) clients had HbA1c ≥ 7%
8 (27%) clients had HbA1c ≤ 7%
2 had no record

Recommendations / findings

1. Difference of information found in MR vs F
2. Add BMI, High Risk foot care plan to Ferret
3. Mechanism for updating care plans on Ferret
4. Care plans on F for clients with retinopathy, neuropathy, amputation, depression
5. Medication information taken from Medication chart on Medical file
6. Why height on some F care plans and not on others

Appendix E: AHC Clinical audit results BRAMS 2006

Clinical audit results
AHC (15-55year) Health Check BRAMS

Sample

Population search on Ferret identified 1914 people in this age group. Clients with chronic disease (n = 311) was subtracted making 1603 clients eligible for an AHC.

A random sample of 30 clients were selected for auditing. Of the 30 clients 11 (eleven) 37% had not attended BRAMS in the past 2 years who were excluded. This left a sample size of 19 (nineteen). The ABCD Preventative Services Clinical audit form (October 2005) was used.

Ferret states 11% of the eligible 15-55 year olds have had an AHC in the past 2 years.

General Information

The sample was made up of 6 (32%) males and 13 (68%) female.

15 (79%) had a Medicare number present on the medical file.

Reason for last attendance

Chronic Care	0
Acute Care	12 (63%)
Mental Health	0
Immunisation	0
Antenatal Care	1 (15%)
Sexual Health	1 (15%)
Other	5 (27%)

Clients seen by

11 (58%) had a recurrent medical condition

19 (100%) had no record of unsuccessful follow-up

16 (84%) had AHC form (710) present.

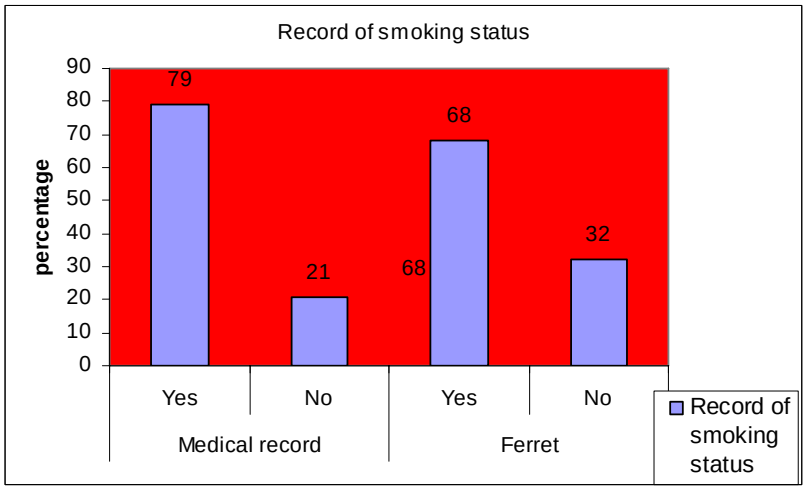
Smoking status

Smoker	10 (53%)
Non-smoker	4 (21%)
Ex-smoker	0
Not stated	5 (26%)

