WESTERN AUSTRALIAN

DEPARTMENT OF HEALTH

DIABETES PROGRAM PLAN

2001-2004

PRODUCED BY THE PURCHASING DIVISION WITH INPUT FROM THE WA DIABETES STRATEGY PLANNING AND PURCHASING REFERENCE GROUP DEPARTMENT OF HEALTH

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1. Executive Summary

The Department of Health (DoH) recognises diabetes as a priority health issue and in 2001 has introduced a statewide integrated Diabetes Program that focuses on integrating primary, secondary and tertiary care, via a coordinator for each region/area, with direction from a local diabetes committee.

This document outlines the rationale for the Diabetes Program, and is based on the integrated hub and spoke model of service delivery (Appendix 1). It includes the main roles and responsibilities of each level of care and is designed to be adapted to suit local circumstances.

Most regions have/are participating in the Integrated Diabetes Care Projects over a three year period. These projects have provided a platform for the development of the statewide Diabetes Program that embraces the theory that well organised integrated care can reduce hospitalisations and improve health outcomes.

An integrated diabetes service will create provider and consumer networks across clinical and geographic boundaries, which will enhance access, quality and effectiveness of diabetes prevention and care.

The DoH will monitor the impact of the integrated care model through service delivery reports, monitoring of referral patterns and where applicable through general practice involvement.

This document is intended for:

- General Managers
- > Health Service Managers
- Diabetes/Chronic Disease Coordinators
- Public Health Directors
- > Planners and purchasers of diabetes services

The Diabetes Program is in alignment with the recommendations in the WA Diabetes Strategy¹ and has been developed in collaboration with the WA Diabetes Services Taskforce.

2. Introduction

Comorbidities and complications associated with diabetes makes it a difficult disease to link with current casemix methodology. The diabetes program considers activity across the continuum of care on a statewide and regional level.

The planning for statewide diabetes services includes the Diabetes Integrated Hub and Spoke Model of Service Delivery and Investment Strategy which builds on established and new initiatives with a view to delivering coordinated best practice diabetes services to the population. The success of the Diabetes Program relies on the commitment of health service providers to collaborate with each other in the provision of quality diabetes care for the community. A clinical reference group has been formed to advise the DoH in the implementation of the Diabetes Program and the WA Diabetes Services Taskforce will retain an overseeing role on the implementation of the WA Diabetes Strategy.

Methodology

The Diabetes Program has been developed through analysis of current funding, policy and activity arrangements. These include:

- 1. Defining the current allocation of diabetes funding by identifying, as accurately as possible:
 - Inpatient activity, directly and indirectly related to diabetes through the Hospital Morbidity Data System
 - > Tertiary hospital diabetes outpatient clinic data (approximates)
 - Community health occasions of service related to diabetes
 - Public Health Unit allocations to diabetes
 - > Office of Aboriginal Health diabetes programs
 - Private provider contracts
 - Integrated Diabetes Care Projects

(Method of calculation can be viewed in Appendix 2)

- 2. Identifying complimentary funding processes to avoid duplication
- 3. Using the WA Diabetes Strategy¹, WA Aboriginal Health Strategy², the Integrated Diabetes Care Program (IDCP) evaluation and the Strategic Framework for the Primary Prevention of Diabetes and Cardiovascular Disease, fund diabetes programs which encourage integration and rationalisation of resources, whilst attempting to realise the goals of the WA Diabetes Strategy.

Overview

There are several funding allocation parameters which need to be considered, including geographical boundaries, levels of intervention, populations groups and structural supports. The complexity of the provision of diabetes services is illustrated by the service delivery matrix in Appendix 3. Outlined in the matrix are the variety of organisations providing and funding diabetes services at different levels of intervention, to different target groups. The basic structural supports are described at the base of the matrix and highlight the need for support which encourages a best practice approach to diabetes service service delivery.

The Diabetes Program will be divided into four areas of service delivery:

- 1. Local/Area Health Service
- 2. Regional Zones
- 3. Statewide
- 4. Centralised

Local diabetes services include a mix of inpatient and outpatient provided by Public Health Units, Western Australian Aboriginal Community Controlled Health Organisations and private organisations.

The Diabetes Program does not replace core functions and responsibilities of health care providers. It aims to enhance the continuum of care by providing a supportive integrated delivery model that will encourage the provision of best practice in diabetes prevention and care.

The Program will be focused toward regional services and an evolving Diabetes Integrated Hub and Spoke Model of Service Delivery. This configuration is supported by the recommendations in the WADS for the development of locally appropriate delivery models.

The DoH and the Clinical Reference Group will assist regions in the change over from the current 3 year funded Integrated Diabetes Care Projects (IDCP) to Regional Diabetes Programs. Service specifications will guide service delivery and encourage standardisation across regions. The regional rollout will be graduated to reflect the different completion dates of each IDCP.

Coordination and support at a central level will be vital to the success of the diabetes program. This function will be developed by the Clinical Reference Group and administered by the DoH.

