

12. Diabetes

Diabetes substantially increases the risk of CHD. Men with non-insulin dependent (Type 2) diabetes have a two to fourfold greater annual risk of CHD, with an even higher (three to fivefold) risk in women with Type 2 diabetes¹.

Diabetes not only increases the risk of CHD but also magnifies the effect of other risk factors for CHD such as raised cholesterol levels, raised blood pressure, smoking and obesity.

There are two main types of diabetes: Type 1 and Type 2 diabetes².

Overall prevalence of diabetes

Around 3% of adult men and women in England have diagnosed diabetes (Table 12.1)³.

Using the age and sex-specific prevalence rates from the Health Survey for England we estimate that there are around 1.35 million people with diagnosed diabetes in the UK (Table 12.3)⁴.

However, not all diabetes is diagnosed. Studies which have examined the total prevalence of diabetes (both diagnosed and undiagnosed) suggest that nearly a half of diabetes may go undiagnosed⁵.

Age and sex differences

For both men and women, the proportion of people with diabetes increases with age. The Health Survey for England suggests that less than 1% of men aged 15-44 years have diagnosed diabetes compared with around 9% of those aged 75 and over (Table and Fig 12.1). This pattern is similar in women, although rates are slightly lower at most ages than for men.

Temporal trends

The prevalence of diabetes is increasing. Since 1991, the prevalence of diagnosed diabetes has increased by around two thirds (65%) in men and by a quarter (25%) in women. (Table 12.3 and Figure 12.3).

Using the Health Survey for England data (Table 12.3) it is estimated that there will be about 2 million people with diagnosed diabetes in the UK by the year 2010.

The Audit Commission estimate that the number of people with diabetes (both diagnosed and undiagnosed) will increase to about 3 million in the UK by the year 2010^{6, 7}.

Regional differences

Key Health Statistics from General Practice give statistics on the prevalence of diabetes (insulin treated and non-insulin treated) in England and Wales as recorded by GPs. These data suggest that regional differences in the prevalence of non-insulin treated diabetes are small, and that there is no obvious pattern to these differences (Table 12.4)⁸.

Socio-economic differences

Various sources suggest that the prevalence of diabetes is higher amongst low socio-economic groups. Key Health Statistics from General Practice indicate that the prevalence of diagnosed non-insulin treated diabetes is 36% higher among men living in the most deprived parts of the country than for men living in the most affluent areas. For women it is almost nearly twice as high (Table 12.5 and Fig 12.5).

Ethnic differences

The prevalence of diabetes is much higher among some ethnic minority communities than in the general population. In Pakistani and Bangladeshi men and women, the prevalence of diagnosed diabetes is at least three times that found in the general population. For Black Caribbean men it is two and a half times as high and for Black Caribbean women it is four times as high (Table 12.6 and Fig 12.6).

International differences

Diabetes is now one of the most common non-communicable diseases globally. The International Diabetes Federation estimates that there are currently about 194 million people with diabetes worldwide, and that this will increase to 333 million by 2025 (Table 12.7).

Prevalence rates in the UK are average for developed countries (Table and Fig 12.7). In general developed countries currently have higher rates than developing countries (Figure 12.7).