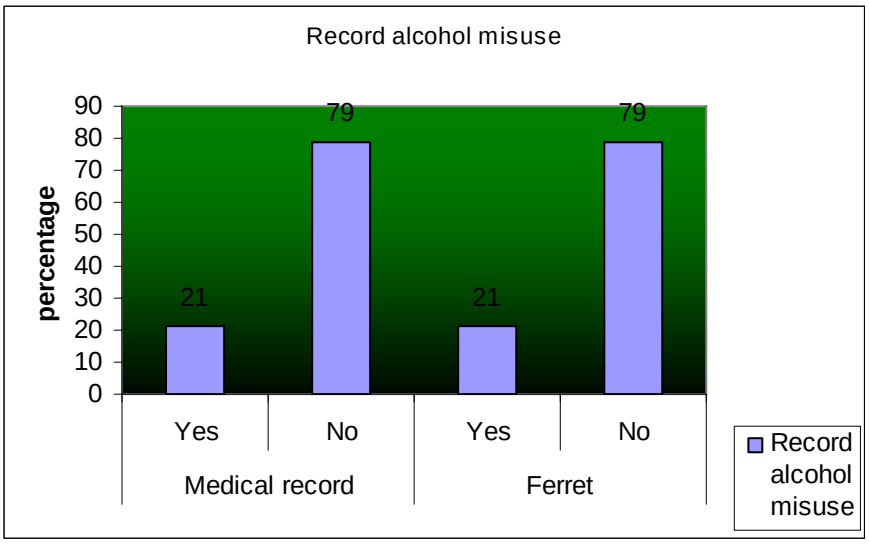
Smoking status recorded

15 recorded in Medical Record Vs 13 on Ferret

1 person had recorded in MR that he was a smoker and on F as non smoker

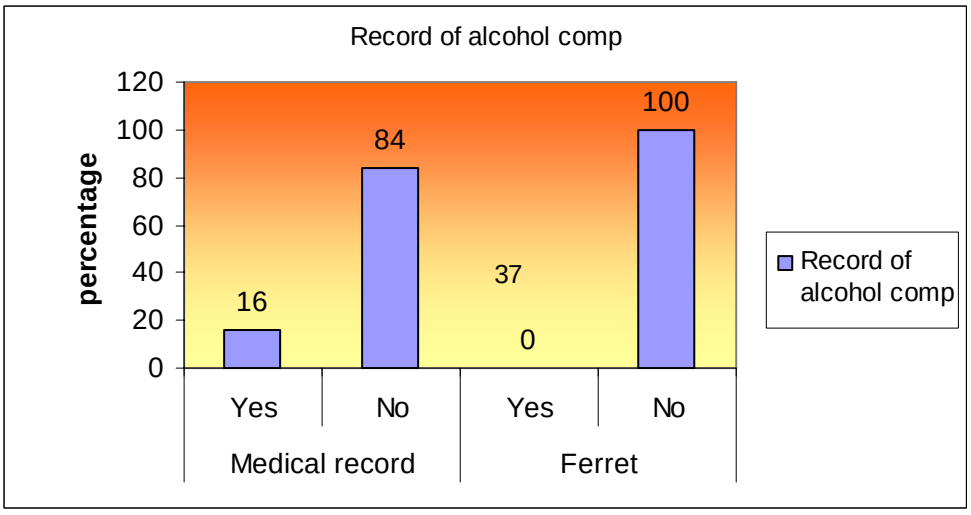


Record of alcohol misuse
4 (21%) had documented alcohol misuse on MR and F
15 (79%) had no documentation of alcohol misuse on MR or F



Record of organic complications of alcohol

3 (16%) had documented complications of alcohol on MR
0 had no record of organic complication of alcohol on F



Immunisation record present

7 (37%) had immunisation documented on MR
6 (32%) had immunisation recorded on F

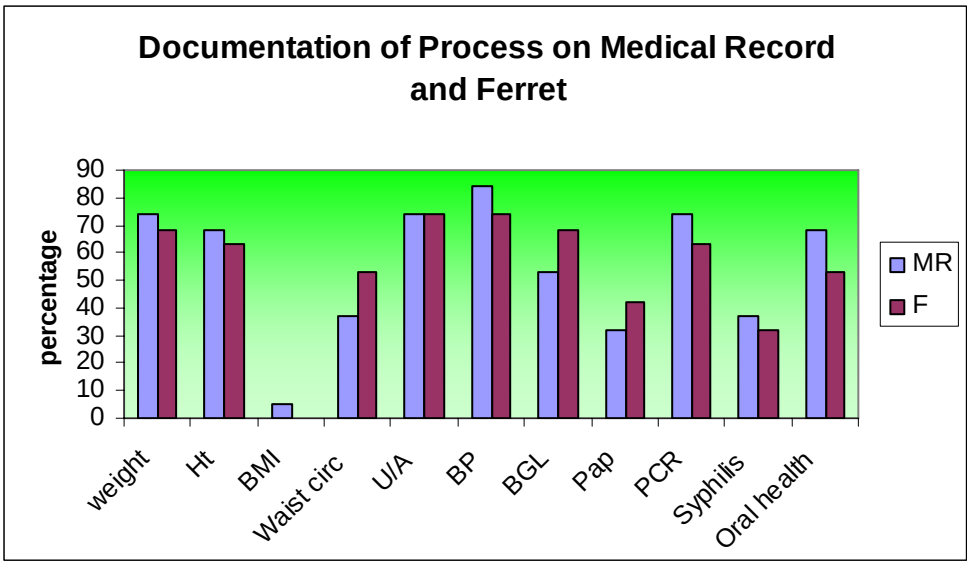
Current Prescription present

1 (5%) client had current prescription on MR
7 clients had current prescription on F
[6 (37%) had scripts generated without being written on medication chart)

Care plans present and targets recorded

2 (11%) had care plan present in MR – 0 of which had targets recorded on MR
(710 AND 723/721)
19 (100%) of clients had care plans and targets on Ferret.

Documentation of scheduled processes for the adult Health Check within the previous 2 years



4 (21%) of clients had health check process that were 87% complete.

11 (58%) of clients had health check processes that were >/= 75% complete

4 (21%) clients had health check processes that were between 43% and 74% complete

4 (21%) clients had health check processes that were < 13% complete

Example: - 4 BGL's recorded on F but not in MR: 2 pap smear recorded on F but not in medical record

Record of brief interventions

	Med Rec		Ferret	
	Yes	**No**	**Yes**	**No**
Smoking	**13 (68%)***	**6 (32%)**	**13 (68%)***	**6 (32%)**
Nutrition	**13 (68%)**	**6 (32%)**	**10 (54%)**	**9 (47%)**
Alcohol	**13 (68%)**	**6 (32%)**	**14 (74%)**	**5 (26%)**
Physical activity	**13 (68%)**	**6 (32%)**	**10 (54%)**	**9 (47%)**
Mood	**12 (63%)**	**7 (22%)**	**0**	**19 (100%)**

Evidence of follow-up of abnormal clinical findings

- **BP > 140/90 = 1**
  No follow-up documented, was reviewed by MO

- **Urine (1+ Protein or more) = 0**
  This means they either had no protein or it wasn't documented