Background

The underlying themes and definitions in this plan are derived from the Western Australian Diabetes Strategy 1999¹ (the Diabetes Strategy), and therefore will not be repeated in this document. The Diabetes Strategy made strong recommendations regarding the development of purchasing plans to reflect state and local priorities. The Program draws on the considerable efforts of others and attempts to facilitate the Strategy under the current resource allocation methods used by DoH.

Current global trends highlight diabetes as a significant and growing public health problem (Appendix 4). In place of the communicable disease epidemics of the 19th Century new epidemics are emerging which reflect the effects of increasing modernisation. Advancing technology has affected the lifestyle of nearly all people across Australia and resulted in a lack of physical activity and easy access to cheap high fat foods.

The Diabetes Strategy highlights the need for improved service integration and states that there are "no standard procedures in Western Australia for keeping track of people with diabetes as they are referred among specialists and allied health professionals." ¹(p17). This imperative for change identifies a basic mechanism which may enhance the current mode of service delivery to optimise resource utilisation and improve customer focus.

The Program is underpinned by several significant policy developments including:

National Health Priority Areas

In 1996 the Australian Health Ministers Council announced Diabetes as a National Health Priority Area in recognition of the substantial impact of Diabetes on the Australian community.

Western Australian Diabetes Strategy

The release of the Western Australian Diabetes Strategy in 1999 was a significant outcome of the Ministerially appointed Western Australian Diabetes Services Taskforce. The Strategy provides a structural approach to the prevention and management of diabetes across the continuum.

- National Diabetes Strategy The National Diabetes Strategy 2000-2004 is based on two major documents released in 1998:
 - The National Diabetes Strategy and Implementation Plan
 - The Report to the Health Minsters on Diabetes Mellitus.

Western Australian Aboriginal Health Strategy (WAAHS) This strategy is intended to provide a long term approach for improving the health of Aboriginal Western Australians and guide resource decision making at the national, state and local level.

The WAAHS is based on the work of six Regional Health Planning Teams, which outlines a series of strategic directions and as such provides a unifying framework with themes, values and principles. Each of the Regional Health Planning Teams have developed a Regional Aboriginal Health Plan. The Regional Plan is the primary source of guidance for priority setting, regional issues and recommendations. Each of Regional Plan highlights diabetes as an area of high priority.

Strategic Framework for Primary Prevention of Diabetes and Cardiovascular Disease in Western Australia 2001-2006 Key areas that the document will address to inform both purchasing intentions and the development of programs and interventions will include, the development of integrated approaches in primary prevention, evidence based guidelines for primary prevention, environmental and psychosocial factors which influence primary prevention, sustainability issues and strategies for indigenous people and other special groups.

3. Program Specifications

3.1 DIABETES SERVICE DELIVERY STRUCTURE

3.1.1 Diabetes Integrated Hub and Spoke Model of Service Delivery

The proposed structure for diabetes service delivery is represented in Appendix 1. The DoH Diabetes Integrated Hub and Spoke Model Of Service Delivery will provide a framework for delivery of diabetes services statewide. The diagram outlines the fundamental elements of regional integration and tertiary support of primary care.

The model is based on involvement and support from health service providers and builds upon established and new initiatives, with a view to delivering coordinated, best practice diabetes services to the population.

The role of a regional coordinator is viewed as pivotal to the success of the model as this position draws together the complex elements of diabetes services. The definition of such a role will be dependent on the priorities of the region. Some regions may have a local diabetes coordinator and a regional coordinator, whilst other regions may wish to combine the two levels of coordination

3.1.2 Structure for Primary and Specialist Diabetes Care

The WA Diabetes Taskforce Working Party developed a support structure that will be available to all primary health care providers to ensure best practice care for people with diabetes. This structure supports primary care access to allied health, tertiary services and diabetes registers to ensure a full range of services is available to primary care providers. The main components are:

Regionally based services

Allied health services within the region to assist primary health care providers. These services will be based on the existing geographical demographics of divisions of general practice and health areas and regions. Other providers, such as Aboriginal Medical Services, would also receive services. This will ensure that primary health care providers will have access to at least:

- (a) Nurse educators
- (b) Dietitians
- (c) Podiatrists

Tertiary Based Services

Rural areas will be nominally allocated to a tertiary diabetes centre, which will also serve its region within the metropolitan area. The tertiary diabetes centres will provide:

- (a) Telephone access to specialist medical and allied health advice
- (b) A referral centre for Type 1 diabetes and complicated Type 2 patients

(c) Continuing education for health care providers in the community (Appendix 5)

Minimum Service Configurations

The Diabetes Taskforce Clinical Reference Group, with reference to the 1994 Health Goals and Targets and the SA recommendations, will carry out further research to determine appropriate minimum service configurations to guide diabetes services planning for populations.

3.2 GUIDING PRINCIPLES

3.2.1 Regionally based services

After the Integrated Diabetes Care Project (3 years), negotiation and planning will occur with the local/regional area committee (LAC) and the Clinical Reference Group to develop a diabetes program based on the IDCP and population/local needs.

Needs and capacity are identified and the LAC determine resource allocation, roles and responsibilities. The diabetes program will be based on the guiding principles in this document and Regional Level Key Performance Indicators (Appendix 6).

