Western Australian Chronic Disease Outreach Program

Bega Garnbirringu Health 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
BGHS	Bega Garnbirringu Health Services
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
NAIDOC	National Aborigines and Islanders Day Observance Committee
PHO	Population Health Officer
POC	Point of Care
RN	Registered Nurse
SBP	Systolic Blood Pressure
UQ	University of Queensland

Section One

Bega Activity Report from UQ/KDRP

Wendy Hoy, Srinivas Kondalsamy Chennakesavan and Joanne Smith

Program Dynamics and Staffing

This is our final report on the chronic disease program in Bega Garnbirringu Health Services (BGHS), following the completion of our field activities in this community. The purpose of our program was to improve chronic disease awareness and to help develop skills in systematic surveillance and management of chronic diseases. Support from the Colonial Foundation was instrumental in setting up this program and our assistance started to flow from early 2002 after contractual agreements were signed between BGHS and KDRP. Rebecca Davey, KDRP, was in charge of the program followed by Joanne Smith. Dr David Dunn and Dr. Ben Ansell were the medical directors in BGHS who helped oversee the program locally.

BGHS provides primary health care services through six general practitioners and a dedicated team of nurses and health workers. Visiting specialists provide additional support. This facility uses 'Ferret', a computer program, to store patient information and to organise recalls and reminders. Point of Care testing is used for estimating glycosylated haemoglobin, a measure of how well blood glucose is controlled; for urinary albumin creatinine ratio, a measure of how leaky the kidneys are; and for cholesterol and other lipids in the blood. The benefits derived from such point of care methodology are enormous, as the results are available within 7-10 minutes, instead of sending the samples to laboratories in Perth and then retrieving the results on a later date. The BGHS is also accredited to train Aboriginal Health Workers for advanced certificate program.

Few staff members in BGHS have changed over the years our program was active. Denise Pompey took over the role of chronic disease coordinator and was later promoted to the role of clinic coordinator and then clinic manager. Elizabeth Willemse took over the role of chronic disease coordinator and continued till the end. Jenna Richards and Irene Saunders worked as data entry officers. We recruited Melissa Dimer to capture additional information from paper based medical records related to chronic diseases.

Representatives from the Colonial Foundation, Mr.Andrew Brookes and Prof. Priscilla Kincaid Smith, visited BGHS in March 2004. In July, 2005 two nursing coordinators from South Africa visited - to learn more about our chronic disease program and to improve their ongoing primary and secondary prevention programs in Soweto, South Africa

Ms. Willemse and Dr. Ansell have submitted a summary of activities in 2005 which is attached as an appendix in section three of this report.

As part of our final evaluation, we analysed
1) the number of people having chronic disease testing
2) the number of chronic disease exams or tests
3) the number of people with recognized morbidities
4) the association of morbidities with each other and
5) medication use

a) Demography

Table 1 shows basic demographic details of 6151 Indigenous people, by age group and gender The total also includes people whose ethnicity is not stated, but excludes a substantial number of non-Indigenous people (n=1,419) recorded to be using health care services from BGHS. Nearly 95% of the Indigenous population is aged less than 60 years with 40% aged <20 years.

Table 1. Demographics of clients who identified themselves as Indigenous in Ferret

Age Group	<20	20-39	40-59	60-79	80+	Total
Female	1,217	1,145	652	153	26	3,193
%	38.11	35.86	20.42	4.79	0.81	100
Male	1,253	914	644	133	14	2,958
%	42.36	30.9	21.77	4.5	0.47	100
Total	2,470	2,059	1,296	286	40	6,151
%	40.16	33.47	21.07	4.65	0.65	100

Of the 6,151 people, 4,100 are recorded to be Indigenous and aged 16+ years. All our analyses in the subsequent pages are restricted to this group, considered as 'adults'.

b) Existing diagnoses

The numbers of people recorded to be on Ferret careplans were lower in our 2005 data downloads than the previous years, for hypertension and proteinuria. We have sought assistance from the Medical Director in clarifying the numbers of people on these careplans. We will present the updated information when available. Table 2 shows the number of Indigenous adults with chronic disease diagnoses in BGHS. The second column reflects the numbers of people already recognised by practitioners in BGHS and are on a careplan and or on appropriate medications. The expanded diagnosis reflects the number of people who potentially have chronic diseases using our definitions, as noted in the subscript. Nearly 31.5% of Indigenous adults are at risk of chronic diseases using our expanded definitions and some of these people need confirmation with additional examination or lab tests.

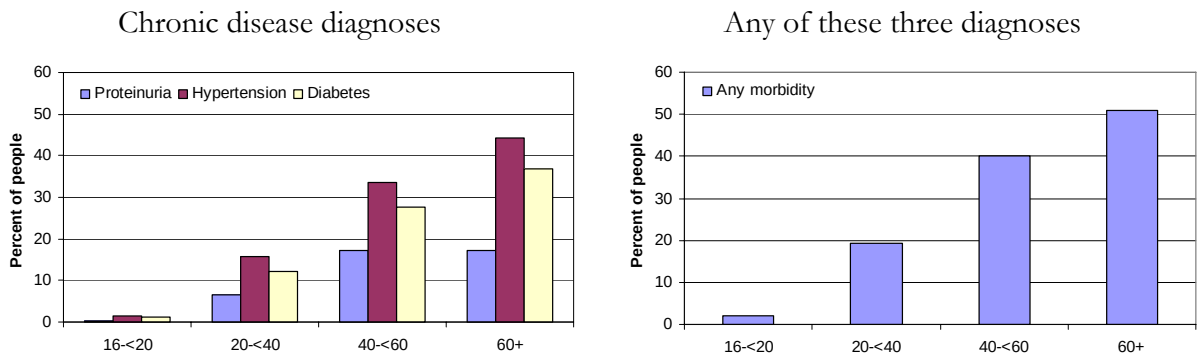
Table 2. Number of Indigenous people aged 16+ years at BGHS with chronic disease diagnoses

	Careplans in Ferret and or on medications	Expanded Diagnosis in Ferret and clinical findings/lab results
Hypertension	590	1075 (26.2%)@
Proteinuria	331ω	515 (12.6%)#
Diabetes	571	918 (22.4%)*
Any of the three morbidities	866	1291 (31.5%)

@Hypertension=History and/or medication and / or one blood pressure measurement ≥ 140/90
#Proteinuria= History and/or dipstick ≥ 1 and/or ACR ≥ 3.4
*Diabetes=History and / or medication and / or blood glucose ≥ 11.1mmol/L and or HbA1c ≥ 6.5%
ωIncludes people previously known to be on proteinuria careplan or are currently on that careplan

Figure 1 shows the percentage of Indigenous people aged 16+ years with potential chronic disease diagnoses, by age group. Proteinuria, hypertension and diabetes all increase steadily with age. Nearly half of those in the middle and older age groups have at least one of these three conditions.

Figure 1. Percent of Indigenous people aged 16 + years at BGHS with potential chronic disease diagnoses



c) Tests

Table 3 shows the numbers of observations or lab tests relevant to chronic disease care performed for Indigenous people aged 16+ years at BGHS. Figure 2 shows this graphically. In 2005, there was a dramatic increase in the numbers of people with weights, BP, blood glucose and urinalysis recorded. There was also an increase in the numbers of HbA1c and cholesterol measurements done in 2005 over the previous years. While the number of urine ACR levels measured has stabilised, the numbers of serum creatinine measurements seem to have dropped in the last two years in comparison to the levels in the previous two years. Serum creatinine is the only measurement that is yet to be carried out in a reliable manner by point of care technology, at the health centre. If the creatinine measurements are reported by the processing pathology lab to the health centre through mail or fax, it necessitates manual entry of creatinine results into Ferret and could result in under-enumeration in our analyses.

Despite our best efforts to obtain measures of body size like height and waist circumference, the information was not routinely collected. This precludes us from exploring further the relationships of anthropometric measurements with chronic diseases.