1. Garcia MJ, McNamara PM, Gordon T, Kannel WB. Morbidity and mortality in the Framingham population. Sixteen year follow-up. *Diabetes* 1974; 23:105-111.
2. Diabetes is characterised by high blood glucose levels. It arises when the pancreas fails to make enough insulin or when the body cannot effectively make use of the insulin produced or both. The chronic high blood glucose levels (hyperglycaemia) that result are associated with long-term damage, dysfunction and failure of various organs, especially the eyes, kidneys, nerves, heart and blood vessels. Type 1 diabetes results from an autoimmune destruction of the cells in the pancreas which produce insulin. People with Type 1 diabetes must take daily injections of insulin for survival. Type 2 diabetes, which accounts for about 90% of all diabetes, is characterised by an inability on the part of the body to respond to insulin (insulin resistance) and/or abnormal insulin secretion. People with Type 2 diabetes are not usually treated with insulin. There are a number of other less common types of diabetes including gestational diabetes. This occasionally occurs during pregnancy in women not previously diagnosed with diabetes and is a marker of greater risk of developing Type 2 diabetes in later life.
3. Determining the prevalence of diabetes in the population is difficult. The best source of data on the prevalence of diabetes is the Health Survey for England and this relies on self reports of doctor diagnosed diabetes (Type 1 and Type 2 combined). These national survey data are likely to underestimate the true prevalence of diabetes, as those people who have the disease but have not yet been diagnosed will be omitted from the figures. For further data on overall prevalence, together with data on mortality from diabetes, morbidity from diabetes, prevalence of risk factors for CVD in people with diabetes, and the treatment and prevention of CVD in people with diabetes, see the British Heart Foundation's Diabetes supplement. Rayner M, Petersen S, Buckley C and Press V (2001) *Coronary heart disease statistics: diabetes supplement*, BHF: London. See www.heartstats.org
4. These estimates are derived from applying age-specific rates to the UK population estimates for 2002, and supersede our estimates in previous publications (e.g. Petersen S, Peto V and Rayner M (2003) *Coronary heart disease statistics*. British Heart Foundation: London).
5. For an example of such a study see: Yudkin JS, Forrest RD, Jackson CA, Burnett SD, Gould MM (1993) *The prevalence of diabetes and impaired glucose tolerance in a British population*. *Diabetes Care* 16:1530.
6. Audit Commission (2000) *Testing times: a review of diabetes services in England and Wales*. Audit Commission: London.
7. Estimates by the Audit Commission followed those calculated by the International Diabetes Institute in Australia. See Amos AF, McCarty DJ, Zimmet P (1997) *The rising global burden of diabetes and its complications: estimates and projections to the year 2010*. *Diabetic Medicine* 14: S7-S85.
8. These tables are now relatively out of date, relying on 1994 and 1998 Health Survey for England data. These tables will be updated when the 2004 Health Survey for England, which focuses on cardiovascular disease, including diabetes, is published in 2006.

Table 12.1 Prevalence of diagnosed diabetes by sex and age, 1998, England

	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75 & over
	%	%	%	%	%	%	%	%
MEN	3.3	0.1	0.7	1.6	2.9	5.8	7.0	8.7
Base	7,193	875	1,338	1,305	1,289	987	837	562
WOMEN	2.5	0.8	0.7	0.9	1.6	3.1	6.6	6.6
Base	8,715	1,006	1,630	1,573	1,484	1,148	967	907

Self-reported diagnosis of either Type 1 or Type 2 diabetes.

Source: Joint Health Surveys Unit (1999) Health Survey for England 1998. The Stationery Office: London.