- **BGL > 5.5 mmol/l = 2**
  1 had repeat BGL test / 1 did not

Recommendations / findings

1. System to screen eligible people over 15 years for early detection of chonic diseases as most people were screen opportunistically when presented for acute care
2. ? writing scripts on medication chart as well as Ferret
3. Add 'mood' to ferret as a brief intervention

Appendix F: BRAMS Chronic Disease ACIC April 2006

BROOME REGIONAL ABORIGINAL MEDICAL SERVICE ASSESSMENT OF CHRONIC ILLNESS CARE

April 2006

A group of staff involved in the management and delivery of clinical services at Broome Regional Aboriginal Medical Service (BRAMS) reviewed the systems and processes used in the service against the evidence based interventions defined in the Systems Assessment Tool. The purpose of using this tool is to identify how well the system is operating and the areas for improvement with chronic illness prevention and management. This information provides a baseline against which the service can evaluate the level and nature of improvements made in response to quality improvement interventions.[1] Staff involved included Dr David Shepherd, Maggie Hunter, Selena Heldwend and Kathryn Dougherty the HFL project Officer.

The group applied the criteria from the Systems Assessment Tool to chronic disease care and support available to people using the BRAMS.

The Systems Assessment Tools asks participants to consider 7 domains relevant to chronic illness care and each domain included a number of questions. Participants discussed each of the questions and then came to a consensus score for the question. The score for each section were summed and averaged to get a score for the section. The total score and average for each domain is shown in Table 1 for chronic disease and Table 2 for antenatal care. The scoring sheet that has the rating for each question is attached.

Table 1
ACIC review scores 2006
Chronic illness management

Domain	Total	Av
1. Health system: Organisation of care	**20**	**6.7**
2. Links within the community and external (outside) services	**17**	**6.5**
3. Self management support	**11**	**3.7**
4. Decision support systems	**26**	**8.7**
5. Delivery systems design	**64**	**7.1**
6. Clinical information systems	**40**	**8**
7. Integration of chronic care model components	**28**	**5.6**
Overall service score	**206**	**6.6**

[1] Assessment of chronic illness care (ACIC), ABCD project, Menzies School of Health Research 2005

Table 2
ACIC review scores 2006
Preventive services

Domain	Total	Av
1. Health system: Organisation of care	**17**	**5.7**
2. Links within the community and external (outside) services	**26**	**6.5**
3. Self management support	**10**	**3.3**
4. Decision support systems	**12**	**6.0**
5. Delivery systems design	**49**	**6.1**
6. Clinical information systems	**29**	**5.8**
7. Integration of chronic care model components	**26**	**5.2**
Overall service score	**236**	**5.5**

Table 3
ACIC review scores 2006
Community programs / activities

Domain	Total	Av
1. Health system: Organisation of care*	**6**	**2**
2. Links within the community and external (outside) services	**13**	**3.3**
3. Self management support	**4**	**2**
4. Decision support systems	**1**	**0.5**
5. Delivery systems design (4 criteria not applicable)	**11**	**2.2**
6. Clinical information systems	**10**	**3.3**
7. Integration of chronic care model components	**5**	**1**
Overall service score	**50**	**2.04**

A summary of the scores has been plotted on the spider diagram in figure 1, figure 2 and Figure 3. The review process identified a number of issues which the service needs to consider.

1. Health system: Organisation of care.

This domain assesses if the overall systems are oriented and led in a manner that allows for a focus on chronic illness care and prevention. .

The group assessed that their business plan did reflect the need to address chronic illness management but was less clear about prevention services. There are dedicated positions in the clinic for chronic disease care, but due to time constraints and resources there is limited community programs in place. There are some links with Kimberly Aboriginal Medical Service (KAMS) in relation to planning and delivery of these programs, but no dedicated staff.

Medicare numbers are noted on client's files with 79% of clients without a chronic disease having documented Medicare numbers and 87% of clients with a chronic disease having a Medicare number present.

Areas identified by the group for improvement include

- Policy development to support chronic disease illness management and early detection and prevention services
- Clarity of roles around preventive services
- Review BRAMS capacity to commence community programs / activities

In summary the group assessed that the organisation of health care is in the:
Mid range of **good support** for **chronic illness care**; **top end** of the **basic support** range for clinical **prevention services** and **top end** of the **limited support** range for **community programs / activities**

2. Links within the community and external (outside) services.

This domain looks as the linkages between the health delivery system and community resources.
The group described BRAMS as a minor player in community based programs and will attend community activities when invited but the majority of staff time is spent in the clinic. There are some programs such as water aerobics and cooking classes that BRAMS clients are referred to. The group did not think their clients access these services well.
The group identified that their resource directory needed to be updated.

BRAMS contributes financially to the Kimberly Primary Health Care forum and do not see community programs / activity as part of their core business. They defer this responsibility to KAMS

Area identified by the group for improvement include
- Updating resource directory
- Relationship with KAMS and resources they may have developed that BRAMS staff can utilise

In summary the group assess they fell in the **lower end** of **good support** for **chronic illness management,** in the **lower end** of **good support** for **preventive services** and in the **lower end** of basic support for **community programs / activities**

3. Self management support

The patient has a central role in managing their health. The domain assesses the self management support available and the organisation of resources to support self care.