Table 3. Number of observations or tests relevant to chronic diseases performed, by year

Calendar Year	Weight	BP	BGL	Urinalysis	ACR	Creatinine	HbA1c	Cholesterol
2002	407	1410	1473	110	236	305	350	330
2003	330	1826	1839	52	248	333	317	310
2004	510	1770	1768	157	244	212	339	289
2005	1565	2779	2543	497	269	138	448	422

Figure 2. Number of observations or tests, by year among Indigenous people aged 16+ years at BGHS

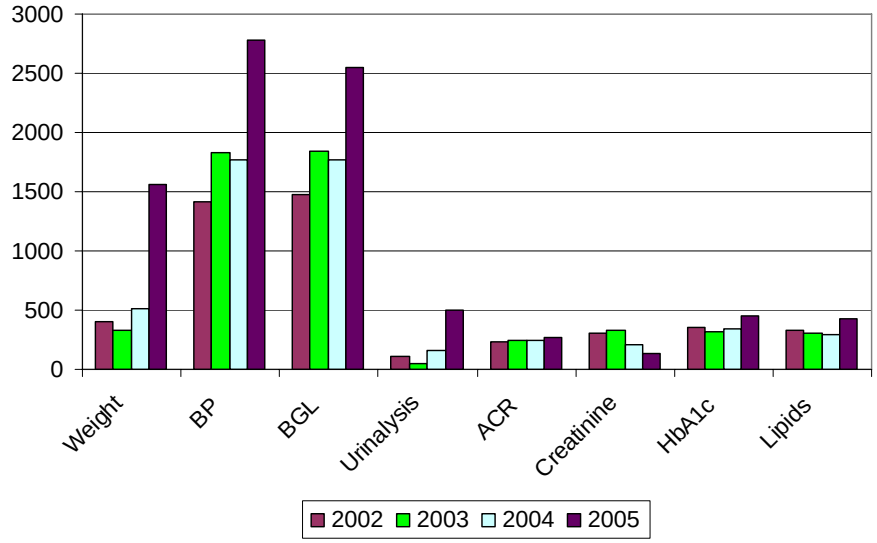
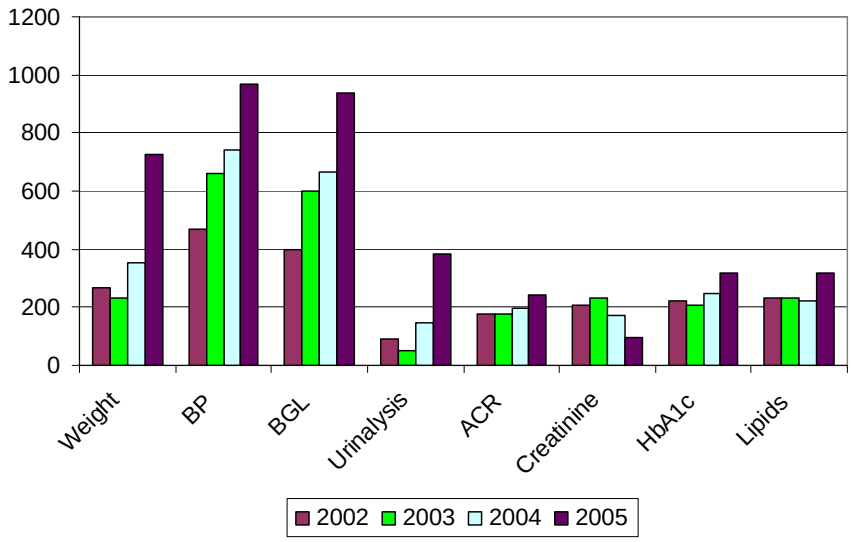


Table 4 shows the number of Indigenous people aged 16+ years having specified observations by year, and figure 3 represents them graphically. The numbers have increased tremendously over the past 2 years, with 2005 the most active year to date. However, the number of people having creatinine measurements has steadily declined over the past 3 years. As noted previously, this could probably be attributed to lack of point of care testing for creatinine levels at BGHS.

Table 4. Number of Indigenous people aged 16+ years at BGHS having specified observations, by year

Calendar Year	Weight	BP	BGL	Urinalysis	ACR	Creatinine	HbA1c	Lipids
2002	265	470	399	93	177	207	224	232
2003	231	659	602	48	174	233	206	234
2004	352	740	664	146	196	170	249	222
2005	728	969	936	382	244	95	320	319

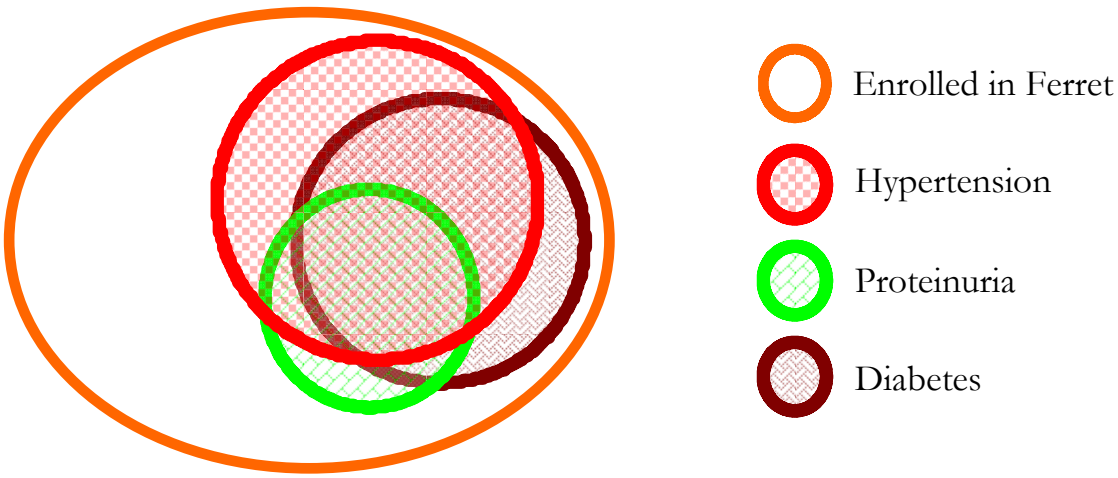
Figure 3. Number of Indigenous people aged 16+ years at BGHS having specified observations, by year



d) Overlapping morbidities among clients with chronic diseases

Figure 4 shows the extent to which the three major chronic conditions - diabetes, hypertension and proteinuria overlap. This reinforces our view that these conditions share common risk factors and are part of the same syndrome.

Figure 4. Overlapping morbidities by our expanded definition



e) Association of chronic conditions with each other

The associations of diabetes, hypertension and proteinuria with each other were evaluated. As shown in table 5, hypertension is increased 23-fold among those with proteinuria and vice versa. This dropped to 20-fold after adjustments for age and sex. Diabetics had a 37-fold increase in hypertension and vice versa, with this differential dropping to 32-fold after adjustment for age and sex. Diabetics were 24 times more likely to have proteinuria and vice versa, with a 23-fold difference persisting after adjustment.

Table 5. Odds ratios (95% CI) for associations of morbidities with each other

Adjustment	Hypertension and proteinuria	Hypertension and diabetes	Proteinuria and diabetes
None	23.1 (18.0 – 29.5)	37.2 (30.4 – 45.5)	24.3 (19.2 – 30.8)
For age and sex	20.1 (15.6 – 25.9)	32.2 (26.2 – 39.5)	23.0 (18.0 – 29.4)

f) Medication

For the first time we are able to present information on medicines routinely used for chronic diseases like diabetes and hypertension. Even though the information retrieved from 'Medical Director', a software program for prescribing medicines is adequate, the extent to which this information is linked to Ferret leaves a lot to be desired.

Seven hundred and forty nine people (both Indigenous and non-Indigenous) are identified to be on antihypertensive medication and we were able to link 630 of them to their clinical information in Ferret. All those on antihypertensive management need not necessarily be hypertensives. For example, diabetics with evidence of kidney problems are also prescribed ACEi, a class of medicine that is usually used for controlling blood pressure. Of the 546 people on oral hypoglycaemic agents, 448 could be linked to Ferret's information. BGHS is on the right track linking medication information to Ferret information, and the system is improving.

An audit of medication information was previously done by Dr.David Dunn and a summary of the results were presented in our annual report submitted in 2004. The following table shows a comparison of our current information with the information previously presented.

Table 6. Medication for chronic diseases at BGHS

Therapeutic agents	**2004**	**2006***
ACEi	416	572 (482)
ARBs	71	144 (124)
Diuretics	NA	134 (110)
Calcium channel blockers	NA	137 (118)
Anti-hypertensive agents (includes the above)	538	749 (630)
Lipid reducing agents	226	363 (311)
Hypoglycaemic agents (Oral)	368	546 (448)
Hypoglycaemic agents (Insulin)	63	102 (91)

Note: Analyses of medication information are not restricted to Indigenous people aged 16+

*Numbers in brackets represent unique patient information that can be linked to Ferret.

These results suggest that there is a better uptake of angiotensin converting enzyme inhibitors (ACEi) and angiotensin receptor blockers (ARBs) in the recent years and that many people are on combination therapy with other anti-hypertensive agents such as diuretics and calcium channel blockers. Similarly, the numbers of people on oral and parenteral anti-diabetic medications and on lipid reducing agents have increased.

Summary

- There has been a marked increase in chronic disease awareness and systematic management at BGHS during the period of support from the Colonial Foundation. These are now established as routine, important, core activities within the health centre. If future funding and reimbursement mechanisms are adequate, these practices should be sustained long term.

- The numbers of people having blood pressure, blood glucose levels and lipid measurements have increased greatly and the numbers of people with recognised chronic disease morbidities have risen. There has been a tremendous increase in the use of medications (ACEi and ARBs) targeting chronic diseases. This combination of better ascertainment and more systematic treatment should produce better outcomes, reflected in fewer chronic disease complications, fewer hospitalisations, some containment of renal failure and falling age-specific death rates.

- BGHS has demonstrated the efficacy of Point of Care Testing for chronic disease, with most routine bio-chemical examinations performed on-site.