Fig 12.1 Prevalence of diagnosed diabetes by sex and age, 1998, England

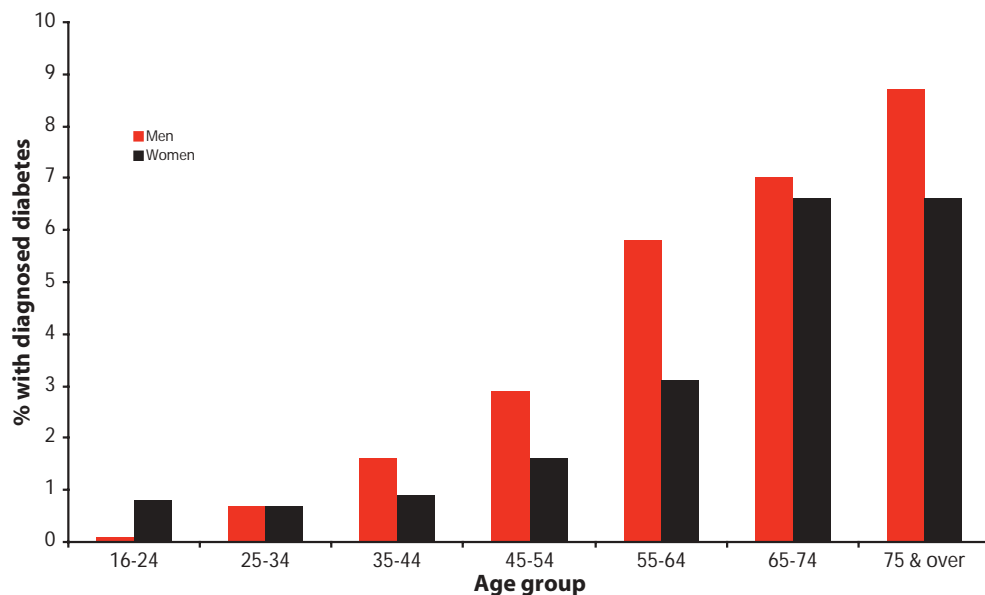


Table 12.2 *Estimates of numbers of people with diabetes by sex and age, 2002, United Kingdom*

	Age group	Total population in the UK (000s)	Prevalence of all diabetes (%)	Numbers of people with diabetes in the UK (000s)	Numbers of people with Type 1 diabetes in the UK (000s)	Numbers of people with Type 2 diabetes in the UK (000s)	Proportion with Type 2 (%)
MEN	0-14	5,630	0.1	8	8	0	0.00
	15-44	12,289	0.8	98	64	34	0.35
	45-64	7,008	4.4	305	24	280	0.92
	65-74	2,324	7.0	163	2	161	0.99
	75 & over	1,651	8.7	144	0	144	1.00
	Total	28,901	2.5	717	100	617	0.86
WOMEN	0-14	5,360	0.1	8	8	0	0.00
	15-44	12,318	0.8	99	64	34	0.35
	45-64	7,177	2.4	169	13	155	0.92
	65-74	2,639	6.6	174	2	172	0.99
	75 & over	2,812	6.6	186	0	186	1.00
	Total	30,306	2.1	634	89	546	0.86
BOTH	0-14	10,990	0.1	15	15	0	0.00
	15-44	24,607	0.8	197	128	69	0.35
	45-64	14,184	3.4	473	38	436	0.92
	65-74	4,963	6.8	337	3	333	0.99
	75 & over	4,463	7.7	329	0	329	1.00
	Total	59,207	2.3	1352	189	1163	0.86

Prevalence rates 0-14 and proportions with Type 2 diabetes from Tayside Regional Diabetes Network; prevalence rates 15+ from Health Survey for England; mid 2002 population data from Office for National Statistics.

The estimates for the number of people with diabetes in the UK were derived from multiplying the age-specific prevalence rates by the numbers in the population.

Sources: Tayside Regional Diabetes Network (1999) Annual Report: Demographics. <http://www.diabetes-healthnet.ac.uk>;
 Joint Health Surveys Unit (1999) Health Survey for England 1998. The Stationery Office: London;
 Office for National Statistics (2004) Mid-2002 UK population estimates. See www.statistics.gov.uk.

Table 12.3 Prevalence of diagnosed diabetes by sex and age, 1991-1998, England

	All ages	16-24	25-34	35-44	45-54	55-64	65-74	75 & over
	%	%	%	%	%	%	%	%
MEN								
1991	2.0	0.0	0.0	0.0	1.0	4.0	6.0	7.0
1993	3.0	0.0	1.0	1.0	3.0	6.0	7.0	8.0
1994	2.9	0.8	0.8	1.0	2.5	6.4	5.8	7.5
1998	3.3	0.1	0.7	1.6	2.9	5.8	7.0	8.7
Base 1998	7,193	875	1,338	1,305	1,289	987	837	562
WOMEN								
1991	2.0	0.0	1.0	1.0	2.0	4.0	6.0	5.0
1993	2.0	0.0	1.0	1.0	2.0	4.0	5.0	5.0
1994	1.9	0.6	0.3	0.9	1.5	2.5	4.8	5.2
1998	2.5	0.8	0.7	0.9	1.6	3.1	6.6	6.6
Base 1998	8,715	1,006	1,630	1,573	1,484	1,148	967	907

Self-reported diagnosis of either Type 1 or Type 2 diabetes.