The group discussed work that is currently being done by BRAMS around identifying a self management model for use with BRAMS clients. There are no self management strategies in place. The ATODS unit is available to provide education to BRAMS staff on how to do brief interventions. There are no resources in place other than pamphlets which are given out on an ad hoc basis. The group stated that there is not a lot of feedback given to clients.
AHW act as cultural translators for other staff.

Areas identified by the group for improvement include
- Pursue self management model and training for implementation at BRAMS
- Education and Training in behaviour change

- Education, training and resources to perform brief interventions
- Feedback tools for clients

In summary the group assessed that the systems and action to support self care were in the **lower level** of the **basic support** range for **chronic illness management, in the lower end** of **basic support** for **disease prevention** and the **top end** of the **limited or no support** for **community programs / activities**.

4. Decision support systems

This domain assesses the use of evidence based guidelines and protocols to assist with decision making for care and linkages with specialist services.

The group assessed that in chronic disease illness management category they have evidence based guidelines in place which are both paper and computer based. BRAMS utilises the CARPA manual and there is a Draft 'Standard Kimberly Protocols' that is being worked on. These guidelines are clinically orientated. Clients with chronic diseases have care plans in their medical record and on the computer, but those without a chronic disease will have a health assessment sheet (Medicare item 710) in their records but no care plans with targets to address at risk behaviours. The staff agreed that their care plans fall down in the area of self management.
Western Aust. County Services provides specialist Physician services to BRAMS clients and referral to these specialists occurs along traditional lines.
The group identified that there were no evidence based resources or dedicated staff to perform community programs / activities.

Areas identified by the group for improvement include
- Documentation of strategies to address at risk behaviours in clients who do not have a diagnosed chronic disease
- Policy / protocols for updating evidence based clinical guidelines
- Evidence based resources for community programs/activities
-

In summary the group assessed that the decision support systems is in the **upper end** of **good support** range for **chronic illness management,** in the **lower end** of **good support** for **prevention services** and in the **lower end** of **limited or no support** for **community programs / activities.**

5. Delivery system design

This domain assesses the organisation of practices that impact on the provision of care. These include a team approach, clinical leadership, organised services, a follow up system and capacity to ensure continuity of care for clients.

The group assesses this domain for illness management and disease prevention in the good support category. Some of the strengths the group identified BRAMS as having included a good skill mix of practitioners where roles and responsibility for chronic disease care are well defined. Discharge summaries are received within 24 hours of client discharge from BDH. The physical structure is conducive for individual client consultations. They have an electronic

system which has the capacity to identify and recall clients who are due or overdue for care. The pathology and pharmacy system work well most of the time.

However some weakness the group discussed included, in the disease prevention area roles and responsibilities are not as clearly defined. There is limited quality processes in place to review practice, address errors and make improvements. Preventive services do not occur systematically. Ferret is not used to recall and follow-up clients.
Even though discharge summaries are received in a timely manner the internal system falls down, between receiving and filing in the medical record.

The group assessed that BRAMS did not have space for group activities and that they would have to go off site to conduct groups. That equipment is purchased but it disappears regularly. The AHW's discussed the need for cultural awareness training to be extended to all staff not just the MO, as there are different language groups from the Kimberly and that AHW's may not be aware of all the different cultural protocols which exist. BRAMS has privacy and confidentiality strategies but there are gaps when potential breeches can occur.
With pathology, the group identified that sometimes specimen collection techniques are not always optimum. The pharmacy stock is sometime depleted due to the pharmacy computer system.

Areas identified by the group for improvement include

- review internal system once a discharge summary is received
- Tighten up privacy and confidentiality issues such as where people other than clients can view their medical record
- 'Cultural broker' to provide cultural awareness training to all staff
- access cultural protocols for different language groups from the Kimberly
- regular staff meetings
- quality improvement system which evaluates practice, identifies errors and makes improvements (HFL)
- Regular reporting system
- Case management
- use ferret for overdue and follow-up of clients with chronic disease and screening of clients
- planning around screening / early detection activities
- in-service specimen collection from Path staff

In summary the group assessed the delivery system design at the **mid level** of the **good support** range for **chronic illness management,** in the **lower end** of **good support** for **preventive services** and in the **upper end** of **limited or no support** for **community programs / activities**.

6. Clinical information systems

This domain assesses if timely and useful information about individual patients and populations of patients is available, which is a critical feature of effective chronic disease programs.

BRAMS has a computerised population list in place and there is a good understanding amongst the staff of movements of people in and out of Broome. However the group identified there was no policy or protocol in place to regularly update the population list. The group stated that Ferret had the capacity to generate reports, recall clients for care and overdue clients but it was

not being used for these purposes in a systematic way. Ferret information is not used to focus prevention or community programs / activities.
BRAMS has a good clinical records system where charts are returned a locked room after use. All staff are trained in the system and summary sheets are on all medical records. Legibility of entries is not always clear. The group identified that sometimes the charts are not returned for filing after use and this could be improved.