- The identification, downloading and analyzing of information for these reports has itself made a big contribution in systems development for chronic disease care, which will be carried into the future. Those processes have probably been part of more systematic use of information systems for primary health care across all services. In this respect, as well as in the endorsement of standard management protocols across the life-course, some Aboriginal Medical Services, like BGHS, are ahead of much of general practice across Australia. Only a systematic, information-based approach provides data for health services planning, program modification and advocacy, as well as better patient management.

- The extent to which chronic disease check ups at BGHS are conducted on the general adult population, as opposed to people suspected to have, or already known to have, a problem, is still unclear. This determines the potential generalisability of the health profile to all Aboriginal adults in the region. Specific protocol issues include need for reinforcement of measurements of serum creatinine, if they fall short of those required by local protocols. In addition, there have also been fairly low levels of anthropometric measurements. A weight should probably be recorded at every chronic disease visit for clinical purposes, while occasional recording of height and waist in adults allows evaluation of body habitus measurements and assessment of its associations with chronic diseases.

- Comparison of rates of chronic disease in Aboriginal people at BGHS with those recently defined in a nationwide sample of largely nonAboriginal Australians, and described in the AusDiab study, are illuminating. Among people aged 25 years and above, 31% of people at BGHS had hypertension, 16% had proteinuria (kidney problems) and 27% had diabetes. Among AusDiab participants, while 29% had hypertension, only 2.5% had proteinuria and 7.5% had diabetes. With age adjustment, the Aboriginal rates of kidney problems and diabetes will prove to be relatively even higher than the all-Australian rates. This confirms the impressions of health care providers; it is compatible with the rates of chronic disease deaths and renal failure in those regions, and provides strong justification for robust and adequate programs for chronic disease prevention, surveillance and treatment.

- While this program has been underway, the Enhanced Primary Care Package has been introduced through the Medicare benefits schedule. This is intended to support chronic disease surveillance and management in adults, among other primary care activities. The health care team at BGHS has progressively employed this schedule, which is now their sole support for chronic disease activities. It is not, apparently, adequate to support an optimal level of activities; they have had to curtail the number and content of examinations, which explains, in part, the lack of body habitus measurements, and have had to cut the time commitment of the Chronic Disease Coordinator. BGHS has also had to subsidise the costs of some of the Point of Care costs, which are not all reimbursed. These are obviously critical issues, on which maintenance of a robust level of activity depends. Some urgent consultation and advocacy seems in order.

- The Medical Director at BGHS has expressed his thanks for the support from the Colonial Foundation and KDRP/Center for Chronic Disease, which has been helpful and productive. They are keen to receive this and further feedback.

Future Directions

- Analyses of the BGHS data will continue over the next couple of years. There will be more detailed comparisons with the AusDiab data. The health profiles will also be compared with those from the four remote NT communities studied by us since the mid 1990s. This information will be put to questions of disease genesis, as well as to arguments for better health care servicing. The data will also be available to BGHS for their own purposes. The information might support or prompt PhD projects or strategic health services research. Follow up studies in later years can show the extent to which programs, management and health profiles are maturing, changing, improving or deteriorating.

- We would be happy to discuss with the Colonial Foundation additional uses to which this experience and the data could be put. These could include advocacy with government for robust and systematic primary health care funding for Aboriginal people, for transparency and accountability in processes, spending and outcomes, full control of Aboriginal health services by Federal government, establishment of an Aboriginal Health Service and formation of a multi-member NGO Aboriginal (health services) support and advisory group to government. In all these options, continued support for the operational model of Community-Controlled Aboriginal Medical Service seems wise, based on the positive experience of the Chronic Disease Outreach program at BGHS and BRAMS.

Nurse Coordinator's Report (1)
Visit to Bega Garnbirringu Health Service
14th February to 25th February 2005
Joanne Smith

This visit to BGHS was once again challenging & rewarding. BGHS staff provided warm hospitality & expressed appreciation for the support of the Colonial Foundation & KDRP – UQ. Management & Health Workers welcomed the opportunity provided for the Health Workers to increase their knowledge base & skills in the chronic disease area.

BGHS Chronic Disease work is going well despite the stretched staffing situation. The Diabetes, Heart Health & Eye Health sections have dynamic & proactive AHW'S doing the Point of care testing of the Chronic Disease Clients. The Coordinator, Elize Willemse, has a good grip on the work required in the program and is excellent value in this role.

Mentoring
During these two weeks' visit we scheduled time out for each health worker to be freed from the clinic work for half a day each - to have one on one mentoring on the principles of CD surveillance & management (see summary below of the mentoring sessions with each AHW and attached program). The health workers continue to show improvement of their knowledge base and work practice.

Resource Development this visit
The AHW's were keen to develop resources.

1. A men's & women's waist measurement flier was developed and laminated for display in the clinic rooms. The importance & significance of waist measurement was once again re-introduced and emphasized.
2. Copies of the Flipchart – "Your health in Your hands" - Kidney Disease/Chronic Disease (developed at Dumisane Mzamane African Institute for Kidney Disease, Soweto, South Africa) were compiled & placed in Diabetes & Men's Health Clinic rooms. (Copies already in the NCO & Heart Health Rooms.

Handouts
The Chronic Disease "in-service" document was updated again (version 6). I have worked through the contents of this document with each of the health workers, given them a copy each and given a copy to the newer doctors & Ben. (See Attached document)

Chronic Disease Resource Manual
All copies of this manual were updated again this visit (CD Coordinator, Heart Health, Diabetes). Electronic copies of the content of the manual (as much as available on computer) were downloaded onto the computers of Elize, Heart health, Diabetes & AHW Training School and C/Disc of the same left with Elize.

Meeting
I met with Dr Ben Ansell (new medical superintendent), Dr Kathy Mallory (exiting acting Medical Superintendent - following the departure of Dr David Dunn) and Elize Willemse.
Overview of discussion:

- Beginnings MOU 28/12/01; Activity in the clinic began in May 2002 & a four year term commitment given of the KDRP program training/support & Colonial Foundation funding
- Colonial Foundation Site visit overview - March 2004
- Prospective projects – Possible intervention study 500 – 1000 people monitoring proteinuria;
- Plan for best practice study & use this model
- Continuity of CD program when Colonial funding ceases - WACCHO & OAH have funding - apply for same to assist in the transition time to maintain best Practice
- Point of care – effective.
- Creative Expression of Clinical Care, Education, Healthy Weight Program
- Very active in Health Promotion in conjunction with Gary (in Health Promotion section) with development of: T Shirts, Bookmarks, Advertisement on TV, CD Posters, Fridge Magnets, Bus magnet
- Medications – Medical Director currently used to prescribe medications. Prescribing may possibly occur later through Ferret. Ben would also like to explore if MD3 has the possibility for unique identifier.
- Accurate data & link MD to Ferret.
- Contact for Dr Ben Ansell. ansell.ben@bega.org
- Keen to have the two South African nurses visit BGHS
- OK to approach the mines in the Kalgoorlie area for assistance with funding for their trip.

Information & Jo's Observations – (on discussion with Elize Willemse)

The Chronic Disease Program has a dynamic team:

Nurse Coordinator (NCO), Elize Willemse, has done an excellent job as NCO of Programs. She is very organized & though she finds the job a bit stressful she is making great progress in the program.

The new Diabetes AHW, Patricia Kelly is excellent value. Pat has recently completed her training and is a diligent AHW and is keen to learn more about diabetes & CD. She is mature & has a lovely way about her to gaining client confidence & bringing them in for their CD checks.

Heart Health Worker, Naomi Winters, is very dynamic & reliable too. She excels in conducting health promotional activities

We discussed:
- Chronic Disease Risk Factors
- Hypo/Hyper Glycaemic resources
- Ferret – plan to design a Care Plan for people with Impaired Glucose Tolerance
- ECG
- Waist/Hip; Waist Height; Height Weight
- NDSS
- Looked through the Chronic Disease reference manual (KDRP protocol & chronic disease resources)

Health Promotion Activities & Resources

a) Healthy Weight Program

Approx eight clients regularly attend the exercise and education program.

Clients are encouraged to come to weekly exercise and education sessions on Tuesdays and to exercise more frequently in the Gym at BGHS in between. Exercise is supervised by one of the Chronic Disease AHW's and education sessions are delivered by the visiting diabetes educator, Penny Knott.

b) Bega Fair 19th March

BGHS Chronic Disease Health Workers held a health promotion stall at the Annual Show displaying and distributing health promotion messages.