Source: Joint Health Surveys Unit (1999) Health Survey for England 1998. The Stationery Office: London.

Fig 12.3 Prevalence of diagnosed diabetes in adults, 1991-1998, England

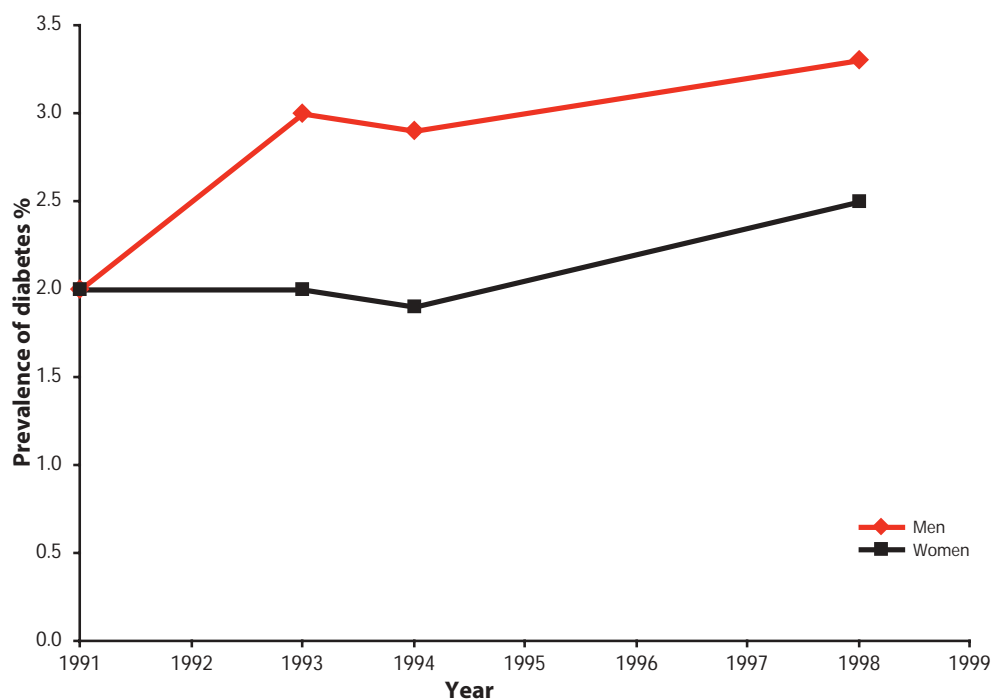


Table 12.4 Prevalence of non-insulin treated diabetes by sex, age and region, 1994/98, England and Wales