Areas identified by the group for improvement include
- Policy / protocol for updating population list
- Regular reporting system in place
- Return files after use more efficiently

In summary the group assessed that the clinical information systems were in the **low end** of the **fully developed**, for **disease management**, in the **high end** of **basic support** for **disease prevention** and in the **mid range** of **limited or no support** for **community programs / activities**

7. Integration of Chronic Care Model Components

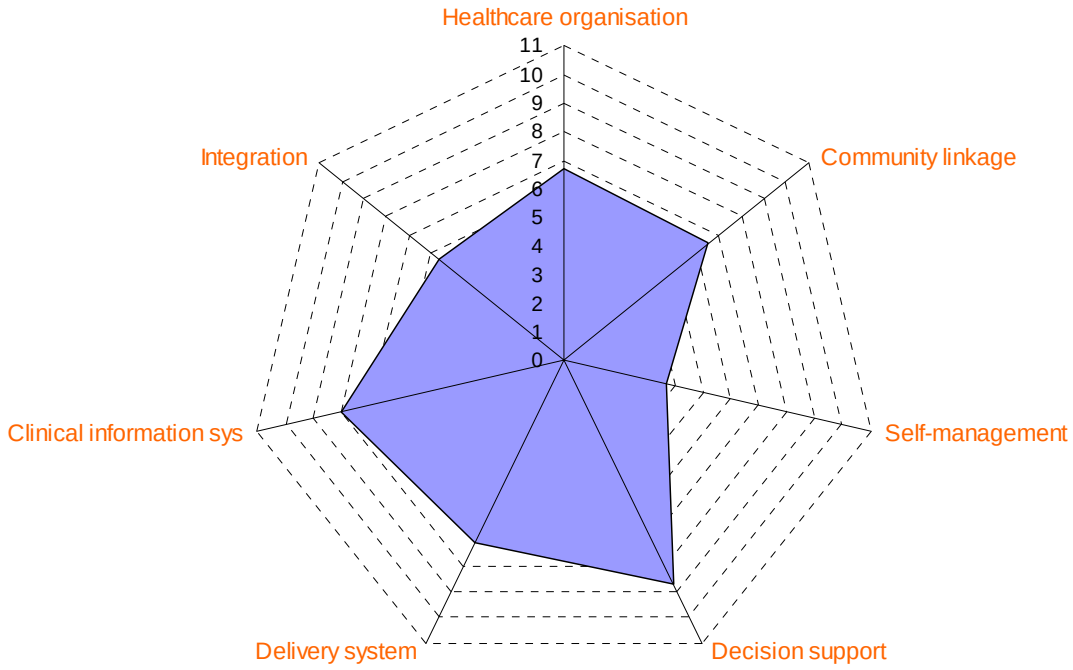
This domain assesses if there are effective systems of care to integrate and combine all elements of the chronic care model.

The group assessed that BRAMS had some linkages in place with other health service providers in Broom such as the BDH and Community Health, however links with the broader community were patchy. There was no policy in place which supported an integrated approach to health service delivery. They also identified that staff required education on how to provide an integrated approach.
Clinical care of clients is supported by best practice guidelines but this does not extend to the area of preventive services. There is limited to no community programs / activities in place

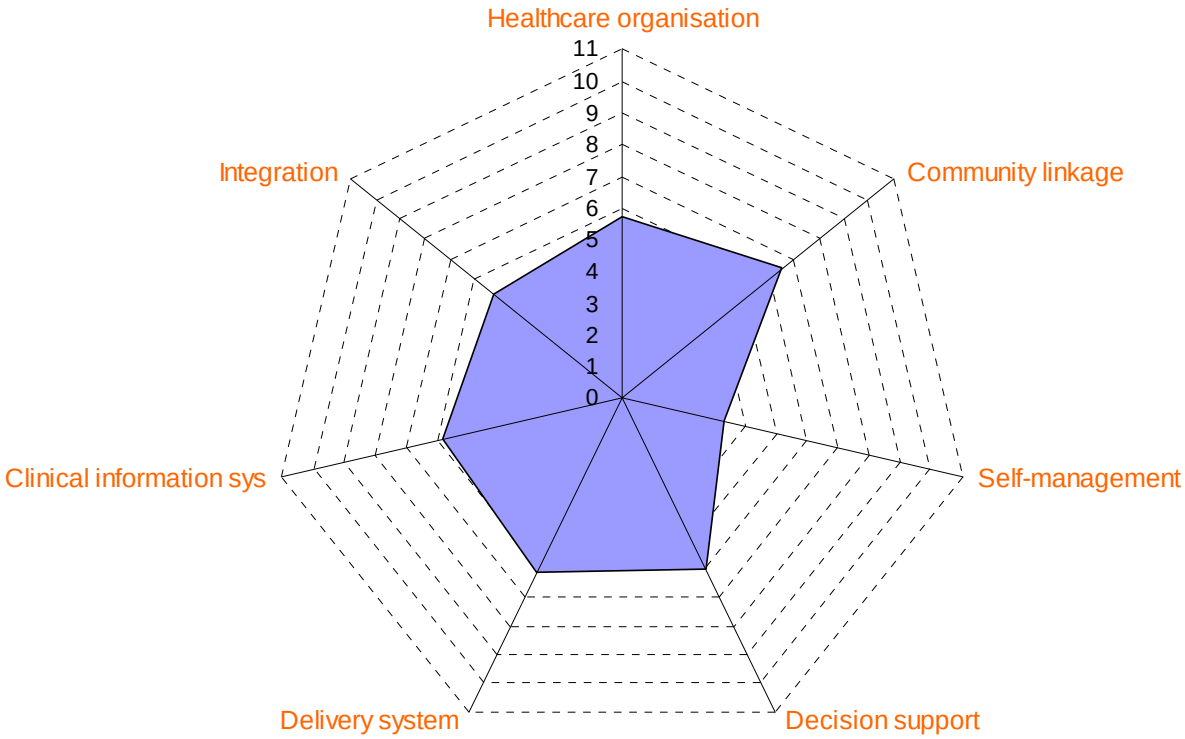
Areas identified by the group for improvement include
- Policy which addresses integration of services
- Education to staff on the principles of health service integration
- Improvement partnerships with community based organisations to deliver community programs and preventive services