The region may wish to adapt the program to incorporate a chronic disease focus, whilst still meeting the requirements of the Diabetes Program.

The notional stages and timeframes for the diabetes program are:

Stage 1 (3years) Integrated Diabetes Care Project (note: has commenced in most regions through Innovations in Health Purchasing) Establish Local Area Committee Identify population characteristics Mapping of service provision Commence/enhance regional integration

Stage 2 (3 years) Diabetes Program Continue integration across services, populations and intervention levels Enhance services and develop regional diabetes plan Monitor population characteristics and trends Develop an integrated chronic disease framework or equivalent Progress towards regional/area KPI's Achievement of minimum service configuration Timeline for Regional Rollout of Stage 2 (to coincide with IDCP finish date)

2001-02

- Great Southern
- Midwest
- East Metro
- North Metro (no IDCP)

2002-03

- Goldfields
- South Metro

2003-2004

- Midlands
- Northwest
- Southwest

Stage 3

Adoption of chronic disease strategy, if appropriate

3.2.2 Specialist Centres

In the first year of the program tertiary based diabetes centres will be allocated funds to commence formalising their roles with the allocated regional primary health care providers.

Further development of the roles and responsibilities of tertiary diabetes centres will be dependent on negotiations between the diabetes centre and the LAC's, with advice from the Diabetes Clinical Reference Group and support form the Department of Health.

Planning between diabetes centres and LAC's for the provision of tertiary support will commence in 2001/02 with a view to developing a systematic plan for each region/area and the corresponding centre. The Women and Children's Health Service will be supported in the enhancement of current statewide responsibilities.

3.2.3 Statewide Services

The role of Diabetes Australia-WA (DAWA) within the DOH contract, is to be refocussed from service delivery, to consumer and health care providers information and support.

Health promotion activities such as those implemented by the Health Enhancement Branch, will continue to provide healthy lifestyle messages to the whole community. The DoH also has contracts with other non-government organisations to provide health promotion programs to the community and to specified target groups.

3.2.4 Centralised Support

In line with the WA Diabetes Strategy, the Diabetes Clinical Reference Group will develop a statewide diabetes service planning process in partnership with national initiatives and in consultation with the WA community.

Appendix 7 outlines the rudimentary centralised mechanisms to be developed into a comprehensive support and communication strategy. This role will require further development by the Diabetes Clinical Reference Group.

First priority will be to assist the DoH implement the Diabetes Program. It is envisaged that the first steps will be to facilitate the adoption of the Diabetes Integrated Hub and Spoke model of service delivery in the Metropolitan area, the Midwest and the Great Southern.

Longer term aims will include implementation of mechanisms to support policy, clinical care and educational standards across the continuum of care. Major developments by this group will require endorsement by the Taskforce.

Some of the strategies will include:

- Endorsement and dissemination of best practice guidelines
- Policy development
- Developing/endorsing standardised resources
- > Development of a consumer guide to the Diabetes Strategy
- Guiding and monitoring of the regional planning process
- Statewide analysis of trends for evaluation and monitoring purposes

3.3 QUALITY SYSTEMS

3.3.1 Best Practice

The Clinical Reference Group will endorse best practice guidelines for the prevention, diagnosis and clinical management of diabetes and diabetes complications. The DoH will then integrate these into the guidelines for regional diabetes planning to be used by Local Area Diabetes Committees. The guidelines will be incorporated into the Regional Diabetes Plans.

3.3.2 Reporting

The reporting of diabetes activity has historically occurred in an ad hoc manner with little consistency between health services. The Diabetes Program aims to fulfil the potential achievable by the current reporting systems, through a coordinated approach to recording diabetes data.

The initial reporting requirements are best described using the diabetes integrated hub and spoke model of service delivery (Appendix 8).

3.3.3 Monitoring Outcomes

Monitoring outcomes of the Diabetes Program will require the assistance from experts in the data collection and analysis field. The current data collection systems will need to be scrutinised to ensure comparability between regional, state and national level systems. Some of the collection sets may include:

Population Characteristics

- Risk Factors
- Incidence and Prevalence
- Complication rates

Inpatient Activity 5 year comparisons and analysis of Diabetes by DRG and Primary Diagnosis using the following minimum hospital morbidity diabetes data set:

- Type of hospital and length of stay
- Age and Sex
- ATSI Vs Non ATSI
- > Top ten DRG analysis
- Top six hospitals
- Health Zone

(Appendix 9)

Community Data

Community Health occasions of service where Primary/Secondary Health Issue Code is diabetes with the following variables from the HCARe system:

- Health Zone and Health Region
- Age Groups
- Service Provided

 Occasions of Service per 1,000 population by Health Service (Appendix 10)

Health Record Linkage Project on Diabetes

This project aims to link data from DoH Hospital Admissions and Death Certificates to HIC PBS and MBS records, in order to explore the capacity of linked data as an information source and the association between primary medical care and health outcomes.



Diabetes Integrated Hub and Spoke Model of Service Delivery

Method of Calculating Current Activity

Health Service Agreements

Inpatient Activity accounts for most of the costs associated with diabetes and diabetes complications. The difficulties in obtaining accurate calculations remain consistent with those experienced in other casemix systems. Diabetes is often not coded as a principal diagnosis and costs remain hidden in the episodes of associated complications.