		Number of cases	All ages*	0-4	5-15	16-24	25-34	35-44	45-54	55-64	65-74	75-84	85 & over
			%	%	%	%	%	%	%	%	%	%	%
MALES	Northern and Yorkshire	3,430	0.90	0.00	0.00	0.01	0.04	0.26	1.02	2.72	4.06	3.59	2.76
	Trent	3,315	0.95	0.00	0.00	0.01	0.05	0.23	1.06	2.80	4.09	4.11	4.52
	Anglia and Oxford	2,561	0.95	0.00	0.00	0.00	0.08	0.27	0.98	2.74	4.18	4.70	3.54
	North Thames	2,023	1.13	0.00	0.00	0.01	0.07	0.50	1.36	3.18	4.64	4.40	5.14
	South Thames	2,120	0.88	0.00	0.00	0.00	0.07	0.24	0.96	2.46	3.78	4.76	2.72
	South and West	4,700	0.99	0.00	0.00	0.01	0.05	0.33	0.93	2.76	4.72	4.45	3.65
	West Midlands	4,001	1.01	0.00	0.00	0.01	0.05	0.40	1.13	2.95	4.04	4.42	4.83
	North West	5,121	1.03	0.00	0.00	0.01	0.05	0.30	1.12	3.12	4.16	4.76	4.55
	England	27,271	0.98	0.00	0.00	0.01	0.05	0.31	1.06	2.85	4.22	4.38	3.93
	Wales	1,726	1.11	0.00	0.00	0.01	0.07	0.41	1.34	3.23	4.53	4.70	4.35
England and Wales		28,997	0.99	0.00	0.00	0.01	0.05	0.32	1.07	2.87	4.23	4.40	3.95
FEMALES	Northern and Yorkshire	3,076	0.66	0.00	0.01	0.00	0.05	0.25	0.74	1.95	2.67	2.97	2.79
	Trent	2,996	0.72	0.00	0.00	0.02	0.05	0.23	0.67	1.92	3.29	3.70	3.27
	Anglia and Oxford	2,414	0.73	0.00	0.00	0.01	0.08	0.16	0.62	1.80	3.34	4.22	4.53
	North Thames	1,650	0.76	0.00	0.00	0.01	0.06	0.24	0.95	2.29	2.97	3.23	2.18
	South Thames	1,822	0.60	0.00	0.00	0.00	0.06	0.18	0.68	1.43	2.60	3.50	3.05
	South and West	4,118	0.69	0.00	0.00	0.02	0.06	0.22	0.57	1.82	3.20	3.66	3.40
	West Midlands	3,672	0.80	0.00	0.00	0.01	0.06	0.34	0.83	2.33	3.23	3.59	3.29
	North West	4,565	0.74	0.00	0.00	0.01	0.05	0.26	0.78	2.10	3.21	3.53	2.85
	England	24,313	0.71	0.00	0.00	0.01	0.06	0.24	0.72	1.97	3.09	3.54	3.17
	Wales	1,521	0.78	0.00	0.01	0.02	0.03	0.21	0.71	2.45	3.46	3.49	3.43
England and Wales		25,834	0.72	0.00	0.00	0.01	0.06	0.24	0.72	1.99	3.11	3.54	3.19

*Age-standardised using the European Standard Population.

Source: Office for National Statistics (2000) Key Health Statistics from General Practice. The Stationery Office: London.

Table 12.5 Prevalence of non-insulin treated diabetes by sex, age and deprivation category, 1994/98, England and Wales

		Deprivation category	Number of cases	All ages*	0-4	5-15	16-24	25-34	35-44	45-54	55-64	65-74	75-84	85 & over
				%	%	%	%	%	%	%	%	%	%	%
MALES	Q1: least deprived	3,466	0.86	0.00	0.00	0.01	0.04	0.22	0.85	2.36	3.74	4.76	4.65	
	Q2	5,430	0.90	0.00	0.00	0.00	0.06	0.27	0.92	2.33	4.29	4.69	3.48	
	Q3	6,752	0.95	0.00	0.00	0.01	0.05	0.27	0.99	2.82	4.24	4.11	3.80	
	Q4	6,818	1.01	0.00	0.00	0.00	0.06	0.33	1.14	3.04	4.18	4.31	4.37	
	Q5: most deprived	6,451	1.17	0.00	0.00	0.01	0.07	0.47	1.44	3.65	4.55	4.26	3.64	
	All	28,997	0.99	0.00	0.00	0.01	0.05	0.32	1.07	2.87	4.23	4.40	3.95	
FEMALES	Q1: least deprived	2,456	0.50	0.00	0.00	0.01	0.02	0.13	0.44	1.23	2.30	3.06	3.54	
	Q2	4,974	0.66	0.00	0.00	0.01	0.05	0.17	0.55	1.69	3.21	3.67	3.25	
	Q3	6,204	0.71	0.00	0.01	0.01	0.06	0.20	0.69	1.94	3.11	3.61	3.24	
	Q4	6,304	0.74	0.00	0.00	0.01	0.04	0.27	0.76	2.11	3.05	3.69	3.30	
	Q5: most deprived	5,864	0.91	0.00	0.00	0.01	0.08	0.39	1.13	2.76	3.62	3.43	2.68	
	All	25,834	0.72	0.00	0.00	0.01	0.06	0.24	0.72	1.99	3.11	3.54	3.19	

*Age-standardised using the European Standard Population; deprivation categories were derived from quintiles of Townsend Material Deprivation Scores for the wards in which general practices were located.