The overall integration was scored in the **upper level** of the **basic support** range for **chronic illness management,** in the **upper level** of **basic support** for **preventive services** and in the **mid level** of the **limited or no support** for **community programs / activities.**

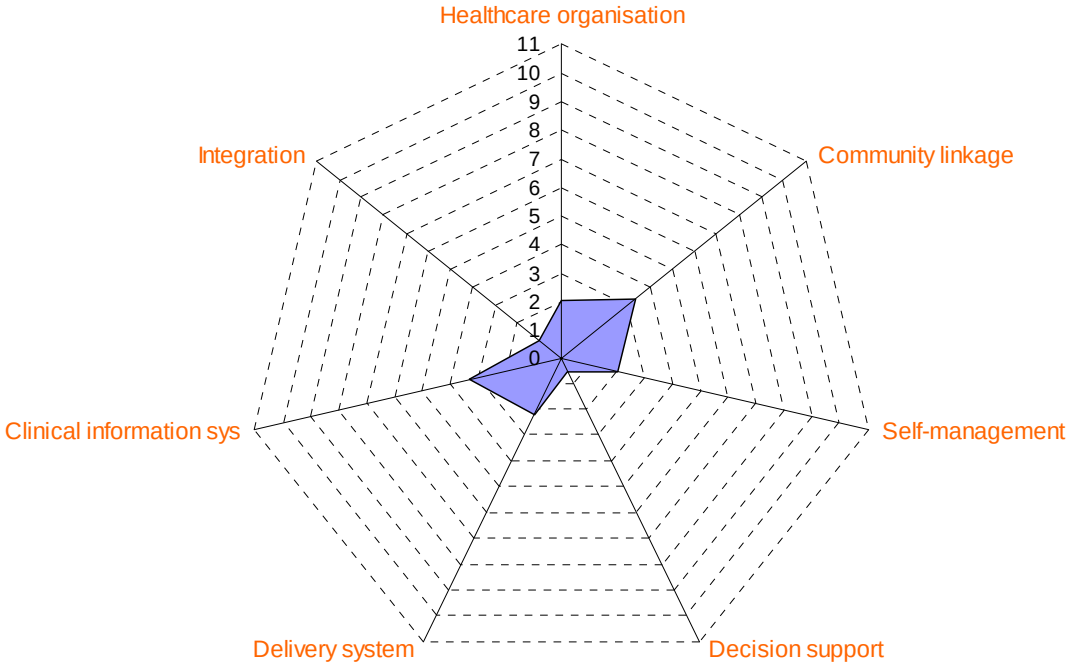
BRAMS
Chronic illness management
Figure 1



BRAMS
Figure 2
Preventive Services



BRAMS
Figure 3
Community programs / activities



ABCD Systems Assessment Tool

Scoring Form

Name of Health Centre: Broome Regional Aboriginal Medical Service (BRAMS

Date: 26/04/2006

Names of persons completing the Systems Assessment:

1 Selina Helwend

2. Dr David Shepherd

3. Maggie Hunter

4. Kathryn Dougherty (HFL PO)

Activities and programs relevant to chronic illness care can be considered in three areas:

a) *Clinical* Services for people known to have a chronic illness;	b) *Clinical* services for the prevention and early detection of chronic illness (including screening, case finding, brief interventions/counselling – generally health centre based, one-to-one activities)	c) *Community or Population based* programs/activities, ancillary programs (eg nutrition, smoking, alcohol, physical activity, oral/dental health, mental health, environmental health)

Each of these three areas of activities is important in the effective prevention and management of chronic illness. The quality of systems in place to support each of these three areas of activity or programs may differ quite markedly within the same health centre or health service. This scoring form provides for distinct scoring of how systems support each of the areas.

We encourage services participating in ABCD to provide separate system assessment scores for a) *Clinical* Services for people known to have a chronic illness; and for b) *Clinical* services for the prevention and early detection of chronic illness. The application of the systems assessment tool to c) *Community or Population based* programs/activities or ancillary programs may be more challenging, and we are interested in working with services that would like to use the system assessment tool in this area.