ALL HOSPITALS

1998-1999 data from the Hospital Morbidity Data System (HMDS) has been analysed due to the reliability of this data compared with the 1999-2000 data. There were 2,063 hospitalisations directly related to diabetes compared to the 1,481 hospitalisations in 1995 (WADS, 1999, p22). This indicates a **39%** increase in hospitalisations over a 3 year period. It must be noted that coding practices may have influenced these figures.

On analysis of the 1998-1999 data there were 4,403 weighted separations with a primary diagnosis of diabetes and 53,232 weighted separations with an additional diagnosis of diabetes. This equates to an approximate inpatient expenditure of \$85 million.

PUBLIC HOSPITALS

Principal Diagnosis

In public hospitals there were 1740 episodes of care where the principal diagnosis was diabetes with an average cost weight of 3.17 which equates to an average episode cost of \$6,022 (using combined average of teaching/nonteaching = \$1623). This totals \$5.6 million.

Principal and DRG's

On closer analysis using Diabetes as a principal and only the three diabetes DRG's (K01Z diabetic foot, K60 A and B), there were 1,158 episodes of care, equating to 2,456 weighted episodes. The average cost weight was 2.12, with an average episode cost of \$3,440. This totals almost \$4 million.

DRG's K60A and B

Using only the two DRG's for diabetes there were 1093 episodes of care (2,071 weighted episodes), with an average cost weight of 1.95. The average cost per episode was \$3,132. This amounts to approximately \$3.4 million.

Outpatient Activity at the four tertiary centres identifies rudimentary Allied Health and Medical occasions of service in an outpatient clinic setting. This does not cover podiatry outpatient services. The coding practice of each of the centres is not standardised, therefore it has been impossible to extract any reliable data for analysis. Future intentions will be to request standard data from outpatient activity related to Diabetes in the categories of Allied Heath/Education and Specialised Services.

Community health (HCARe)

The reliability of data extraction from the HCARe system relies on the coding practices of the service provisers. By using the four health issue codes relating to diabetes there were 21,727 community health occasions of service with a primary or secondary issue code of diabetes. By using a nominal amount of \$35 for each occasion of service there was \$760,445 spent on diabetes related occasions of service.

Public health units (contracts)

The Public Health Division has contracts with Public Health Units to the value of \$405,500 for diabetes specific strategies for 2000/01. In addition to this there is over \$1 million dollars allocated to nutrition and physical activity programs.

- WAACCHO's (Western Australian Aboriginal Community Controlled Health Organisations) Apart from the services delivered in the core business of WAACCHO's, there are some diabetes programs which had quarantined funding in 2000/01 from the Office of Aboriginal Health totalling \$310,400.
- Private providers (contracts for 2000/01) Silver Chain Rural diabetes clinics \$441,240 Statewide services DAWA 2000/01 \$106,000

Breakdown of Inpatient Activity

	Admissions	Weighted Seps	Cost Weight	Cost
All Hospitals				
Additional Diag Diabetes	30,543	59,540	1.95	96.6 million
Principal Diag Diabetes	2,063	4,403	2.13	7.1 million
Public Hospitals				
Principal Diag Diabetes	1,740	6,455	3.71	5.6 million
Principal + 3 DRG's	1158	2,456	2.12	4 million
Principal + 2 DRG's	1093	2,071	1.95	3.4 million

Current Diabetes Funding from DOH (\$000's)

SOURCE	Region/Locality	98/99	99/00	00/01	01/02	02/03	03/04
IHP : Integrated Diabetes Care Projects	Inner City	231.5	240	230			
	Midwest	37	41.5	36			
	Gt Southern	73	68.5	73			
	Midlands			92			
	South East Metro			85	85	80	
	Goldfields			85	80	85	
	South West			220	220	220	
	North West			140	165	165	
Sub-Total				961	550	550	

Recurrent (21 million)	5 Metro Health Services	400	400	400	400
Activity and Contracts	Inpatient(3DRG's*)	4 million			
	Tertiary OPD	2.5 million			
* based on 98/99 data	Community Health*	760.445			
	Public Health Units	405.5			
	WAACCHO's	310.4			
	Silver Chain	441.2			
	DAWA	106			
	Statewide Pool	100			
Sub Total		Approx 8.6 million			

TOTAL		9.96		
		million		



Diabetes Service Delivery Matrix

Strait Islander Health PHU : Public Health Unit

Statistics

> The Australian Diabetes, Obesity and Lifestyle Study (AusDiab)⁶

The Australian Diabetes, Obesity and Lifestyle Study(AusDiab), released in April 2001, confirms earlier predictions of "the evolving diabetes epidemic".⁶ AusDiab reveals that the prevalence of Diabetes in Australians over the age of 25 has reached an all time high of 7.5%, which is three times the prevalence suggested in 1981. Moreover, the study found that approximately25% of the population over 25 years, have some form of impaired glucose metabolism (either diabetes, impaired glucose tolerance or impaired fasting glucose). The resource implications for the health care system are enormous.