Source: Office for National Statistics (2000) Key Health Statistics from General Practice. The Stationery Office: London.

Table 12.6 *Prevalence of diagnosed diabetes by sex, age and ethnic group, 1999, England*

		Base *	All ages **	16-34	35-54	55 & over
			%	%	%	%
MEN	Black Caribbean	547	8.3	1.9	3.2	17.6
	Indian	626	9.8	0.7	8.0	19.2
	Pakistani	620	17.9	0.8	9.6	39.0
	Bangladeshi	533	19.0	2.4	10.6	30.6
	Chinese	301	4.8	-	2.2	16.1
	Irish	537	4.5	1.6	0.8	11.8
	General population	7,198	3.3	0.5	2.2	6.9
WOMEN	Black Caribbean	748	10.5	0.4	3.9	25.7
	Indian	657	7.2	0.6	4.4	15.3
	Pakistani	643	14.0	1.1	7.4	28.3
	Bangladeshi	563	14.6	0.4	12.1	26.0
	Chinese	361	5.3	1.6	0.7	11.8
	Irish	708	2.6	-	1.9	5.9
	General population	8,715	2.5	1.3	3.4	5.3

* Unweighted base;

** Age standardised prevalence rates (Standardised risk ratios x prevalence in general population).

Source: Joint Health Surveys Unit (2001) Health Survey for England. The Health of Minority Ethnic Groups 1999. The Stationery Office: London.

Fig 12.6 *Prevalence of diagnosed diabetes by sex and ethnic group, 1999, England*

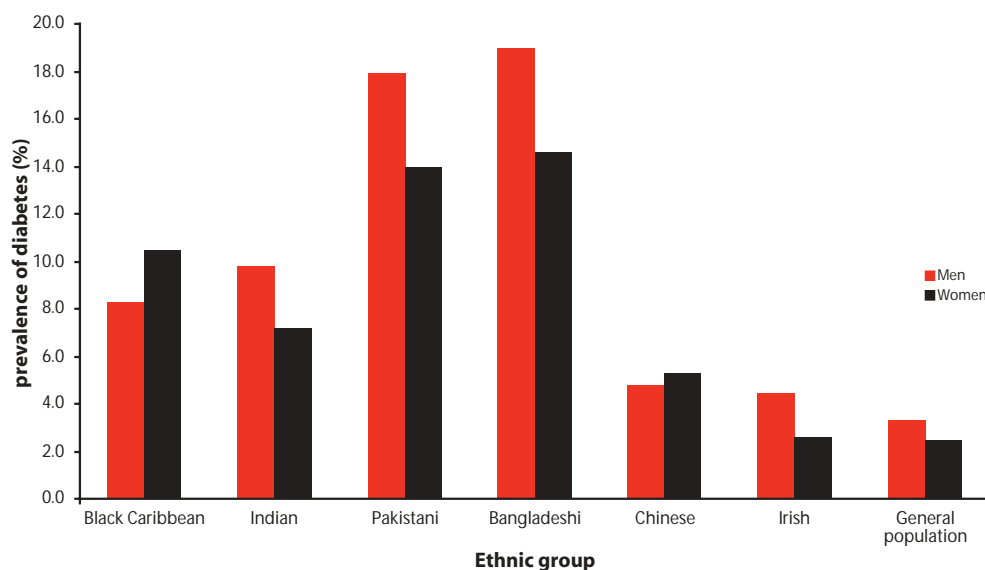


Table 12.7 Numbers of people with diabetes, 2003 and 2025, selected countries, the World