Health System: Organisation of health care

Organisational commitment to prevention and management of chronic illness care

	Score	Justification
Chronic illness management	6	Evidence of business plan, good communication and cooperation between key players. JD's include specific roles. Need work around policy development which is being addressed by BRAMS through the employment of PO to write policies
Prevention services	6	Clarity of roles in the area of prevention services required. No policy support.
Community programs/activities	4	Limited links with KAMS, in relation to planning and delivery of services. No dedicated staff for community programs

Improvement Strategies for services relevant to the prevention and management of Chronic Illness Care

	Score	Justification
Chronic illness management	7	Limited system for reporting and considering errors and quality problems. Training in podiatry and retinal screening in place.
Preventive services	7	Limited system for reporting and considering errors and quality problems.
Community programs/activities	1	Very few programs in community. Home visiting occurs. BRAMS attends community activities such as football, Burdekin youth, schools

Incentives and Regulations for services relevant to the prevention and management of Chronic Illness Care

	Score	Justification
Chronic illness management		Funds raised from Medicare support dedicated for positions for chronic diseases.
Preventive services		Priority is in favour of disease management rather than early detection services.
Community programs/activities		Minimal community programs in place.

Links within the community and with external (outside) services:

Communication and cooperation on governance and operation of health and other community based programs.

	Score	Justification
Chronic illness management	3	
Preventive services	3	BRAMS minor player in Broome. Will participate when requested
Community programs/activities	3	

Linking health service clients to outside resources

	Score	Justification
Chronic illness management	6	There is good communication and management of individual clients between health staff. There is a need to update resource directory
Preventive services	6	
Community programs/activities	4	Programs either not in existence or accessed by BRAMS clients. There are some programs in place such as water aerobics and cooking classes that BRAMS clients are referred to.

Working out in the community

	Score	Justification
Chronic illness management	7	Could be planned better and is ad hoc
Preventive services	7	More structured and more comprehensive if more staff was available. Need health centre staff time allocated.
Community programs/activities	2	Majority of health staff time is spent in the clinic

Communication and cooperation on regional planning and development and use of resources

	Score	Justification
Chronic illness management	10	BRAMS contributes to Kimberley Primary Health Care forum

Preventive services	10	As above
Community programs/activities	4	BRAMS does not see as core business. KAMS has a plan. Responsibility deferred to KAMS.

Self-Management Support

Assessment and documentation of self-management needs and activities

	Score	Justification
Chronic illness management	2	
Preventive services	2	BRAMS is reviewing self management models and staff education in same
Community programs/activities	2	

Self-management education, behaviour change interventions and peer support

	Score	Justification
Chronic illness management	4	Staff training in brief intervention is required. ATODS is available to do training. Diabetic packs have been distributed to clients (Diabetes Australia WA). Information given out on ad hoc manner
Preventive services	3	KAMS produced feedback form from AHC which was not used as the paper was too glossy and difficult to write on. Not a lot of feed back to clients
Community programs/activities	2	Some pamphlets are used.

Addressing concerns of patients and their families

	Score	Justification
Chronic illness management	5	There are limited mechanisms in place to address patient concerns such as family conferences when required and use of AHW as cultural translators
Preventive services	5	
Community programs/activities	N/A	

Areas for action

- education and training in behaviour change
- brief intervention training

Decision Support

Evidence Based Guidelines

	Score	Justification
Chronic illness management	10	BRAMS utilises CARPA There is a standard Kimberly protocols in draft.
Preventive services	6	The guidelines which are in place are clinically orientated
Community programs/activities	0	There are no evidence based resources for community programs or activities in place.

Specialist – Generalist collaborations in improving primary care

	Score	Justification
Chronic illness management	8	BRAMS utilises specialist Physicians in the care of clients with chronic diseases. Referrals occur along traditional lines
Preventive services	N/A	
Community programs/activities	N/A	

Patient Treatment Plans (care plans)

	Score	Justification
Chronic illness management	8	Clients with chronic diseases have care plans both in their medical record and on computer (Ferret) which is evidence based. These care plans fall down in the self management care area
Preventive services	6	Clients who do not have a chronic disease do not consistently have a care plan to address prevention. They will have an electronic care plan.
Community programs/activities	1	BRAMS does not have community programs that are documented

Delivery System Design

Practice team functioning

	Score	Justification
Chronic illness management	5	Whilst BRAMS has a good mix of skilled practitioners there are no regular team meetings to address issues around chronic disease care
Preventive services	5	As above There is some discussion at 6 and 12 monthly meetings.
Community programs/activities	1	There is lack of resources (human and material) directed in this area

Clinical leadership in chronic illness care

	Score	Justification
Chronic illness management	10	Roles and responsibility and lines of reporting of other staff with chronic disease care are not well defined
Preventive services	7	Not given adequate priority due to time constraints and workload
Community programs/activities	0	No allocation of resources for community based programs

Appointment System and planned visits (for the purposes of scoring for c) Community or population based programs/activities, substitute 'planned programs' for 'planned visits')