Diabetes as a cause of death, Australia, 1997 and 1998⁷

Diabetes was the underlying cause of death in 2.2% of all deaths recorded across Australia in 1997 and 1998. This ranks diabetes as the seventh leading underlying cause of death in Australia. Diabetes as a related cause of death accounts for 7.4% of the national mortality.

In 1997 and 1998 6.8% of all deaths in WA were related to diabetes . These figures reflect the significance of diabetes in contributing to the morbidity and premature mortality of Western Australians. The most commonly associated cause of death was circulatory disease which accounted for over 80% of deaths in people with diabetes.

Trends and Implications

> Worldwide

In 1994 the World Health Organisation(WHO) predicted that the prevalence of Type 2 Diabetes would be in excess of 100 million.⁸ However, the WHO estimates that the world-wide prevalence of diabetes in 2001, is 160 million people and predicts that by 2025 this will rise to 280 million.(Figure 1)





> Australia

Over the last twenty years the incidence and prevalence of diabetes in Australia has continued to rise in parallel with increasing modernisation. According to the AusDiab study there are nearly 1 million people with diabetes in Australia and it is estimated that there will be 1.23 million by the year 2010 (Figure 2).⁶ These projections mean that Australia has one of the highest rates of diabetes compared with other industrialised nations.



Figure 2 : Australian Estimates of Type 2 Diabetes

> WA

The trends in WA are consistent with those observed nationawide. reflect those encountered across the nation. Between 1989-90 and 1995 the rate of diabetes almost doubled in those aged between 25-74 years of age.¹

Costs

People with diabetes are twice as likely, compared with those who do not have diabetes, to access a health service.⁹ One of the goals of the National Diabetes Strategy 2000-2004 is to "improve the capacity of the health system to deliver, manage and monitor services..."³.

Direct Costs

Based on the projected rise in diabetes it is estimated that in direct costs alone, expenditure could exceed \$2 billion within the next decade.¹⁰ The predicted epidemic in Diabetes will demand quality services beyond the capacity of the current system.

Costs associated with diabetes related complications

Cardiovascular disease

Diabetes significantly increases the risk of cardiovascular disease which is supported by the fact that 80% of people with diabetes in WA die from cardiovascular disease. The true impact of diabetes on cardiovascular disease expenditure is difficult to estimate. However for 1993-94, cardiovascular disease has been estimated to cost \$3.9 billion in direct health system costs alone⁹.

Renal Disease

The second most common cause of death for people with Diabetes is renal disease.¹¹

Between 1993 and 1998 WA experienced a 22% increase in the number of people with renal failure associated with diabetes.¹² In 1997, 23% of renal dialysis cases were as a result of diabetes.¹¹ Diabetes is the second most common cause for renal transplantation.

Vascular/Amputations

Studies have shown that at any given time 1.5% of the population with diabetes have a foot ulcer⁴. In 1994 the average cost of treating a foot ulcer in hospital was $$12,474^4$.

There are 219 people with diabetes who undergo a lower-limb amputation in WA each year¹³. (Data does not distinguish multiple amputations on same person, but diabetes has been reported to be under recorded on the discharge records). Diabetic Amputations cost \$48 million per year in direct costs alone.⁴

Blindness

Diabetes is the leading cause of blindness world-wide. It has been estimated that 11% of all people with diabetes have vision threatening retinopathy requiring some form of treatment.⁴

Complimentary Funding

To prevent duplication of funding it is necessary to explore sources and potential sources other than those from the Department of Health, which may impact on the delivery of diabetes services. The main sources include:

Commonwealth

The Commonwealth Government funds Medicare, Pharmaceutical Benefits and Pathology services, which are accessed by people with diabetes who attend General Practitioners and specialist services. Recent initiatives will increase resource support for diabetes in the General Practice setting. These are the Enhanced Primary Care Package and the More Allied Health Services Project being implemented by the National Divisions of General Practice. There are also many Divisions of General Practice undertaking Diabetes Projects.

The CEO of the WA Divisions of General Practice is represented on the WA Diabetes Services Taskforce and the DOH maintains close linkages to prevent duplication.

The Commonwealth Government also supports the National Diabetes Services Scheme which provides discounted products to people with diabetes and maintains a register of members. Recent Federal budget announcements indicate an increase in support for this initiative. The scheme is managed by Diabetes Australia who are also represented on the WA Diabetes Services Taskforce.

The Commonwealth funded Office of Aboriginal and Torres Strait Islander Health (OATSIH) supports Aboriginal Medical Services. They also provide funding for some programs such as the Visual Impairment Pilot Program.

The announcement of diabetes as a National Health Priority Area in 1998 resulted in increased attention to the importance of diabetes as a health issue.

Non Government Organisations

Non Government Organisations such as Diabetes Australia WA, provide essential support and services to people with diabetes. A variety of funding sources enables non-government organisations to retain autonomy and responsiveness to consumer needs.

Some charity-based organisations, such as the National Heart Foundation, provide health promotion programs in the areas of physical activity and nutrition that are pertinent to the prevention of diabetes as well as heart disease. It is important to consider these programs as part of the primary prevention of diabetes mellitus.

