Management of type 2 diabetes in Australian general practice

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The BEACH program, a continuous national study of general practice activity in Australia, gives us an overview of type 2 diabetes management in Australian general practice. Terms used by the general practitioner participants included in this analysis were: type 2 diabetes, noninsulin dependent diabetes, diabetes mellitus, adult onset diabetes, and insulin treated type 2 diabetes. This provides a backdrop against which the articles in this issue of *Australian Family Physician* can be further considered.

Type 2 diabetes was managed in BEACH 2740 times in the year from April 2004 to March 2005, at a rate of 2.9 per 100 encounters. This represents an average of approximately 2.7 million type 2 diabetes encounters managed in Australian general practice in any one year (*Figure 1*).

Age and gender of patients

The rate of encounters where type 2 diabetes was managed (referred to here as type 2 diabetes encounters) increased with the age of patients: there were only 19 such encounters with patients under 25 years of age, and a rate of just under 1 per 100 encounters with patients aged 25–44 years. The age specific rate for patients aged 65–74 years was the highest at 6.6 per 100 encounters.

The gender of patients at type 2 diabetes encounters differed from the average for BEACH. The proportion of males was higher than average (52% of patients compared with 44% of all encounters). This can also be seen in the sex specific rates, with type 2 diabetes managed at 3.5 per 100 male encounters compared with 2.5 per 100 female encounters.

Reasons for encounter

The most common reason for a type 2 diabetes encounter was a request for a prescription at 24 per 100 of these encounters. Diabetes was the recorded reason at 22 per 100 and endocrine check up at 14 per 100 type 2 diabetes encounters. Test results, cardiovascular and general check ups were also common reasons for encounter.

Other problems managed

The top 10 other problems managed at type 2 diabetes encounters reflected the older age of the majority of the patients and the common comorbidity of diabetes. Hypertension was managed at a rate of 27 per 100 of these encounters (compared with 9 per 100 total encounters), and lipid disorders at a rate of 11 per 100 (compared with 3 per 100 total encounters). Ischaemic heart disease was managed at more than double the average rate (3 per 100 compared with 1.2 per 100 encounters).

Medications

The rate of medication prescription/advice/supply was close to the average for BEACH: 69 per 100 type 2 diabetes problems managed. Metformin was prescribed at a rate of 40 per 100 of these problems, gliclazide at 19 per 100, and glimepiride at 6 per 100 type 2 diabetes problems.

Other treatments

Other treatments such as counselling, therapeutic and diagnostic procedures, were provided at a rate of 43 per 100 type 2 diabetes problems. These were most often clinical treatments such as advice, counselling or clarification, a total of which were provided for 38 per 100 type 2 diabetes problems managed.

Referrals

The average referral rate for BEACH is 8 per 100 problems managed. Patients with type 2 diabetes were referred

at a rate of almost 12 per 100 type 2 diabetes problems. Referrals were made most frequently to ophthalmologists.

Pathology orders

Pathology tests were ordered at a rate of 80 per 100 type 2 diabetes problems, which was more than three times higher than the BEACH average. The HbA1c test was most commonly ordered, at a rate of 24 per 100 of these problems.

Imaging orders

Only eight imaging tests were ordered for type 2 diabetes problems managed during the study period. They included Doppler tests and ultrasound of the kidney.

Conflict of interest: none.

The patients

Gender	%	Rate[a]
Male	51.5	3.5
Female	48.5	2.5
Age group		
25–44	7.7	0.9
45–64	40.0	4.1
65–74	28.9	6.6
75+	22.7	4.7

Type 2 diabetes
(n=2740, 2.9 per 100 encounters)

Medications
(n=1885, 69 per 100 diabetes[1] problems)

Rate per 100 diabetes[1] problems[c]	
Metformin	40.2
Gliclazide	19.3
Glimepiride	6.0
Insulin isophane	5.4
Glibenclamide	3.5
Glucose indicator strips	2.9
Aspirin	2.8
Atorvastatin	2.3
Rosiglitazone	2.1
Simvastatin	1.6

Reasons for encounter
(n=4812, 176 per 100 diabetes[1] encounters)

Rate per 100 diabetes[1] encounters[b]	
Prescriptions*	24.4
Diabetes*	22.4
Endocrine check up*	14.4
Test results*	14.1
Cardiac check up*	9.2
General check up*	6.0
Follow up endocrine	4.6
Hypertension*	4.4
Blood test unspecified	3.7
Immunisation	3.5

Other treatments
(n=1186, 43 per 100 diabetes[1] problems)

Rate per 100 diabetes[1] problems[c]	
Observation/health education/advice	29.1
Therapeutic counselling/listening	4.7
Blood test	4.2
Clarification/discussion	3.1
Administrative procedure	0.7

Other problems managed
(n=3526, 129 per 100 diabetes[1] encounters)

Rate per 100 diabetes[1] encounters[b]	
Hypertension*	26.9
Lipid disorders*	11.3
Immunisation*	3.9
Osteoarthritis*	3.3
Depression*	3.0
Ischaemic heart disease*	3.0
Oesophagus disease	2.8
Prescriptions*	1.9
Asthma	1.8
Heart failure	1.8

