What kind of mungaree? Improving nutrition services in northern Western Australia

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BACKGROUND

The Kimberley region in the far north of Western Australia (WA) covers a land area of 421 000km and supports a population of approximately 32 625 (estimated resident population 2001) with 47% of these people being Indigenous. Prior to 2001 nutrition and dietetic service provision based in the Kimberley was extremely limited with one long term Public Health Nutritionist, one Aboriginal Nutrition Worker and no resident practicing dietitian.

Currently there are two dietitians employed in the Kimberley region. In 2001 the first Kimberley based dietetic position commenced based in Broome, covering the entire region. This service increased to two dietitians in late 2002, one based in Broome, another based 1000 km to the north-east in Kununurra, both employed through the Kimberley Division of General Practice (KDGP). With the main KDGP office being in Broome, the East Kimberley dietitian works out of the Ord Valley Aboriginal Health Service (OVAHS) in Kununurra.

BRIEF HISTORY OF NUTRITION SERVICES IN THE KIMBERLEY REGION

Prior to 1993 the documented nutrition work in the Kimberley region was primarily in the form of research projects as discussed by Kerin O’Dea, Helen Sullivan, Michael Gracey and others. The collation of this work, particularly that done in the Fitzroy Valley by Gracey and Sullivan in the area of failure to thrive, and the work of O’Dea and colleagues regarding diabetes contributed to the establishment of a Public Health Nutritionist position in 1993. Periodic support was provided by the Principal and Assistant Principal Dietitian from Perth prior to the establishment of the Public Health Nutritionist position. This support was mostly health professional support, food service input, Aboriginal Health Worker training and resourcing, without significant clinical service provision.

The Public Health Nutritionist position has been held by Robyn Bowcock since 1993 and during that time has co-ordinated a range of projects including catering staff training, market basket surveys, school canteen training, and the Canning Stock Route Challenge (focus on type 2 diabetes prevention in schools). There have been a range of projects focusing primarily on Aboriginal Health Worker training and working with remote stores. In addition, one Aboriginal Nutrition Worker position has been based in Wyndham and held by Stanley Law. The current focus of Public Health Nutrition in the Kimberley is on school nutrition and diabetes awareness.

The six Kimberley hospitals have relied upon tertiary dietetic support from Darwin (~1800km from Broome, ~800km from Kununurra) and Perth (~2000km from Broome, ~3100km from Kununurra). Many of the remote hospitals have placed a heavy reliance on the Dietitians Association of Australia (DAA) Nutrition Manual which provides a brief overview of considerations for specific diet related conditions but without personalisation.
There are currently no private dietetic practices in the region.

**Epidemiology**

The Kimberley region had the third highest death rate of any statistical division in Australia in 1998, at 9.25 deaths/1000 compared with the overall Australian rate of 6998 deaths/1000. The median age at death for Aboriginal people in the East Kimberley 1997-2001 was 47 years compared with 53 years for Indigenous people generally in Western Australia and 78 years for non-Indigenous people.

The main diet-related conditions impacting the Kimberley region include diabetes, obesity, renal disease, ischaemic and other heart disease, and the impacts of poor nutrition on infants and children. The Kimberley has an aged-standardised rate of over double that of the WA state average (12 000 years of life lost/100 000 compared with under 6000 years of life lost/100 000).

**Diabetes, obesity and renal disease**

The Ausdiab report has provided national data regarding the prevalence of diabetes and associated risk factors. Of the participants in the Ausdiab study 59.6% were considered overweight or obese. The high incidence of type 2 diabetes in Australian Aboriginal communities is well documented. It has been suggested that the overall prevalence of type 2 diabetes in the Australian Aboriginal population is within the range 10–30%, a figure at least 2–4 times that of the non-Aboriginal population. The annual rate of death from diabetes related conditions in the Kimberley has been reported at over four times the national rate.

The significant impact of this high incidence of diabetes has been emphasised by the release of the Review of Renal Disease in the Kimberley. The Kimberley region has an exceptionally high dialysis prevalence, almost five times that of the rest of WA. Type 2 diabetes is one of the main contributors to this high level of renal failure.