124 people were screened and approximately 25% of those participants were referred for further investigations

c) National Condom Day (14/2/05)

Displays of BGHS Programs, Health Promotional Activities/materials and Chronic Disease screening were available for the public in the BGHS courtyard. Also a low fat BBQ Lunch

d) Resources

The Health Workers, in conjunction with Bega Media staff, have designed and made the various items this year to promote these health messages,

e.g.

a) Placemats with the Fruit Bat – healthy fruit; Bat Fellow – Bat Fellow says….; Smoking is unhealthy; Diabetes Yarn.

b) Colouring in competition.

c) Fridge magnets promoting the diabetes services provided by Bega – Diabetes educator, Podiatry (foot) clinic, eye checks, renal (Kidney) checks, Heart Health – Exercise program, Healthy Weight Program, Echo (heart) Clinic.

d) Stubby holders with messages of eat less fat, sugar & grog

e) Poster for Waist measurement – male & female (this visit).

f) Advertisement on TV

g) T Shirts & Book Marks

h) Car Magnet

Other Activities

In-service by Jo 24/2/05

"Emergency Room – What is wrong with this room" – maintaining a well prepared Emergency Room and knowing how to use the emergency equipment

- Use of Defibrillator and Monitoring heart rhythm
- Oxygen Equipment – Use, care of, replacing/changing flow meters & cylinders
- Oxyviva – DRABC – First Aid in Emergency
- Restocking
- Care of equipment

Rural & Community Visits:

Screening, Chronic Disease Point of Care follow up and retinal screening were also done by BGHS staff at locations outside of BGHS Clinic e.g. Norseman, Coonana, Morapoi (Mt Margaret), Mulga Queen & Leonora and Kalgoorlie settlements/communities (town camps).

Clinics at Bega
Chronic Disease Follow up - Point of care
Renal
Echo
Eye - The retinal screening program is conducted by AHW Albert Dougherty
Podiatry
Diabetes Educator – Penny Knott. Trains AHW's and conducts healthy weight program

Bega Garnbirringu Staffing

- Dr Ben Ansell – Senior Medical Officer
- Denise Pompey - Bega Garnbirringu Clinic Manager
- Elizabeth (Elize) Willemse (Reg Nurse) - Program Coordinator. Elize's role oversees Diabetes – Point of Care, Heart Health, Renal Clinic, Podiatry Clinic, Dental, Eye Health, Women's Health and general relief
- Naomi Winters - Heart Health Worker. Naomi does the women's CD Point of care testing
- Albert Dougherty - Eye Health Worker. Albert does the men's CD Point of care testing in the absence of the Diabetes Health Worker
- Michael Smith - Men's initial assessment Health Worker
- Audene Ware - Women's initial assessment Health Worker
- Irene Saunders -Data Entry
- Sally Condon - Women's Health Worker
- Kathleen Hanson - Child Health Worker
- Leanne - Pharmacy

Mentoring Topic Summary

Michael Smith

- Process of screening (Surveillance) for clients and referral to Point of Care
- Normal values for BP (without or with CD)
- Risk Factors for CD
- Investigations for assessing chronic disease
- Kidney, filtering system – effects of hypertension
- Diagnosis of Hypertension
- Management of hypertension, medications for HT
- BSL control
- Wants a chart for explaining Point of Care. (Posters in the POC room)
- BSL: normal range without diabetes, acceptable level for people with diabetes, what to do if BSL > 5.6 with symptoms or risk factors;
- HbA1c – interpreting results
- Glucose tolerance test – how to do and interpreting results.
- Urine dipstick – interpreting results
- Waist measurement – significance of doing measurement
- Weight & height
- Weight/height vs waist height – latter stronger indicator of CD

Patricia Kelly (Diabetes AHW)

- Priorities when assessing patients for, and with, chronic disease
- Ferret Surveillance – for everyone – BP, Height, weight, waist, Urine dipstick, BSL
- Ferret "Problem" – Diabetes, Renal, Hypertension
  Priorities for management and follow up
- Family History
- Waist – significance of measurement
- Abnormal serum creatinine – significance – GFR
- Blood tubes – serum – UEC's etc, verses red cells – Hb & HbA1c
- The stages of change in risk factor modification
- Normal values for BP (without or with CD)
- Diagnosis of Hypertension
- Management of hypertension, medications for HT
- BP Taking technique
- BGL: normal range without diabetes, acceptable level for people with diabetes, what to do if BGL > 5.6 with symptoms or risk factors;
- Glucose tolerance test – how to do and interpreting results.
- Urine dipstick – interpreting results
- Effect of raised BGLs on the lens of the eye/vision and on the retina
- Medications in Diabetes – action
- Hypoglycaemia
- Pregnancy test

Stephanie Beck & Guiliana Graham

- Surveillance – BGL, BP, Weight/Height, Urine Dipstick, Waist Measurement (Urgent , most basic screen for chronic disease
- Chronic Disease risk assessment – reason why waist/height ratios appear to be more predictive of chronic disease than height/weight ratio.
- Ferret – "Problem" means having a health problem/disease eg diabetes, renal disease, hypertension, high cholesterol, cardio- vascular disease
- Priorities for chronic disease management - BGL, BP, Weight/Height, Urine Dipstick, Waist Measurement, Bloods & Urine proteinuria/ACR
- Blood pressure without Chronic disease & Blood pressure with chronic disease.
  Normal/abnormal values & management.
  Diagnosis of Hypertension.
- Referral of people with abnormal values to Point of Care.
- Diabetes – Screening. Interpreting BGL over 5.6mmol/l when a person does not have diabetes. Check for risk factors and do GTT if BGL > 5.6mmol/l with two or more risk factors or symptoms are present.
- HbA1c – what it means
- ACR – what it means
- Foods for BGL control
- Hypoglycaemia – recognition & management

Naomi Winters (Heart Health AHW)

- Computer – how to make folders & transfer files
- Ferret
  – Surveillance – screening for all clients coming to BGHS. Referral for abnormal results
  - Chronic Disease – minimum tests/priorities for each clients visit to BGHS.
- Blood pressure without Chronic disease & Blood pressure with chronic disease.
  Normal/abnormal values & management.
  Diagnosis of Hypertension.
- Chronic Disease risk assessment – reason why waist/height ratios appear to be more predictive of chronic disease than height/weight ratio.
- Weight loss/Exercise/Waist (and fitness)
- Chronic Disease folder – go through step by step.
- BP/ BGL/ HbA1c/ Urine Dipstick/ waist measure (large measure tapes)
- Blood pressure management – progressive BP readings & medication increments to reach target level of management
- Chronic Disease Risk
  - Waist/height (most reliable)
  - Weight/Height – BMI (Fat weight/muscle weight)
  - Waist Hip (not as reliable as body shapes are different)
- BMI – weight in Kg divided by Height in metres squared.

  $$\text{BMI} = \frac{\text{weight in kg}}{(\text{height in metres})^2}$$
- Fat around the middle is the best indicator of Chronic Disease → usually means fat around heart, liver, kidneys, in arteries
- How to do an ECG

Albert Doherty (Eye Health AHW)

- Risk for Chronic Disease -
  Chronic Disease Risk
  - Waist/height (most reliable)
  - Weight/Height – BMI (Fat weight/muscle weight)
  - Waist Hip (not as reliable as body shapes are different)
- Realistic goals for weight loss
- Cholesterol Total & Fractions
  - Risk for high Triglycerides (Obesity, Uncontrolled Diabetes, Excess Alcohol)
- Medications in Diabetes and Hypertension
- Chronic Disease Risk factors & Management
- Medications – Effect of Statins
- Management of Hypertension
- How to use the Creatinine Clearance Calculator, Meaning of GFR & results
- Review of the Chronic Disease Screening - normal/abnormal values

Sally Condon

- Blood pressure without Chronic disease & Blood pressure with chronic disease. Normal/abnormal values & management.
  Diagnosis of Hypertension.
- Hypertension follow up and management
- Diabetes – Screening. Interpreting BGL over 5.6mmol/l when a person does not have diabetes. Check for risk factors and do GTT if BGL > 5.6mmol/l with two or more risk factors or symptoms are present.
- BGL Range – fluctuations & management for good BGL control
- Review of the Chronic Disease Screening - normal/abnormal values
- Identifying clients for CD referral/follow up and Point of Care

Audene Ware

- Review of the Chronic Disease Screening - normal/abnormal values
- Blood pressure without Chronic disease & Blood pressure with chronic disease. Normal/abnormal values & management.
  Diagnosis of Hypertension.
- Hypertension follow up and management
- Lifestyle risk factor management
- Chronic Disease Risk
  - Waist/height (most reliable)
  - Weight/Height – BMI (Fat weight/muscle weight)
  - Waist Hip (not as reliable as body shapes are different)
- CD programs in other Centres

Melissa, Pauline & Penny (Med Student)

- Review of the Chronic Disease Screening - normal/abnormal values
- Identifying clients for CD referral/follow up and Point of Care
- Eye care in Diabetes/Hypertension
- Lifestyle risk factor management in chronic disease
- BGL Range – fluctuations & management for good BGL control
- Chronic Disease Risk
  - Waist/height (most reliable)
  - Weight/Height – BMI (Fat weight vs muscle weight)
  - Waist Hip (not as reliable as body shapes are different)
- BGL monitoring & BGL response to various foods (rapid BSL rise vs slow BSL rise) – choosing foods for desired response eg using low GI foods for better control
- Blood pressure without Chronic disease & Blood pressure with chronic disease. Normal/abnormal values & management.
  Diagnosis of Hypertension.
- Gestational Diabetes, reasons for BGL rise in pregnancy, foetal & maternal BGL the same (crosses placenta) – manage mother's BGL strictly. Use of insulin for strict control

Nurse Coordinator's Report (2)
Visit to Bega Garnbirringu Health Service (July, 2005) with South African nurse coordinators

Joanne Smith

We were met by the Chronic Disease Nurse Coordinator, Elize Willemse; Heart Health Aboriginal Health Worker, Naomi Winters and Data Entry Person, Irene Saunders.