	2003					2025				
	Population Aged 20-79 (000s)	Men (000s)	Women (000s)	Total (000s)	Crude prevalence %	Population Aged 20-79 (000s)	Men (000s)	Women (000s)	Total (000s)	Crude prevalence %
World	3,822,720	92,455	101,646	194,195	5.1	5,250,955	158,117	174,552	332,749	6.3
WHO Africa Region	295,065	3,580	3,491	7,072	2.4	541,140	7,870	7,171	15,041	2.8
Angola	5,846	84	73	157	2.7	11,873	206	177	383	3.2
Benin	2,911	33	30	63	2.1	5,851	74	69	143	2.4
Botswana	716	9	17	26	3.6	1,011	15	21	36	3.5
Burkina Faso	4,969	68	67	135	2.7	10,920	106	99	205	1.9
Burundi	2,860	19	19	38	1.3	5,534	53	45	98	1.8
Cameroon	7,278	24	35	58	0.8	12,625	65	83	148	1.2
Cape Verde	228	2	3	5	2.3	412	6	7	13	3.2
Central African Republic	1,780	21	20	41	2.3	2,988	37	35	72	2.4
Chad	3,674	39	62	101	2.7	7,349	82	126	208	2.8
Comoros	355	5	4	9	2.5	715	14	11	25	3.5
Congo, Democratic Republic of	22,436	295	257	552	2.5	49,259	799	673	1,472	3.0
Congo, Republic of	1,403	18	18	36	2.6	2,823	38	36	74	2.6
Cote d'Ivoire	7,959	107	79	186	2.3	13,673	182	138	320	2.3
Djibouti	300	5	10	15	4.9	378	4	10	13	3.5
Equatorial Guinea	226	3	3	6	2.5	430	6	6	11	2.7
Eritrea	1,906	20	17	36	1.9	3,628	51	43	94	2.6
Ethiopia	29,562	299	251	550	1.9	52,442	693	568	1,260	2.4
Gabon	647	10	9	19	2.9	1,095	16	15	31	2.8
Gambia	703	8	7	15	2.2	1,167	16	14	30	2.6
Ghana	9,986	185	149	334	3.3	17,839	408	316	724	4.1
Guinea	3,855	43	36	79	2.0	7,131	93	78	171	2.4
Guinea-Bissau	588	6	6	12	2.0	1,036	12	11	22	2.2
Kenya	14,604	194	166	360	2.5	25,033	473	388	861	3.4
Lesotho	1,040	12	20	32	3.1	1,195	14	21	35	2.9
Liberia	1,573	17	15	32	2.0	3,300	44	36	80	2.4
Madagascar	7,782	104	88	192	2.5	15,397	277	230	507	3.3
Malawi	5,131	47	41	87	1.7	8,961	109	87	196	2.2
Mali	5,231	56	51	107	2.0	10,339	124	107	231	2.2
Mauritania	1,309	18	28	46	3.5	2,590	41	61	101	3.9
Mozambique	8,681	142	124	267	3.1	13,773	270	227	497	3.6
Namibia	831	10	16	26	3.1	1,463	19	28	47	3.2
Niger	4,728	58	89	147	3.1	10,662	115	167	282	2.6
Nigeria	54,248	655	563	1,219	2.2	103,872	1,412	1,191	2,603	2.5
Reunion	474	29	33	62	13.1	640	49	55	105	16.4
Rwanda	3,645	23	19	41	1.1	6,305	50	41	91	1.4
Sao Tome and Principe	107	2	1	3	2.8	146	3	2	5	3.4
Senegal	4,607	55	49	104	2.3	8,798	120	108	228	2.6
Seychelles	49	3	3	6	12.3	67	5	5	10	14.9
Sierra Leone	2,268	26	23	49	2.2	4,181	52	47	98	2.3
Somalia	4,086	50	42	92	2.3	9,053	143	122	264	2.9
South Africa	24,741	323	519	841	3.4	26,816	417	638	1,055	3.9