**Infant and child health**

Poor nutrition is a significant impacting factor on low birth weight babies. The Western Australian Aboriginal child health survey suggests that 11% of West Australian Aboriginal babies were of low birth weight (less than 2500 grams). Poor intrauterine growth is given as the reason in 21% of infants, compared with 13% of births in the total population.

In 2003 31% of children aged 5 years and under registered as clients of OVAHS in Kununurra were classified as ‘children at risk’ with this assessment including failure to thrive.

**More Allied Health Services**

The More Allied Health Service program has allowed for an increase in provision of allied health services in rural and remote areas.

The aim of the MAHS Program is to

improve health outcomes for people living in rural areas by providing opportunities for General Practitioners to link with allied health professionals to upgrade the quality of health service delivery at the local level.
In 2000 a Kimberley needs assessment was conducted to determine which additional allied health services, or extension of existing services deemed most needed in the region. The majority of medical practitioners in the region are employed via WA Department of Health or the Aboriginal Community Controlled Health Services (ACCHS), with only a small number of private practices based in the west Kimberley. In addition to surveying GPs, the needs assessment included surveying a range of other community organisation as detailed in Table 1.13

<table>
<thead>
<tr>
<th>Table 1 MAHS Kimberley needs assessment participants 2001</th>
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<tbody>
<tr>
<td>Mental Health</td>
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<tr>
<td>Community Health</td>
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<tr>
<td>Aboriginal Health Workers</td>
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<tr>
<td>Drug and Alcohol Workers</td>
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<tr>
<td>Aged Care</td>
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<tr>
<td>Home and Community Care</td>
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<tr>
<td>Family and Children’s Services</td>
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<tr>
<td>Refuge Workers</td>
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<tr>
<td>Shire Environmental Health Workers</td>
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<tr>
<td>AMS Clinic Co-ordinators</td>
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<tr>
<td>Diabetes Educators</td>
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<tr>
<td>Counselling Services</td>
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<tr>
<td>Youth Workers</td>
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<td>Women’s Health Groups</td>
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<td>Men’s Health Groups</td>
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<td>Disability Support Services</td>
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<tr>
<td>Family Support</td>
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By providing a dietetic service via the Division we are able to contribute to communities serviced by both ACCHS and state health. This is a strength of MAHS funding operating from the Division, along with the opportunity to contribute to primary and secondary prevention as well as provide direct clinical assessment and intervention. We are also able to work with different organisations within communities, and have been able to contribute to the regional prison service. There continues to be the opportunity for public/private partnerships to further improve access to quality services.

**METHODS OF DIETETIC SERVICE DELIVERY IN THE KIMBERLEY**

The dietetic component of the MAHS program in the Kimberley aims to provide an equitable dietetic service to the people of the region.

KDGP dietitians support medical practitioners in private practice and via State Health and Aboriginal Community Controlled Health Organisations (ACCHO). This support includes the provision of individual consultations, group education, staff training, and a variety of community based nutrition programs in conjunction with local Aboriginal health workers, medical, nursing, allied and community health staff. Across the region both dietitians seek to integrate with local providers to offer community prevention and education activities. Table 2 provides a summary of services provided by the KDGP dietitians.
The dietitians provide outpatient clinics at hospitals, ACCHOs, private practices, the regional prison and remote clinics. Fortunately the majority of general practitioners within the Kimberley region recognise the importance of nutrition and lifestyle promotion in the prevention of chronic disease and thus are, in principal, supportive of non-clinical activities which focus on this. Such activities include diabetes group education, supermarket and community store based nutrition education, supporting Aboriginal Health Workers and Child Health Nurses with community based programs, and healthy lifestyle groups in conjunction with physiotherapy and mental health.

**Consideration of cultural influences during service delivery**

The KDGP dietitians seek to provide a service which is most fitting for the people of the Kimberley region, in conjunction with other health service providers. Thus service delivery is tailored to each site.