Referrals
(n=325, 12 per 100 diabetes[1] problems)

Rate per 100 diabetes[1] problems[c]	
Ophthalmologist	3.4
Diabetes education	2.2
Endocrinologist	1.5
Dietician/nutritionist	1.4
Podiatrist/chiropodist	1.1

Pathology
(n=2181, 80 per 100 diabetes[1] problems)

Rate per 100 diabetes[1] problems[c]	
HbA1c test	23.7
Lipids profile	9.5
Full blood count	6.1
Glucose test	5.5
EUC test	5.1

(a) Specific rate per 100 encounters in each gender or age group
(b) Expressed as a rate per 100 encounters at which type 2 diabetes was managed
(c) Expressed as a rate per 100 type 2 diabetes problems managed
* Includes multiple ICPC-2 and ICPC-2 PLUS codes
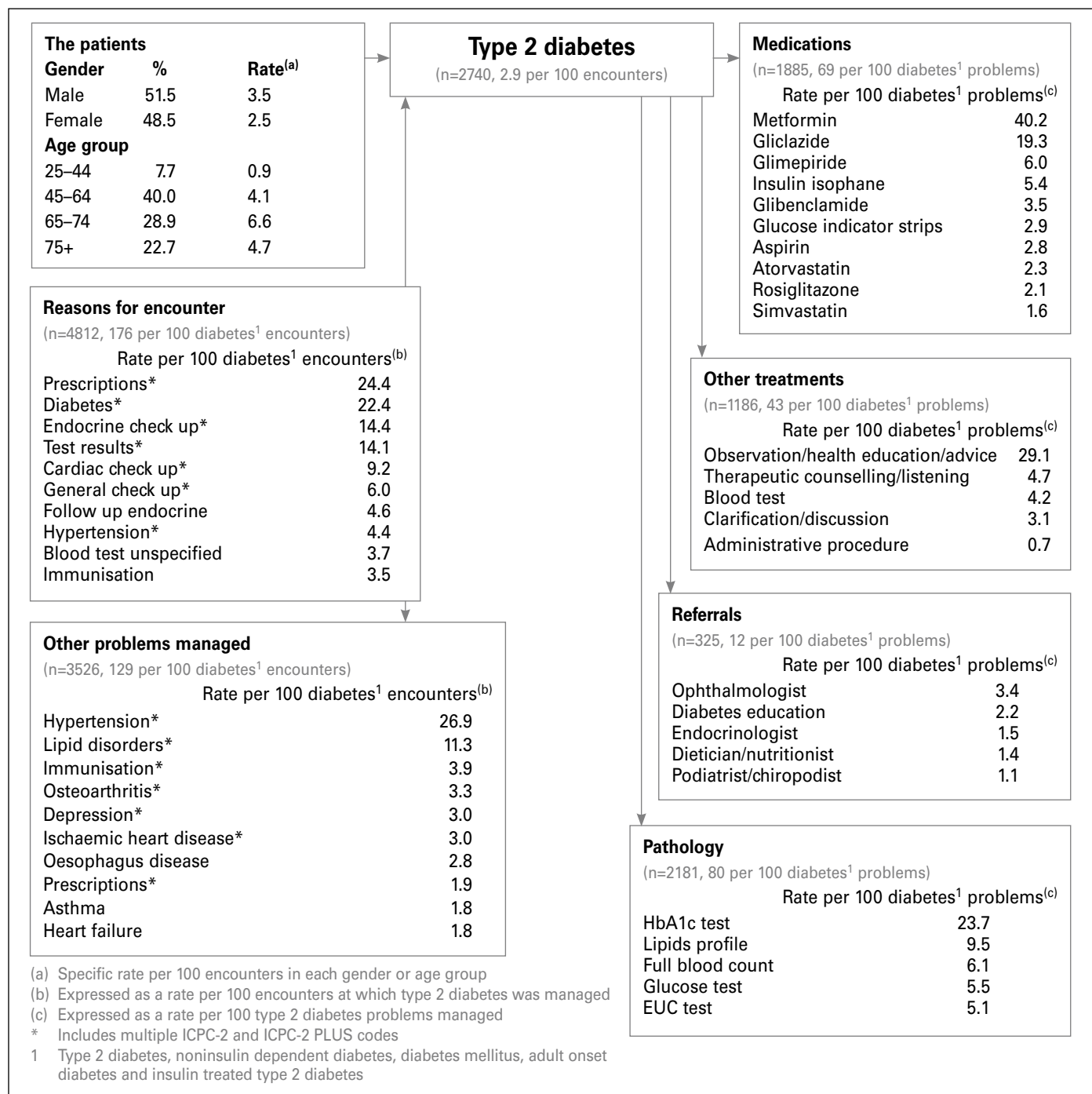1 Type 2 diabetes, noninsulin dependent diabetes, diabetes mellitus, adult onset diabetes and insulin treated type 2 diabetes

Figure 1. Content of encounters at which type 2 diabetes was managed