	Score	Justification
Chronic illness management	5	Limited appointment system for specialist services only Some flexibility in the system to address client needs
Preventive services	5	Preventive services occur opportunistically in the clinic

Community programs/activities	1	Limited or no scheduling of community programs

5.4 Follow-up of clients for regular services, on-going medication management and after discharge from hospital.

	Score	Justification
Chronic illness management	6	Within 24 hours of discharge BDH send BRAMS a discharge summary. Staff identified there maybe an internal communication problem within BRAMS re notification of discharge or filing on Medical Record. **Ferret not used for overdue or follow-up of clients**.
Preventive services	3	There is a system (Ferret) but not utilised
Community programs/activities	0	The burden of disease for BRAMS clients does not focus community health programs

Continuity of Care

	Score	Justification
Chronic illness management	8	BRAMS has a good clinical records system, documentation is not always legible, clients are scheduled for follow-up, but the electronic system is not used. There is no regular case management
Preventive services	7	Preventive services do not occur systematically as chronic disease care does
Community programs/activities	1	No community programs to address this criteria

Client Access / Cultural competence issues

	Score	Justification
Chronic illness management	8	Reception area where Medicare forms are signed, Medical Record may be viewed by people other than the client. Files left open on beds, view by people other than the client Cultural training for AHW - ? Cultural Broker
Preventive services	8	Clients not all from same language group Access cultural protocols from different language groups of the Kimberly
Community programs/activities	8	

Physical infrastructure, supplies and equipment

	Score	Justification
Chronic illness management	7	Physical structure is adequate for individual client care. Equipment is purchased but then it disappears.
Preventive services	7	No space to hold groups at BRAMS have to go off site which rarely occurs
Community programs/activities	N/A	

Well functioning pathology system

	Score	Justification
Chronic illness management	8	Staff identified there is sometimes some deficiencies in specimen collection
Preventive services	N/A	
Community programs/activities	N/A	

Well functioning Pharmacy system

	Score	Justification
Chronic illness management	7	Main problem with stock control due to Pharmacy computer system
Preventive services	7	
Community programs/activities	N/A	

Area for action

- Planning around screening / early detection activities
- Review internal system once discharge summary received
- Use ferret for overdue and follow-up of clients with chronic disease and screening of clients
- Source cultural broker to offer cultural awareness training for all staff
- In-service specimen collection from Path staff

Clinical Information Systems.

Register of client service population (Health Centre population list)

	Score	Justification
Chronic illness management	10	No policy or protocol for updating population list on Ferret
Preventive services	10	
Community programs/activities	N/A	

Registers of clients with specific conditions

	Score	Justification
Chronic illness management	8	The electronic system has the capacity to generate lists of clients for scheduled services but it is not used in a systematic way. Medicare numbers for majority of clients are on their file
Preventive services	8	Ferret is only able to identify clients targeted for preventive services by exclusion
Community programs/activities	8	Information available on Ferret is not utilised to direct community programs / activities

Reminders to providers

	Score	Justification
Chronic illness management	9	MO's don't use reminder system as well as HW's do Not being used in a systematic way
Preventive services	9	
Community programs/activities	N/A	

Feedback and reporting to health centre staff and management

	Score	Justification
Chronic illness management	4	System in place in Action plan, but reports not generated on a regular basis and not actioned
Preventive services	3	
Community programs/activities	1	

Records and filing system

	Score	Justification
Chronic illness management	9	Area for improvement identified as – return files after use more efficiently Write more legibly
Preventive services	9	
Community programs/activities	1	No records of community programs conducted

Area for action

- Policy and protocol for updating population list on Ferret
- Regular reporting system in place

Integration of Chronic Care Model Components

Health System: creating a culture, organisations and mechanisms that promote a high quality integrated approach to chronic illness care

	Score	Justification
Chronic illness management	5	Action areas – • policy
Preventive services	5	• education and in-service • there is little attention given to how the building blocks come together to form an integrated system
Community programs/activities	1	Links need to be made with other organisations to provide an integrated approach for community programs / activities

Use of Links between the health centre (delivery system) and local and broader community resources to promote an integrated approach to chronic illness care

	Score	Justification
Chronic illness management	4	
Preventive services	4	There are some patchy links with other organisations in Broome but no regular preventive services that BRAMS patients access
Community programs/activities	1	

Support for Self-Management through integration with other elements of chronic illness care.

	Score	Justification
Chronic illness management	4	There are links with BDH and West Aust Country services to address individual client care, but very little in place in the broader community to help clients self manage
Preventive services	4	
Community programs/activities	1	

Decision Support is integrated with other elements of chronic illness care

	Score	Justification
Chronic illness management	9	Clinical care of clients is supported by best practice guidelines in the form of care plans on Ferret and those that address Commonwealth requirements for Medicare
Preventive services	7	Access to evidence base is not easily accessible
Community programs/activities	1	The decision support system in place is not utilised for community programs/activities

Information Systems / Registries

	Score	Justification
Chronic illness management	6	Ferret has the capacity for recall and reporting but this function is not being utilised
Preventive services	6	
Community programs/activities	1	

Area for action

- Policy
- Partnerships
- Education and in-service
- Implementation of Self Management model and resources
- Access to preventive health resources