**ACTIVITIES AND HIGHLIGHTS — KIMBERLEY DIETETICS**

**Town-based service provision**

There are six towns in the Kimberley region (Table 3). They range in population size from approximately 800 (Wyndham) to 12 000 (Broome), and are subject to seasonal variability associated with significant tourist activity. Service provision has been dependant on travel arrangements, funding, local considerations, and local need as identified by general practitioners, community and remote nurses, Aboriginal health workers, community wishes and the dietitians. The importance of health promotion activities, particularly those which encourage skill development, has been recognised by many of the Kimberley doctors. Support for such activities has been appreciated, particularly in the smaller towns and communities. The continuing demand for individual dietetic consultations sees much competition for time allocated to health promotion activities.

### Table 2 Services provided by the KDGP dietitians

<table>
<thead>
<tr>
<th>Services</th>
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<tr>
<td>Responding to referrals for dietetic services from GPs, Specialists, Nursing, Aboriginal Health Workers, Remote Area Nurses</td>
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<tr>
<td>Outpatient clinics at hospitals and ACCHOs in Broome, Fitzroy Crossing, Derby, Kununurra, Wyndham, Halls Creek</td>
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<tr>
<td>Outpatient clinics at Private GP clinics (Broome) and at Broome Regional Prison</td>
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<tr>
<td>Inservices — Aboriginal Health Workers, Nursing Staff, Catering Staff, Frail and Aged Care Staff, Community Health</td>
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<tr>
<td>Training — eg Diabetes Generalist Training for Nursing, Allied Health, Aboriginal Health Workers. Follow-up support and mentoring</td>
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<tr>
<td>Remote community visits including individual consultations, group sessions eg. diabetes cookups, liaison with community store, capacity building re: healthy lifestyle activities</td>
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<tr>
<td>Community based education groups</td>
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<tr>
<td>Dietetic student supervision</td>
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<td>Administration duties</td>
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Table 3 Kimberley sites serviced by KDGP dietitians

<table>
<thead>
<tr>
<th>Towns</th>
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<tbody>
<tr>
<td>Kununurra, Wyndham, Halls Creek, Fitzroy Crossing, Derby, Broome</td>
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<tr>
<th>Remote communities</th>
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<tr>
<td>Bidyadanga, Beagle Bay, Lombadina, Djarindjin, One Arm Point, Jarlmadanga, Noonkanbah, Wangkatjungka, Bayulu, Joy Springs, Kalumburu, Oombulgurri, Warmun, Doon Doon, Glen Hill, Ringer Soak, Yiyili, Balgo, Bililuna, Mulan, Marralum, Keep River — Police Hole, Doojum, Bubble Bubble</td>
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**Broome**

In the West Kimberley the dietitian is based in the town of Broome. The Kimberley Division of General Practice office is not located within a health service therefore visiting clinic sessions are held at five regular locations in Broome ie Broome Hospital, Broome Aboriginal Medical Service, two private medical centres and the Regional Prison.

The dietitian is also regularly involved in the development and provision of community based nutrition education programs in conjunction with the Broome Aboriginal Medical Service, Broome Community Health and Kimberley Population Health Unit.

One of these community based programs was the Lets Get Physical Broome Style Group which included a six week nutrition component and developed a 5 minute Video on exercise and healthy lifestyle practices for the local television station Goolarri TV (GTV). The video is played a number of times each day as GTV content is replayed continuously on a loop.

**Fitzroy Crossing**

An approach was made by the Karrayili Adult Education Centre Aboriginal Corporation, in Fitzroy Crossing, to combine a literacy and numeracy education workshop with nutrition, shopping and cooking skills. The request was made by the students enrolled at the centre. The content was developed and two three-day workshops were run in different locations in the Fitzroy Valley.

**Halls Creek**

Halls Creek secured funding via the National Child Nutrition initiative for the Numborrahginj Yambagina Nutrition Project. This project was based at the Yura Yungi Aboriginal Medical Service (YYAMS) and included the Good Cheap Tucker research project. Dietetic students that visited the East Kimberley region in 2003 were able to contribute to the collection of data for this project, while the East Kimberley dietitian was able to support the program manager and administrator with various aspects of the project including antenatal planning, group and individual education sessions.