Consumers

The WADS recognises that the person with diabetes may face a lifetime of economic hardship.¹ Under the current system people with diabetes may be required to contribute 'gap' or 'co' payments when purchasing equipment or accessing allied health or specialist services.

> Other

Other institutions/organisations also provide a role in the diabetes continuum, such as research, which enhances our knowledge of prevention and treatment practices. The newly created Chair in Diabetes at the University of Western Australia will enhance the profile of diabetes in the medical and academic community.



Structure for Primary and Specialist Diabetes Care

Regional Level Key Performance Indicators

- 1. Commitment to the development of locally appropriate diabetes service delivery plans.
- PI.1 Local diabetes Advisory Committee, with agreed minimum representation and meeting schedules
- PI 2 Development of locally planned, integrated, multi disciplinary diabetes plan to be overseen by the LAC (across time, services and the continuum of care)

2. Achievement of minimum service configuration

- PI 1 MOU's between service providers outlining access for primary health providers
- PI 2 Identified regional/local diabetes allied health team with clearly defined roles and responsibilities

3. Systems for coordinated diabetes care

- PI 1 Acceptance and adoption of primary care structure by LAC
- PI 2 Identified referral and communication mechanisms and protocols
- PI 3 Established links with specialist diabetes centres
- PI 4 General Practice support and involvement

4. Provision of a consumer focused service

- PI 1 Consumer representation on LAC
- PI 2 Access to ongoing services which provide optimal care for diabetes and diabetes complications
- PI 3 Improved diabetes awareness of diabetes and it's management
- PI 4 Mechanisms to ensure consumer access to information, resources and support

5. Systems for ensuring standards

- PI 1 Consensus evidence based guidelines and outcomes indicators by LAC, across the continuum of care
- PI 2 Opportunities for health care professionals to undertake accredited diabetes training
- PI 3 Generalist upskilling and support program for client advocates and community leaders
- PI 4 Endorsement of accredited diabetes education programs to people with diabetes.

Centralised Support for the Delivery of Diabetes Services





Purchasing Division - 2001

	Di	iabetes Sele	cted by DR	G and Pdx –	Trend Analysis
FinYr	QUARTER	Eps.	Nights	SCE00.	Tot_SCE.
1996/97	9603	716	3,386	1,114	1,076
	9604	843	3,602	1,210	1,136
	9701	805	3,537	1,188	1,129
	9702	769	3,443	1,154	1,133
1997/98	9703	611	4,544	1,417	1,369
	9704	560	3,469	1,103	1,075
	9801	601	4,264	1,326	1,292
	9802	589	4,250	1,384	1,353
1998/99	9803	521	4,701	1,192	1,124
	9804	549	4,082	1,298	1,221
	9901	514	3,378	1,132	1,143
	9902	482	3,067	986	974
1999/00	0001	566	4,006	1,314	1,324
	0002	515	3,954	1,272	1,232
	9903	518	3,370	1,117	1,118
	9904	521	3,851	1,173	1,162
2000/01	0003	1,096	5,945	2,134	2,141
	0004	1,064	5,585	1,967	1,983

Minimum Hospital Morbidity Diabetes Data Set



FinYr	Sex	AgeGroup	Eps.	Nights	SCE00.	Tot_SCE.
1996/97	F	15-44	10	48	16	17
		45-64	25	172	57	47
		65-84	50	774	204	173
		85 +	5	66	21	20
	F Total	•	90	1,060	299	257
	Μ	15-44	16	81	29	27
		45-64	41	342	112	110
		65-84	72	1,124	324	298
		85 +	3	28	8	6
	M Total	•	132	1,575	472	442
1997/98	F	05-14	1	1	0	1
		15-44	13	53	19	18
		45-64	27	143	51	48
		65-84	56	994	299	285
		85 +	25	54	21	21
	F Total		122	1,245	390	373
	Μ	15-44	10	28	11	12
		45-64	37	266	85	92
		65-84	90	1,209	359	298
		85 +	5	37	12	12
	M Total		142	1,540	467	414
1998/99	F	05-14	1	4	1	1
		15-44	11	62	20	26
		45-64	22	177	57	49
		65-84	46	776	220	206
		85 +	19	235	71	70
	F Total		99	1,254	370	352
	Μ	15-44	13	51	18	18
		45-64	31	177	62	70
		65-84	69	850	250	205
		85 +	16	298	88	79
	M Total	-	129	1,376	418	371
1999/00	F	05-14	1	3	1	1
		15-44	8	25	10	16
		45-64	26	303	96	105
		65-84	40	627	197	181
		85 +	9	78	23	19
	F Total	i	84	1,036	327	322
	М	15-44	18	62	24	25
		45-64	29	205	70	62
		65-84	78	1,018	303	286
		85 +	11	172	50	43
	M Total	1.	136	1,457	447	416
2000/01	F	15-44	5	7	4	4
		45-64	48	216	105	111
		65-84	144	559	239	214
		85 +	14	125	41	35
	⊢ Iotal	4	211	907	389	364
	M	15-44	8	7	5	6
		45-64	82	240	118	123
		65-84	152	430	196	192
		85 +	9	100	32	26
	M Iotal		251	777	351	348