Elize gave an outline of the two day program for the nurses and then introduced them to Gary Cooper from Media & Health Promotions to give an overview of the services at BGHS.

Gary gave the most informative coverage of what was happening in the Health Promotions area at BGHS and a very rich explanation of Aboriginal Culture. He showed the TV advertisements, CD's, Video on Diabetes produced by BGHS, Posters, Media productions, Networking & Languages. Also the video – "The Indigeneous Diabetes Foot – Looking after your Feet" produced by the Aust Govt Dept Health & Aging & SARRAH – see www.sarrah.org.au

He then took us on a tour of the facility

1. *Clinic:* Doctors/doctors rooms; met Dr Ben Ansell – Medical Superintendent; Pharmacy; Male & Female AHW's and the initial patient assessment rooms; Chronic Disease Point of Care Room & Diabetes AHW, Patricia Kelly.
2. *Administration:* Met Greg Stubbs, CEO, & other administration staff
3. *Creche:* Available for staff to have children cared for during work hours.
4. *AHW School:* Head Lecturer – Debra gave an overview of the program for AHW training
5. *Mobile Toy Library:* This is used to allow children to be looked after near the bush clinics when staff are attending courses and conferences
6. *Social Support Services and the "Bringing Them Home" program*: This program is involved in a national link up of Aboriginal People to find missing relatives who were from the "Stolen Generation" and reunite them with their families. Sensitive and skilled counselling is provided for both the person being reunited with his/her family and the family members. Gary gave a detailed overview of the History of Aboriginal People in Australia-
   * 1967 Citizenship recognition
   * Years of Stolen Generation & Welfare Removal
   * Land Claims
   * Killings in early Colonisation of Australia

We then had an informal discussion with Elize, Gary & the ZA Nurses.

12.30 to 3pm – Working Lunch – Jo, Eugine & GG
Detailed discussion on challenges facing the ZA nurses in conducting the CDOPPP, debriefing, support and encouragement. Issues: Changing staff, staff resignations, motivating staff to engage in CDOPPP, constant re education. Exchange of challenges for Jo in the CDOP in Australia with AHW's - supportive two way.

3.30pm – Presentation by Eugine & GG on the CDOPPP in Soweto.
This was excellent – there was a full attendance from BGHS staff including CEO & some Doctors. The nurses were asked to repeat the presentation for some staff who came in late. Several questions arose and great interest was shown in the health issues & staffing shortages in the Soweto clinics.

The BGHS AHW's were impressed with the work done in the CDOPPP and realised that they had things pretty "easy" in comparison. Resources were readily available in the BGHS program & client numbers seen are much less compared with the resource poor extremely busy Soweto Clinics. The nurses met a South African Doctor working at BGHS. Elize is also South African – much interest & discussion followed of their various experiences. CEO, Greg Stubbs, expressed an interest in developing a partnership with DMAIKD & the Soweto Clinics for exchange of staff on a one to two month's basis.

Friday 22nd July 2005

The morning was spent with Patricia Kelly, Diabetes AHW to discuss the CD Program Process. Patricia gave a very detailed summary of the process of CD Screening and regular follow up and management for the patient with CD - as follows:

1. When patients arrive at BGHS they see the male or female AHW first to begin the initial assessment. As much as possible at the first interview the patient has a history taken for existing problems, health behaviors, medications, family history, weight, height, waist, blood pressure, capillary finger stick for random glucose, urine dipstick.

2. If any of these clients have a chronic disease or have abnormal results they are referred to the Point of Care AHW (Diabetes AHW, Heart Health AHW or Eye AHW) for the relevant tests for their Chronic Disease

- HbA1c for people with diabetes (three monthly), or an abnormal glucose
- Lipids
- Urea, Electrolytes, Creatinine, Full blood examination, Liver Function tests
- Spot urine sample for dipstick urinalysis
    - Urine ACR if they have any of the following:
        * Dipstick positive for protein 1+ or more (excluding pyuria)
        * Dipstick negative for protein if they have the following conditions:
            - diabetic
            - hypertensive
            - have past abnormal readings
            - are on antihypertensive

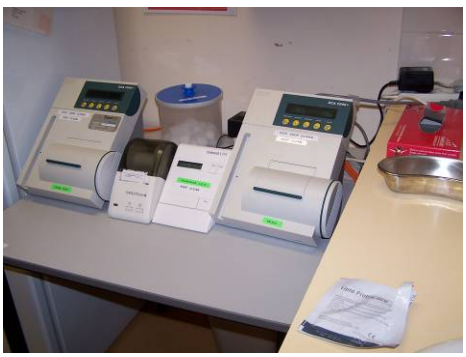
        and/or renal-protective treatment
            - People who have scabies or a past history of post-streptococcal glomerulo-nephritis
            - Skin exam: sores, fungal infections, scabies
            - Limbs – swelling
            -Foot – pulses and sensitivity (Diabetes & CVD)
        * Optional addition of exam of heart and lungs

The onsite laboratory equipment allows for instant pathology results. Patricia explained the Machines used for the following tests:

- DCA2000+
    - HbA1c (6 minutes)
    - Urine ACR (7 minutes)

- Clinitek 50
    - Urinalysis (20 seconds)

- Cholestech L.D.X
    - Plasma lipids (5 minutes)
        - Total cholesterol
        - LDL cholesterol
        - HDL cholesterol
        - Triglycerides



(Cholestech LDX –
middle machine & printer)

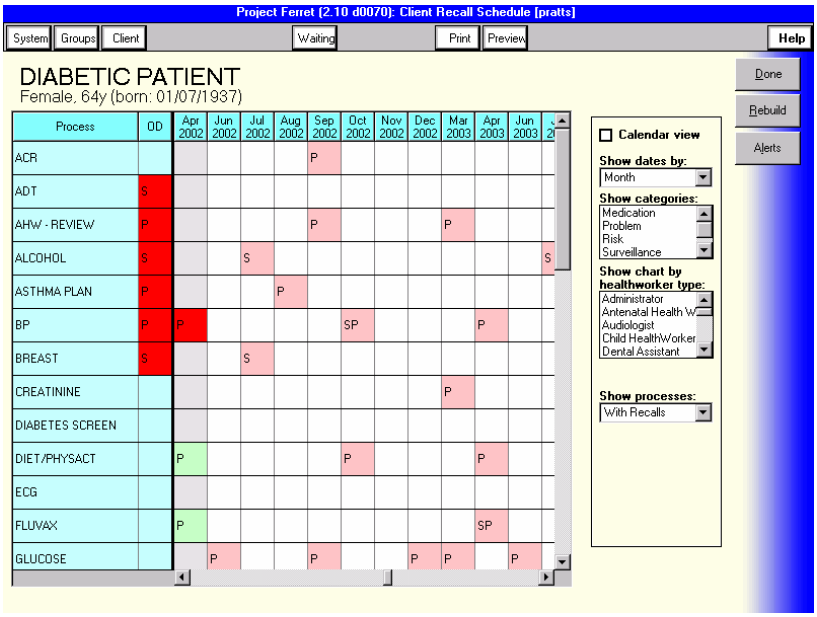
3. Patients then visit the doctor with test results at hand and medications can be commenced or adjusted.

4. Medications can then be dispensed immediately making the visit to the clinic holistic

5. Appointments are scheduled and written in the Driver's diary so that the patient can be picked up by the drivers on the appropriate day.

6. Results are entered into the database. Clients with abnormal results are assigned a Chronic Disease Plan for early follow up and/or recall

7. Database:
Patricia then explained the Ferret Database System – All clients attending BGHS are assigned a Health Chart for regular Surveillance (Screening) or Chronic Disease Care Plan



** Surveillance Care Plan (Screening)
** "Problem Care Plan" (e.g. Diabetes, Hypertension, Renal Disease)

Pink Boxes = Test Due
Green Boxes = Tested
Red Boxes = Overdue

8. Other Activities performed by the AHW'S & Coordinator:

- Health Promotion Activities include Information Days for the public & people with CD. The Health Workers liase with other organizations providing health education programs using visual displays e.g. Fat & Sugar in Foods, posters on the various CD topics, and disease process models. Screening is offered to the public at these events.
- Education for staff with weekly in-service
- Patient Education is done in the clinic setting and in group work – especially on visiting specialist clinic days. Education is done through using paintings, pictures, flipcharts & CD models. Paintings depict various health issues in local art designs
- One on One Health Worker Mentoring in the principles of chronic disease screening and management is done by the program coordinator, KDRP/UQ nurse coordinator, visiting diabetes educator.
- On Site Computer Training is provided for the AHW's

9. Evaluation & reports:

- Regular meetings are held with Coordinators, Medical Officer in Charge, Management of the Health Service and the KDRP Nurse Coordinator
- Regular Feed back to Director of the Centre for Chronic Disease, KDRP/University of Queensland
- Phone Conferences
- Changes are introduced, as required, to the program process
- Feedback is given to the Health Service & Community
- Six to twelve monthly reports are given to the Health Service of screening and regular health check results - No client names are included in reports
- Presentations of these results are given to Health Staff and Management
- Pictorial Booklets are also done

The nurses then observed the Specialist Eye Clinic – meeting the people who had flown in from the Western Desert to see the Opthalmologist. They discussed the process with the Kalgoorlie Ngaanyatjarra Health Liason Person. The liaison person makes all the appointments at the health service upon request from the western desert clinic staff. She then arranges flights for the patients, meets the plane, provides transport to their accommodation, and for the clinic appointment. Then she ensures they get the correct flight home. The ZA nurses also saw eye laser treatment on a couple of patients.