**Kununurra**

In the East Kimberley the dietitian is based at the Ord Valley Aboriginal Health Service (OVAHS), the ACCHO servicing Kununurra and surrounding communities. This co-location with ACCHO staff has allowed for regular and ongoing nutrition support for staff and patients of the Aboriginal Health Service, particularly regarding issues to do with diabetes, obesity, motivation, general nutrition, failure to thrive, physical activity and provision of healthy meals for staff functions and meetings.

There is increasing evidence that chronic diseases seen with the now endemic state of overweight and obesity originate through impaired growth and development during foetal life and infancy. There is much support for programs to work with young mothers and carers of infants and toddlers, particularly those who are failing.
In conjunction with the Department of Community Development, Aboriginal Health Workers and Child Health Nurses from both OVAHS and Community Health, the dietitian in Kununurra was able to contribute to the development and facilitation of “Kids Cook-ups” with this target group. The program ran fortnightly during term time, aligned with off-pay weeks and was held at a variety of venues depending mostly on availability and season. The sessions involved preparing a healthy meal together with a short informal discussion which varied between being a discrete event and occurring during the food preparation time. The staff from the Kununurra Women’s Refuge were made available to provide a crèche for the children.

Remote community service provision

The dietetic support provided to remote communities is often very different compared with the towns, due to factors such as clinic staff support, availability of Aboriginal Health Workers and food access. There is clear need for public health nutrition support in addition to individual consultations and group education. As a result of this remote community dietetic support in the Kimberley has included liaison with community stores regarding availability and accessibility of nutritious foodstuffs, liaison with community councils and community administrators regarding nutrition policy development, and school related nutrition activities particularly those supporting diabetes prevention and the Canning Stock Route Challenge (CSRC) as co-ordinated by the Kimberley Population Health Unit.

Curtin University student placements

Curtin University Dietetics program has placed eight students in the Kimberley region during 2003 and 2004. The University program co-ordinator was also able to visit the East Kimberley region prior to these placements to promote an understanding of workplace and conditions. These placements have allowed students exposure to rural and remote nutrition practice, the complexities of service delivery and the challenges that exist when working in small organisations. Since these placements three of these students have gone on to secure dietetic work in other regional locations in Western Australia.

Diabetes generalist training

The high incidence of type 2 diabetes in the Kimberley, combined with the high turnover of staff with varying levels of diabetes knowledge saw a need identified for locally available diabetes training for Kimberley staff. The program initially developed for allied health and nursing staff was adapted to meet local needs and audience.

The Diabetes Generalist Training program had been piloted using a videoconferencing medium in 2002. This was run locally in Broome and video-linked across the region. The recruitment of a second dietitian allowed for the course to be offered in the East Kimberley and the West Kimberley for both 2003 and 2004. The KDGP dietitians were responsible for co-ordination, facilitation and evaluation of the courses in conjunction with the Kimberley Health Service Diabetes Nurse Educator.

CHALLENGES TO PROVIDING A DIETETIC SERVICE IN THE KIMBERLEY

The dietetic service has been welcomed across the region by medical practitioners, existing allied health staff (particularly physiotherapy), public and community health staff, Aboriginal Health Workers and others working and living in the Kimberley community. The service has
been so welcomed that demand for dietetic service well exceeds available time and resources with the KDGP framework.

As there are currently no dietitians employed via the Western Australian Country Health Service Kimberley Region (KR), nor the Kimberley Aboriginal Medical Service the ongoing provision of a dietetic service to the region has not been permanently established. The inclusion of dietetics within the KR Allied Health teams would allow for service provision to inpatients as is available to other regions in Western Australia, and provide much needed support for Community and Remote Nursing staff.

As MAHS funding dictates that service provision focus on primary care, the provision of inpatient dietetic services has not been permitted. Due to the absence of any other dietetic service provision within the Kimberley this has caused some difficulties. At the commencement of the MAHS dietetic service this support was offered across the Kimberley, in an attempt to meet the clear unmet need, however this was an unsustainable provision.

In the absence of co-existing dietetic services in the Kimberley region, demand for dietetic support continues from the haemodialysis unit in Broome, the Kimberley Renal Hostel, Frail and Aged Care, community health, school health, public health — health promotion and chronic disease, remote community based programs such as vegetable gardens, store reviews and diabetes education.