Diabetes Selected by DRG and Pdx – Age and Sex Analysis

FinYr	2000/01			
AgeGroup	Eps.	Nights	SCE00.	Tot_SCE.
00-04	23	83	29	27
05-14	131	369	132	141
15-44	596	2,319	808	909
45-64	895	5,311	1,868	1,902
65-84	1,418	7,428	2,736	2,666
85 +	154	1,159	382	335

Note: Explosion in older age groups in latest year

Diabetes Selected by DRG and Pdx - ATSI Analysis

		Data			
FinYr	AborigST	Eps.	Nights	SCE00.	Tot_SCE.
1996/97	Ab	576	2,457	819	793
	Xab	2,557	11,511	3,847	3,681
1997/98	Ab	551	2,546	871	834
	Xab	1,810	13,981	4,359	4,255
1998/99	Ab	402	2,456	787	773
	Xab	1,664	12,772	3,822	3,689
1999/00	Ab	405	2,676	865	876
	Xab	1,715	12,505	4,011	3,961
2000/01	Ab	425	2,628	849	894
	Xab	2,792	14,041	5,107	5,086

FinYr	DRG41	DRGDesc	Eps.	Nights	SCE00	Tot_SCE
1996/97	K60B	Diabetes - Cscc	2,027	4,384	1,753	1,736
	K60A	Diabetes + Cscc	387	3,257	1,020	967
	L67C	Oth Kidny & Urnry Trct Dx-Cscc	254	683	224	178
	F65A	Peripheral Vascular Dsrd +Cscc	68	468	140	131
	K01Z	Diabetic Foot	61	1,376	396	382
	B71A	Cranial & Periphl Nerv Dsrd+Cc	51	640	165	161
	B71B	Cranial & Periphl Nerv Dsrd-Cc	38	239	67	66
	F13Z	Up Limb&Toe Amptn Crc Sys Dsrd	31	447	132	128
	F65B	Peripheral Vascular Dsrd -Cscc	27	152	48	46
	C03Z	Retinal Procedures	23	51	28	32
1997/98	K60B	Diabetes - Cscc	1,082	4,344	1,517	1,526
	K60A	Diabetes + Cscc	453	3,974	1,211	1,217
	L67C	Oth Kidny & Urnry Trct Dx-Cscc	276	428	168	113
	K01Z	Diabetic Foot	123	3,118	883	849
	F13Z	Up Limb&Toe Amptn Crc Sys Dsrd	42	687	202	192
	F65A	Peripheral Vascular Dsrd +Cscc	41	566	152	124
	B71A	Cranial & Periphl Nerv Dsrd+Cc	41	410	108	103
	F65B	Peripheral Vascular Dsrd -Cscc	40	227	72	69
	B71B	Cranial & Periphl Nerv Dsrd-Cc	40	360	97	95
	C03Z	Retinal Procedures	29	60	34	39
1998/99	K60B	Diabetes-Cscc	1,134	4,405	1,539	1,511
	K60A	Diabetes+Cscc	377	4,083	1,001	974
	K01Z	DiabeticFoot	89	2,070	579	537
	B71A	Cranial&PeriphINervDsrd+Cc	60	639	168	178
	L67C	OthKidny&UrnryTrctDx-Cscc	59	217	69	64
	L67B	OthKidny&UrnryTractDx+Scc	36	209	61	63
	B71B	Cranial&PeriphINervDsrd-Cc	27	89	27	26
	C03Z	RetinalProcedures	26	66	34	38
	F65A	PeripheralVascularDsrd+Cscc	23	234	65	62
	C08Z	MajorLensProcedures	23	16	16	18
1999/00	K60B	Diabetes-Cscc	1,136	4,668	1,615	1,611
	K60A	Diabetes+Cscc	326	2,883	899	885
	F65A	PeripheralVascularDsrd+Cscc	96	1,287	304	292
	F65B	PeripheralVascularDsrd-Cscc	80	408	133	124
	K01Z	DiabeticFoot	61	1,362	392	376
	L67C	OthKidny&UrnryTrctDx-Cscc	52	306	90	90
	C03Z	RetinalProcedures	47	68	46	57
	F13Z	UpLimb&ToeAmptnCrcSysDsrd	43	750	220	219
	B71A	Cranial&PeriphlNervDsrd+Cc	40	421	111	118
	B71B	Cranial&PeriphlNervDsrd-Cc	37	183	53	49
	C08Z	MajorLensProcedures	37	21	25	26
2000/01	K60B	Diabetes-Cscc	1,144	4,279	1,500	1,523
	C08Z	MajorLensProcedures	610	180	355	394
	K60A	Diabetes+Cscc	350	3,038	949	922
	K01Z	DiabeticFoot	163	3,145	926	968
	F65B	PeripheralVascularDsrd-Cscc	96	229	97	94
	C03Z	RetinalProcedures	95	117	87	113
	L67C	OthKidny&UrnryTrctDx-Cscc	89	388	119	109
	B71B	Cranial&PeriphINervDsrd-Cc	69	307	89	82
	B71A	Cranial&PeriphINervDsrd+Cc	47	470	124	133
	F14C	VascPr-MjrReconstr-Pump-Cscc	44	121	78	80