In the early afternoon the nurses attended a presentation on "Trauma & Behaviour – Developmental and Cultural Perspectives in aboriginal children in Western Australia" by Dr Helen McIllroy - Child Psychologist in Clinical practice in Perth,. The nurses were invited and encouraged by Ben Ansell to attend this presentation. The presentation covered different layers of trauma, loss & Grief and control, plus childhood landscapes.

This day was extraordinary in the clinic – virtually no patients turned up – and none with Chronic Disease – it was thought that there was a funeral in the area as Friday attendance was usually very busy. Hence the nurses did not actually see the point of care machines in action.

The nurses then bade farewell and expressed their thanks to the various BGHS staff.

Report from the chronic disease coordinator, BGHS

CHRONIC DISEASES SCREENING AND MANAGEMENT AT BEGA GARNBIRRINGU HEALTH SERVICES (BGHS)

January 2005 to December 2005

REPORT TO

THE COLONIAL FOUNDATION

Chronic Diseases Team

Elizabeth Willemse

Elizabeth is the coordinator of the chronic diseases project at BGHS.

Albert Doughty

Albert Doughty continues to work as the eye health worker.

Heart Health worker

Naomie is our female health worker who has completed her certificate four at BGHS learning centre. Naomie is the heart health worker.

Diabetes Health worker

The position is still vacant. We are currently advertising for a health worker to fill the diabetes heath worker position previously held by Patricia Kelly, whom resigned December 2005.

Data Entry

Irene Saunders, continue to work as data entry clerk. Melissa Dimer has been appointed as second data entry clerk in December 2005, to record information requested by KDRP. This is a 4 month casual contract.

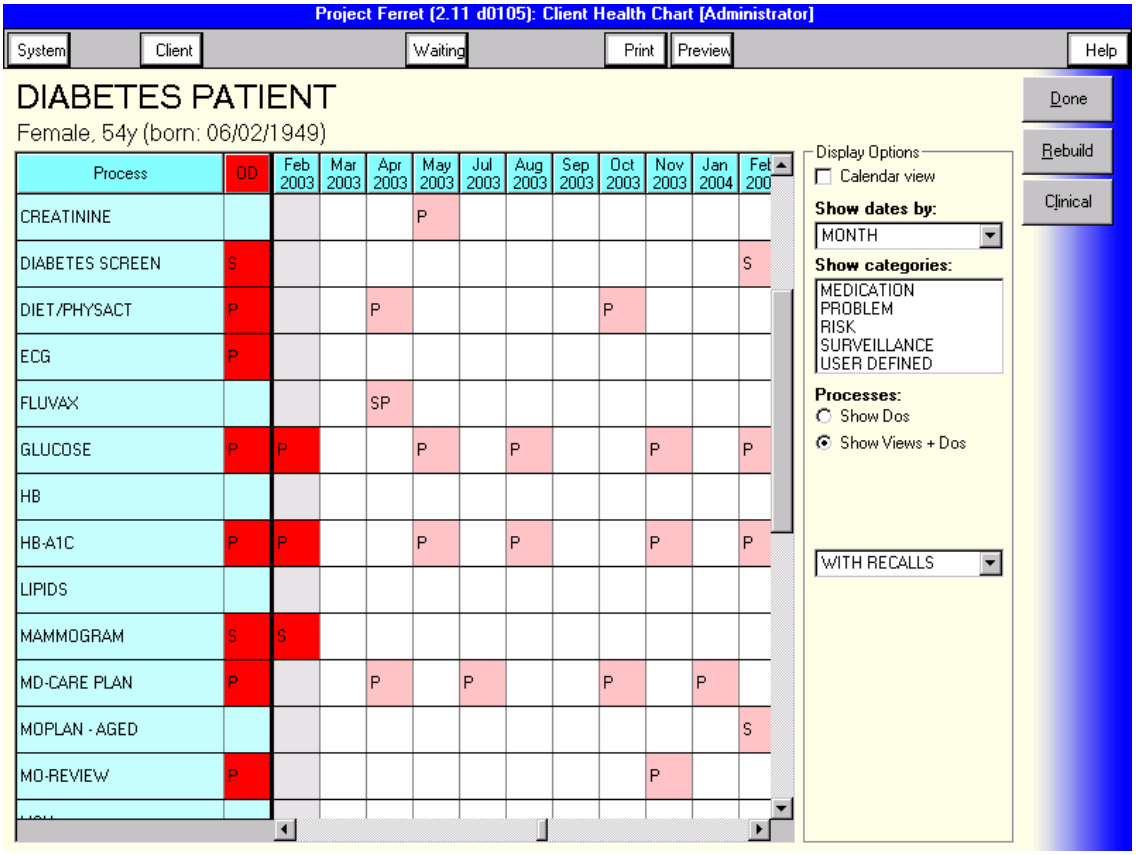
Data Base and Recall

Ferret and Medical Director Computer software are still being used at every client contact by health workers and doctors for data entry and recall purposes. We have regular clinic meetings where data entry and recall issues are discussed.

Assessment of clients is facilitated by the Ferret health screening and surveillance software package. The illustration below shows an individual patient's health screening and monitoring screen from Ferret. The red squares turn green once a screening or monitoring activity has been performed and the data entered.

The 4 key components of Ferret are:

1. Whole of life health chart scheduling "well person's health checks" and chronic disease management to ensure that clients achieve optimum health care coverage without duplication of services;
2. Work management tool to assist managers to deliver their health programs;
3. Reporting system that helps to measure performance;
4. Appointments and Waiting List management



Health Promotion and Events

Health screening barbeques continue to be held at BGHS and various other venues, to detect chronic disease at an early stage. The clients who are found to have an abnormal result are then given their results or sent a letter and asked to see a doctor at BGHS or their own regular doctor.

The following community health promotion events were held during the reporting period. The events involving the chronic diseases health workers, included diabetes and chronic disease screening and fun activities promoting a healthy lifestyle.

We had a retinal screening day at BGHS in February 2005. A total of nine retinal screenings were done on Diabetes clients, also other diabetes tests were done on clients overdue. The retinal photographs continue to be sent away to Doctor English, the Ophthalmologist, and he lets us know who needs to be seen at his next clinic for treatment.

Kalgoorlie-Boulder Community Fair is a major town event that ran on 11th & 12th March this year and was visited by over 14,000 people.

The BGHS display consisted of various elements of health promotion including Diabetes health. The chronic diseases team organized a free medical screening at the Fair. 124 people were screened. This comprised of 37 men and 87 women. Screening included checking blood pressure, height, weight and blood sugar levels. Approximately 22 clients were referred to see their health provider. The Fair was a great opportunity for the Health Workers to provide community education regarding eating habits, effects of smoking on the body and the importance of regular exercising. We will continue to reach out and educate children at schools and the community in conjunction with other health organizations. BGHS won the first price for the best display.

A one day rural trip to Coonana was undertaken in March 2005. Diabetes screening was done on a number of 16 clients. Retinal screening was done on a number of 6 clients. In agreement with community health we propose to provide them with onsite POC testing. POC testing is an onsite test only acquiring a finger prick and a urine sample to test HBA1c, Lipids and ACR testing. It only takes about 7 minutes before results are processed. During this time the health workers educate client regarding healthier eating habits and exercise. Information brochures were taken to the communities regarding chronic diseases and left there for them to be able to access as they need to. During the month of June a two day trip was undertaken and as proposed POC testing was provided to the community as well as retinal screening on clients who missed out on the previous visit. A number of 30 clients were seen during this visit.

A two day, follow up, visit to Mulga Queen and Morapoi was undertaken in March 2005. This visit included a doctor's visit to the community as well as POC testing. A number of 27 clients were seen. Flu and Pneuma vaccines were given to clients during this visit. They had their overdue POC testing done. Medication was reviewed by the doctor and other issues addressed. The next visit is proposed to take place in the month of July. Health related brochures were readily available.