**Confusion**

There is often confusion from health sector staff, patients and the wider community as to who the dietitians are employed by. This is a result of the many and varied venues in which they provide patient services in conjunction with staff from many organisations.

The location of the East Kimberley Dietitian’s office on the premises of the Aboriginal Health service results in many believing that she is employed by OVAHS. This, along with a high demand for services, has lead to at times incredible numbers of requests for dietetic support in the form of planning, facilitating and evaluating group education programs, participation on committees and in planning events, support for program development, store liaison, catering review and training.

The addition of a KDGP staff uniform (shirt with logo) has contributed significantly to overcoming this issue.

**Kimberley Division of General Practice funding**

The Divisions of General Practice are funded under the Department of Health and Ageing Primary Care Division. Division funding is linked to the number of Medicare episodes, in addition to other factors. In the Kimberley region approximately 50% of General Practitioners are employed via the State Health Service and thus do not access Medicare. This impacts significantly on the core funding available to the Kimberley Division of General Practice, and thus both the dietetic and podiatry services provided by the MAHS program.

The 2004–05 financial year has seen a reduction of 20% available funds for the MAHS program, and a reduction of 30% of core KDGP funds. This reduction of available funding has had a significant impact on the provision of dietetic and podiatry service provision, largely due to the considerable expenses of travelling to remote towns and communities that may be up to 600 km from the work base. Other important impacts include job insecurity, limited
administrative support and the absence of Information Management and Technology support (IMIT).

Food access

The FoodNorth study was conducted in 2003 in response to food supply issues in northern Australia. It outlines recommendations to overcome poor food supply in areas such as the Kimberley region. Recommendations include a whole of government approach, addressing issues on an ongoing basis looking at such things as healthy food guidelines in stores and takeaways, establishing monitoring and evaluation systems for health, growth and nutrition indicators and including nutrition as a core component of the national Aboriginal Health Worker training package.13

CONCLUSIONS AND RECOMMENDATIONS

The dietetic service that has resulted from the More Allied Health Service funding to the Kimberley region has contributed to addressing the great needs that exist relative to primary and secondary prevention of diet-related conditions, and the dietary management of established conditions such as diabetes, obesity, renal impairment and failure, hyperlipidaemia and cardiac conditions.

It has been acknowledged that sound nutrition impacts positively on the health of Indigenous and non-Indigenous people, both in the management and particularly the prevention of disease. Continued population based work in the areas of food access and security, increasing the Aboriginal Nutrition Health Worker workforce, and a focus on the health and nutrition of the 0–5 year age group would contribute to the prevention of the rising incidence of diabetes, renal disease and obesity. Regular nutrition support would assist the progression of factors influencing access to nutritious foods, and provide increased support for towns and communities to create supportive environments for healthy eating.

Individual behavioural changes regarding health behaviours are more likely with regular and ongoing support that is available in a timely and culturally sensitive manner. There is an absence of dietetic support for hospital catering, clinical services for inpatients and renal patients attending the renal dialysis unit in Broome. An increase in clinical dietetic services would provide much needed support to both patients and staff, including health practitioners and hotel service staff, in these settings.

Whilst the MAHS funding has allowed for the introduction of dietetic services to the Kimberley region, its continuation is subject to periodic review. The increasing incidence of diet-related conditions sees a need for permanent resource allocation in the area of allied health, and particularly in the area of nutrition and dietetics.

REFERENCES


**PRESENTER**

Tracy Leon has been employed as a dietitian with the Kimberley Division of General Practice since 2002. She is based at the Ord Valley Aboriginal Health Service in Kununurra in the far north of Western Australia, and provides a dietetic service to the East Kimberley from Kalumburu to Balgo. She has a particular interest in cross-cultural health promotion, diabetes and preventative health. Prior to moving to the Kimberley, Tracy completed a MPH and worked at Diabetes Australia WA as a Dietitian/Diabetes Educator/Multicultural Access Officer where she was involved in clinical service provision, program development, training and mentoring health workers.