Diabetes Selected by DRG and Pdx - Top 10 DRG Analysis

Diabetes Occasions of Service by Health Service, 1989/99																
	Age															
Occasions of Service per	0-4	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-85+	
1,000 population																
Armadale-Kelmscott HS	6.1	3.8	2	0.9	0.6	1.7	1.7	4	6.7	5.7	10.6	10.5	11.1	17.2	9.6	92.2
Avon HS	4.4	0	2.8	0	2.3	2.7	0	1.6	3.2	15.9	16.7	11.8	21	9.5	0	91.9
Bentley HS	3	0.9	1.4	0.2	0.6	1	0.5	1.7	2	3.1	4.6	6.3	6.2	6.5	3.9	41.9
Bunbury HS	77.6	0	0	4.9	6.1	10.6	5.7	2.6	13.8	23.9	12	39.3	46.8	37.7	74.1	355.1
Central Great Southern HS	49.7	5.1	3.2	17.4	10.1	24	60.7	96.4	76.4	87.2	38.1	34.5	113.9	88.7	148.1	853.5
Central Wheatbelt HS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Pilbara HS	16.6	3.8	26.1	24.1	33.7	90.1	85	82.3	134.6	91.3	291	542.2	630.4	522.5	333.3	2907
Eastern Wheatbelt HS	0	1.1	7.7	0	1.9	24.2	8	63.6	30.3	30	90.9	71.8	108.5	282.8	205.5	926.3
Fremantle HS	17.7	3.1	1.6	1.3	0.8	2.2	4.4	7.9	7.7	14.9	13.7	25.5	25.6	24.9	12.5	163.8
Gascoyne HS	38	13.1	3.3	5.4	13.3	44.4	54.7	72.3	96.8	131.3	88.5	107.8	474.5	130.8	37	1311
Geraldton HS	32	0	2	0.5	0	0	0.4	0.8	1.9	12.4	37.1	41.8	44.3	6.2	66.1	245.5
Harvey-Yarloop HS	4.4	1.2	0.7	0	0	0	0	0	0	0	0	0	0	0	0	6.3
Kalamunda HS	7	1	1.5	0.9	0	0.3	1.6	1	2.7	5.6	5.5	1403	29.1	18.7	13	102.2
Kimberley HS	18.8	1.9	12.1	8.9	18	23.7	83.9	64	107.1	129.1	214	200	504.4	386.1	257.4	2011.4
Lower Great Southern HS	63.9	1.4	1.4	1	3.6	2.7	3.4	9.6	4.7	11.5	52.9	43.4	40.1	14.4	4.1	258.1
Midwest HS	10.9	0	0	1.3	2.9	20.5	5.9	4.5	1.1	24.2	21.6	32.9	41.7	32.6	16.8	216.9
Murchison HS	123.7	57.7	0	3.9	4.9	53.2	51.9	83.3	151.5	210.1	266.7	215	92	276.6	382.1	1972.6
North Metro HS	9.7	3.4	3.7	0.8	1.3	3.4	2.7	2.9	2.6	3.8	3.8	6	4.5	3.5	3.2	55.3
Northern Goldfields HS	12	2.7	8	16.7	8.6	48	80.4	164.2	98.6	132	115.6	398.2	157.1	212	105.8	1559.9
Peel HS	9.7	0.6	0.3	1.1	0.3	10.8	1.4	2.1	3.2	7.6	35.1	49.2	67.7	97.8	120.6	407.5
Rockingham-Kwinana HS	15.4	3.9	5.5	1.6	5.5	4	8.9	12.2	29.9	25.8	39.4	44.2	47.5	42.8	50.5	337.1
South East Coastal HS	3.6	3.9	3.9	0	4.3	1.6	0	0.9	1	0	1.2	20.6	43.8	8.2	52.8	145.8
Swan HS	3.6	5.8	8.2	0.4	0.3	1.2	1.4	2.9	4.3	5.7	13.2	15	19.7	21.3	7.3	110.3
Upper Great Southern HS	81.2	8.7	0.8	0	5.7	7.6	10.8	16.1	31.6	33.7	16.9	82.4	61	73.9	117	547.4
Vasse-Leeuwin HS	13.7	0.4	0	0	0	0.4	0	2.6	2.9	5.1	16	66.2	41.3	30.9	84.5	264
Warren-Blackwood HS	24.8	1.9	4.5	0	1.7	1.7	2.2	5.2	14.7	26.7	33	36.3	191.9	351.7	244	940.3
Wellington HS	4.2	0	0	0	1.2	14.4	5.6	2.6	0	8	39.7	0	0	0	0	75.7
West Pilbara HS	67.7	2.9	3.2	11.1	8.2	33.8	19.3	83.7	112.3	94.2	313.5	196.7	922.3		555.6	3441
														1,016.		
														5		
Western HS	7.2	1.4	5.7	5.4	2.5	8.2	9.3	8.7	33.9	34.5	63.3	71.4	58.3	93.5	124.3	527.6

HCARe Diabetes Data Set

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