During the month of April a Christian kid's camp was hosted at the Warburton community. The eye health worker set up a rural clinic the week of the 11th – 16th April 2005. A number of 300 kids attended this event. During this event the eye health worker screened a number of 38 people for chronic diseases. A number of 130 clients were attended to with minor medical needs such as dressing and sprains. Information brochures were readily available.

A Diabetes day was held on the 19th of April 2005. A number of diabetic clients, who were overdue their regular diabetes tests, were invited. Twelve clients attended and all their overdue checks and tests were done, for example POC testing, retinal photography and podiatry review. Diabetes educational information and recipes was handed out to clients. The podiatrist, diabetes educator and the chronic diseases team were available to answer questions or educate clients as needed. We intend to continue having Diabetes days to keep up to date with our clients' diabetes tests and promote healthier live style habits. Promotional display boards were set up to inform our clients of healthier eating habits and the importance of exercise.

A one day trip to Leonora was undertaken in the month of April. Healthy promotion displays were set up and screening for chronic diseases were done as well as POC testing on clients with high blood sugar levels or high blood pressures. Brochures and information was readily available for clients as the need occurred. Display boards containing information on chronic diseases was displayed for the clients to view. The chronic diseases team was also available to answer health related questions. We propose to provide this service to the community on a regular base. Client with abnormal results were referred on to their health practitioner to be reviewed. POC testing was done on a number of 10 clients and screening was done on a number of 20 clients.

Client having POC testing done

During the month of May, a one day visit to Menzies was undertaken. A number of 15 clients were screened for chronic diseases. Retinal screening was done on a number of 10 clients. Clients with abnormal result were referred to their health provider for review. We propose to provide them with this service on a regular base. Brochures and information packs were available for the clients to take as needed. Display boards containing information regarding chronic diseases and healthy messages were set up for clients to view.

During the reconciliation week in May, BGHS had a BBQ in St Barbara Square. Healthy promotion displays were set up in the square for public to view. Fruit were handed out and healthy kangaroo kebabs were served. A number of 300 public attended this event. The chronic diseases team were available to answer any health related questions the public had.

In conjunction with the Norseman community health, a one day outreach visit was undertaken. Due to staff shortages POC testing could not be done during this visit. We propose to do POC testing during the next visit. This visit included a doctor's visit. A number of 31 clients were

screened for chronic disease. Two retinal screenings were done. A health promotion display was set up and brochures and information was readily available as needed.

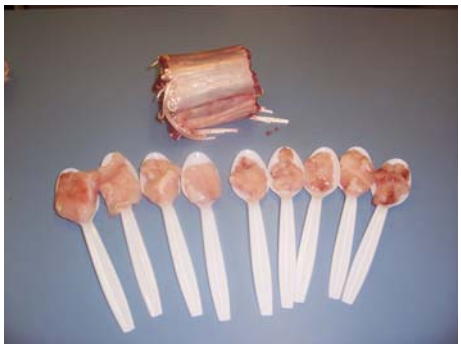
Screening done in Norseman

Diabetes Week was held during the month of July 2005. BGHS participated in this event by hosting a healthy breakfast event at BGHS on the 12th July. The chronic diseases workers together with the dietician and podiatrist, decided to present a healthier version of the old favourite bacon & eggs, fitting in with the "Choose a Healthy Breakfast" theme that the Goldfields Population Health would be promoting. About 50 people came along to our healthy breakfast for a feed of grilled tomatoes, mushrooms, onions, zucchini fritters, eggs, baked beans, wholegrain toast (no butter), and fruit. While a few commented on "no bacon" they also appreciated the vegetable alternatives and the help with getting some of the recommended daily minimum of 5 veg. 22 people participated in a quiz that made them walk around the block to answer the questions for the change to win a food basket full of plenty of balanced diet goodies. The children too were walking around the block for their chance to win their own healthy snack hamper. We all had an enjoyable morning in the winter sun. A few healthy muffin and fritters recipes were handed out during this event. The event also included healthy displays, promoting activity and healthy food choices. The diabetes educator, podiatrist and chronic diseases team were available to answer any questions clients might have. Brochures and other information regarding chronic diseases were readily available for clients to take as needed.

Diabetes Day

A one day rural trip to Mount Margaret was undertaken in August 2005. Screening was done on a number of 21 clients. Retinal screening was done on a number of 9 clients

A Healthy Cooking Group was run at BGHS for woman over a period of 4 weeks. These included general healthy food options and specific sessions of healthy lunches and sweet options as requested by participants. It also included a shopping tour. A number of 4 – 10 people attended each session. The dietician also ran 2 separate healthy eating group education sessions at BGHS as part of Men's Health (3 Participants) and Woman's Health forum (8 participants).



A one day field trip to Leonora was undertaken in September 2005. Screening was done on a number of 10 clients. Retinal screening was done on 2 clients. Brochures and information regarding chronic diseases was readily available for clients to access as needed. Education was provided to clients about the importance of exercise and healthy eating habits.

During the month of September and October a number of BGHS staff participated in the 8 week 10 000 step challenge. This is a community based project aimed at encouraging daily physical activity. The project is run by a number of agencies. Pedometers are used to motivate people to increase the amount of physical activity during normal daily activities. The aim of the

course is to take a minimum of 10 000 steps per day with participants recording their own details along the way. BGHS managed to enrol a number of 6 teams containing 4 team members each.

NAIDOC week is a large community event that happens annually. About 500 people attended the NAIDOC celebrations. BGHS participated in NAIDOC week activities during the month of October 2005. We had an open day at the clinic that included a health promotion display and screening on the 11th of October. The BGHS display consisted of various elements of health promotion including heart and diabetes health. On the 12th of October the chronic diseases/ diabetes team did health promotion and screening at Centennial Park. Information was provided to children and adults regarding topics such as healthy eating, effect of smoking on the body, and the importance of regular exercise. A number of 70 people were screened during this period. Screening included checking of blood pressure, height, weight and blood sugar levels. Clients with abnormal result were referred to BGHS or their general provider for review.

We will continue to reach out and educate children at schools and the community in conjunction with other health organizations.

During the month of October one of the chronic diseases health workers, attended the "Friends" camp at Morapoi Station as the heath worker. "Friends" camp is staffed by volunteers from different Christian churches. The camp is an activity of Yiwarra Palya which is part of The Christian and Missionary Alliance of Australia. During this period, the chronic diseases health worker attended to the children's first aid needs as required. The chronic diseases health worker also provided fitness challenges during activity time as well as basic screening. Of the children screened there was no need to refer any with abnormal results.

A two day rural trip to Coonana was undertaken in November 2005. Screening was done on a number of 28 clients. Retinal screening was done on a number of 3 clients.

During World Diabetes Day we had a second healthy breakfast at BGHS. A number of about 40 clients attended this event. We prepared a different variety of food to the previous event, aiming to introduce different ways of preparing food and promoting healthier varieties of choices for breakfast. We tried to promote the slogan 5 veg and 2 fruit. We also had all the different varieties of low fat and fat free milk to taste. The aim was to introduce healthier choices. Brochures and information was readily available for clients as the need occurred. Display boards containing information on chronic diseases was displayed for the clients to view. The chronic

diseases team, dietician and podiatrist were also available to answer health related questions. We propose to provide this service to the community on a regular base.

Food Shopping Tour

The dietician, Katrina Weber, took a number of seven clients to Woolworths. She educated them on a number of topics such as: interpreting of labels and healthier food choices when shopping. They focused on the fat and sugar contents, as well as the fibre content in foods. They compared different food with lower fat, sugar, or those with higher fibre content and looked at how to incorporate this into their daily menu. Because of the time constraints they did not look at the meat, snack or fruit section. We hope to arrange regular shopping tour sessions in the future.

Woman Walking the Talk

In partnership with NTP and Sport & Recreation, our chronic diseases health worker started a walking group aimed at woman, formally called "Stroll with a Stroller." The name was changed to target all women not exclusively moms with kids. The aim was to encourage them to increase their physical activity through an eight week walking program held at Centennial Park every Tuesday morning 10.30 – 11.30. During the mom's activity session, the mobile crèche entertained the children. After the walks a light morning tea was provided. The chronic diseases health worker monitored the ladies blood pressure and blood sugar levels throughout the eight weeks.

It is envisaged that on the completion of the eight weeks, this walking group will move onto the gym program, yet to be devised (here at BGHS) while a new group will start the walking program.

This is an exiting program which will benefit from the partnership we have formed enabling us to deliver a better service to the clients.

Podiatry Service

The Podiatrist continues to visit BGHS every Tuesday. In addition to providing an individual consulting service for clients the Podiatrist has provided in-service education sessions for our health workers in order to up skill them in basic podiatry, particularly in assessment of the diabetic foot. Health workers continue to opportunistically screen patients as they present to BGHS and refer patients to the Podiatrist when appropriate. Referrals to the podiatrist also come from our General Practitioners. A display board containing information regarding foot care continues to be placed in the clinic to promote foot awareness.

The chronic diseases health workers continue to put in a lot of effort to promote the podiatry service. The chronic diseases health workers continue to send E-mails to the doctors and other health professionals working in the clinic, reminding them of the service on a regular basis. Notification boards have been placed in the waiting area as a reminder of the service provided on the day of each clinic. Letters continue to be sent to clients and appointments made. Faxes and emails continue to be sent to community health organisations, old age homes and communities. Clients continue to be advised when presenting to BGHS, of the service provided, and the importance of the service. Transport is also provided to our clients to enable them to access this service.

During this reporting period we have had a number of foot care workshops for our clients. The aim was to teach them how to care for their feet, why they should inspect their feet on a daily base and wear the correct shoes. A number of these workshops included a cooking lesson before. A total of 20 people attended the workshops.

Diabetes Education

Our chronic diseases health workers continue to provide individual diabetes education and counselling to clients with diabetes. Our chronic diseases health workers and the diabetes educator, Penny Knot, conducted a six week healthy weight program in conjunction with our exercise program, for our chronic diseases clients. This also included a shopping tour to educate our clients as to the healthier choices. We had a number of 10 clients who participated in the program. At the completion of the program an incentive was given to the participant who attended all the classes. As mentioned in the previous report, we have developed and implemented an exercise program in an appropriate private location at the back of the clinic. We have purchased exercise equipment for our clients to use. We are planning to expand our exercise program to include men this year, as we have had a few men interested in participating in the program. We are hoping this will happen in the next reporting period. Due to staff shortage we have not manage to get this project up and running. We have made the gym available for staff to use during their lunch breaks, before and after work. Exercise is also being combined with nutritional education.

Penny Knot, the diabetes educator has gone on maternity leave and is replaced by Katrina Weber, a dietician

The Eastern Goldfields Medical Division of General Practice (EGMDGP) provided a dietician as mentioned previously. Together the chronic diseases workers, dietician and other organizations are planning to run the "YHUNGER program at the school. This is still in the planning and consultation process. Hope to have more information on this project during the next reporting period. Katrina together with Gary Cooper (multi Media) is in the planning stages of developing Indigenous appropriate food posters. Hopefully we will have more detail on this project in the next reporting period.

School visit

The heart health worker conducted a workshop to promote the benefit to healthier eating and physical activity for the grade two class at the Boulder primary school. The activities included:

- The Australian guide to healthier eating. They discussed the different food groups and a poster was displayed for them to visualize.
- They discussed the fat contents in food, also displaying posters for the kids to visualize. The kids had to complete an activity sheet before to gather their knowledge on the sugar and fat contents in food.
- The fat model was handed around and group discussions were held.
- Coke versus diet coke experiment – put a can of coke and diet coke in a bucket of water. The coke will sink to the bottom while the diet coke will float. This raises awareness as to how much sugar is in coke.
- Brief talk about diabetes – what it is, causes and treatment.
- What are physical activity and the benefits was discussed.
- To encourage physical activity pedometers were handed out to the class.
- The kids had an opportunity to ask questions.
- Gift bags, including a healthy snack, fruit kebab recipe, pamphlets, activity sheet and BGHS promotion material was handed out.

Point-of-Care (POC)

BGHS in partnership with Flinders Medical Centre continue to carry out POC laboratory investigations. We currently have the capability to carry out a thorough range of tests onsite:

- HbA1c
- Urinalysis
- Urine albumin creatinine ratio (ACR)
- Plasma lipids (total cholesterol , LDL, HDL, triglycerides)
- Blood glucose level

Point of Care (POC) pathology testing is used to monitor our patients with chronic diseases.

Clients at high risk of heart and renal disease have their POC tests done as a screening tool. The chronic diseases team continue to use POC tests, which provide rapid, accurate results, raising our standard of care. Health workers use the time during which results are being processed to educate patients on health issues. The results of the POC tests are entered into Ferret (a health screening and surveillance software package). This package has a recall system.

During the reporting period we had one visit from the POC team from Flinders Medical Centre. Seven staff members, including students and the diabetes educator were trained during this visit. In October 2005, our diabetes health worker, Patricia Kelly, attended the POC seminar held in Alice Springs. Patricia has resigned since.

Specialist Clinics
Renal Specialist

Month	Male	Female	Total
January 2005	1	7	10
February 2005	6	6	12
April 2005	6	8	14
May 2005	2	5	7
July 2005	3	3	6
August 2005	3	6	9
October 2005	7	5	12
December 2005	2	9	11
		Total	79

Podiatry clinics

Month	Male	Female	Total
January 2005	0	12	12
February 2005	2	15	17
March 2005	8	15	23
April 2005	4	9	13
May 2005	4	8	12
June 2005	1	9	10
July 2005	2	8	10
August 2005	8	13	21
September 2005	7	2	9
October 2005	5	7	12
November 2005	11	16	27
December 2005	5	5	10
		Total	176

As a result of the focus on chronic disease at Bega Garnbirringu a number of patients have been diagnosed with renal disease and referred to the visiting renal physician, Dr Mark Thomas. Elizabeth Willemse liaises very closely with Dr Thomas and his staff at Royal Perth Hospital, to ensure that all facets of care are coordinated for our renal patients.

Eye Specialist and Dental clinics

Health Professional	Visits	No. Of clients seen
Eye Specialist	4	140
Dentist	14	340

Training

A number of BGHS staff, including doctors, Naomi Winter and Patricia Kelly attended a two day cultural awareness training camp at Morapoi (Beulah Place) during the month of May. Beulah Place is situated 181 km north of Kalgoorlie/Boulder near Kookynie, Western Australia on the Golden Quest Trail. Access to Beulah Place is by 171 km of bitumen road and 11 km of gravel road via Kalgoorlie/Menzies and Kookynie roads. Beulah Place (Morapoi Station) is a working community of 50 residents with a mission to become self-reliant, providing housing employment and training for all Indigenous people who choose to live there. Special arrangements need to be made for accommodation and catering. This was hosted by Mr. G. Stubbs. The training covered a number of topics such as: surviving in the bush, native medicines, Aboriginal history, culture, and beliefs etc. The camp included visits to certain sacred sites. The staff found this training very educating and enlightening and the information given during the course useful. It makes it easier to communicate with and understand our clients.

Jo Scheppingen, nurse coordinator of the KDRP project, paid BGHS a visit the 14th to 25th February 2005. The chronic diseases coordinator arranged for all the health workers to relieve each other via a roster system over the two week period. During her visit all the health workers had a refreshers course on the management of chronic diseases clients. Also a refreshers course on the treatment room restocking and equipment used in an emergency was given. A hard copy of the roster for the training sessions is available. Albert Doughty, the eye health worker witnessed doctor English perform cataract surgery in theatre at the KRH the 18th March 2005.This was arranged by Doctor English's office.

E. M. Willemse, the chronic diseases coordinator and Kathleen Hansen the child health worker attended a free one day immunisation workshop arranged by community health Ware Street. Various subjects regarding immunisation were covered. A hard copy of the workshop outlines is available. Albert Doughty, the eye health worker, attended a refreshers retinal screening workshop at Community Health Conference Room, Broome hospital the 23rd to 27th April 2005. To enable health worker to attend this training, special travel arrangements to Perth and then to Broome needs to be made also accommodation arrangement for the period of the training event needs to be made. The retinal camera workshop are aimed primarily at retinal camera operators, health workers, nurses and medical officers in the Kimberley, but operators from anywhere in WA are welcome to attend. The first day is up skilling suitable for all camera operators. The second day is only the morning and divided into two parts: practical camera session for beginners/occasional users. A hard copy of the workshop outlines is available.

All the health workers in the clinic attended an update on new triple diabetes treatment given by the Avandia rep, Neil Coughlin, the 18th May 2005. This was hosted by BGHS in the staff room by E.M. Willemse. A number of invitations were handed out to BGHS doctors to attend the dinner information session at the Broad water restaurant.

A number of 19 members of BGHS staff and students from the learning centre attended an Elastoplast strap smart taping workshop the 19th April 2005 hosted by BGHS. This workshop was arranged by E.M Willemse the chronic diseases coordinator and Sarah Ashwin from the Department Sport and Recreation. The aim of this workshop was to learn to correctly tape an ankle, thumb and finger to prevent against minor sport injuries. A hard copy of the workshop outlines is available.

Naomi Winter, the heart health worker attended a cardiovascular training course the 27th to 30th June 2005 in Sydney. To enable health worker to attend this training, special travel arrangements to Perth and then to Sydney needs to be made also accommodation arrangement for the period of the training event needs to be made. Most of the training was conducted at Wollongong Hospital conference room, Shellharbour TAFE campus and Illawarra Aboriginal Cultural Centre. The facilitator was Dean Turner, coordinator Shoalhaven Aboriginal Vascular Program. This course covered a number of cardiovascular subjects, such as: treatment and management, Anatomy and Physiology of the heart, risk factors, role of the AHW, treatment and management etc. A hard copy of the course outlines is available.

A number of BGHS health workers attended a workshop, hosted by BGHS, to talk about establishing an Aboriginal Health workers association in Western Australia. This workshop was arranged by Pam Banerjee and Wendy Martin. Naomi Winter was selected to be the spokesperson for BGHS.