Swaziland	450	5	8	13	3.0	589	7	10	17	2.9
Tanzania	16,616	203	176	379	2.3	31,855	545	457	1,002	3.1
Togo	2,196	24	21	45	2.1	4,178	52	45	98	2.3
Uganda	10,018	85	70	155	1.5	22,514	253	207	460	2.0
Western Sahara	149	3	4	7	4.9	269	6	8	14	5.2
Zambia	4,625	76	64	140	3.0	8,922	177	140	317	3.6
Zimbabwe	5,686	59	90	149	2.6	10,041	120	165	284	2.8
WHO Eastern Mediterranean and Middle East Region	276,025	9,713	9,524	19,237	7.0	493,560	19,257	20,153	39,410	8.0
Afghanistan	11,130	502	416	917	8.2	21,973	973	846	1,819	8.3
Algeria	17,737	321	407	728	4.1	28,950	693	898	1,591	5.5
Armenia	2,607	82	129	211	8.1	2,968	125	191	316	10.7
Bahrain	439	42	23	66	14.9	645	67	51	118	18.3
Egypt	39,299	1,730	2,140	3,869	9.8	63,676	3,441	4,362	7,803	12.3
Iran	38,506	706	685	1,391	3.6	65,757	1,439	1,458	2,896	4.4
Iraq	11,962	456	460	916	7.7	23,293	1,061	1,065	2,126	9.1
Jordan	2,648	96	89	185	7.0	5,054	245	227	472	9.3
Kuwait	1,240	107	51	158	12.8	2,178	220	138	358	16.4
Lebanon	2,202	67	73	140	6.4	3,214	140	153	293	9.1
Libya	3,128	48	67	115	3.7	5,215	95	148	243	4.7
Morocco	17,598	312	419	732	4.2	28,128	646	870	1,515	5.4
Occupied Palestinian Territories	1,525	55	58	113	7.4	3,543	148	144	291	8.2
Oman	1,274	85	60	145	11.4	2,710	173	150	323	11.9
Pakistan	72,760	3,311	2,870	6,180	8.5	136,909	5,891	5,716	11,607	8.5
Qatar	393	47	16	63	16.0	537	63	35	98	18.2
Saudi Arabia	10,544	597	395	992	9.4	21,851	1,146	955	2,101	9.6
Sudan	16,584	210	312	522	3.1	29,070	473	672	1,145	3.9
Syria	8,516	260	268	528	6.2	16,711	721	720	1,441	8.6
Tunisia	5,966	118	156	274	4.6	8,442	214	292	506	6.0
United Arab Emirates	1,829	273	95	367	20.1	2,482	410	197	607	24.5
Yemen	8,137	290	335	626	7.7	20,253	875	866	1,741	8.6
WHO European Region	621,235	22,337	26,041	48,378	7.8	646,334	27,842	30,796	58,638	9.1
Albania	1,966	35	40	75	3.8	2,559	61	70	131	5.1
Andorra	50	2	2	4	7.7	52	3	3	5	9.5
Austria	5,991	259	318	576	9.6	5,887	338	365	703	11.9
Azerbaijan	5,154	144	214	358	6.9	6,793	259	377	636	9.4
Belarus	7,336	309	374	683	6.9	7,233	357	417	773	10.7
Belgium	7,531	141	175	315	4.2	7,658	180	214	395	5.2
Bosnia and Herzegovina	3,074	117	178	295	9.6	3,270	166	237	402	12.3
Bulgaria	5,894	236	356	591	10.0	4,871	223	342	565	11.6
Croatia	3,412	82	117	199	5.8	3,304	97	124	221	6.7
Cyprus	541	12	15	28	5.1	637	18	22	40	6.3
Czech Republic	7,734	365	370	735	9.5	7,599	442	446	887	11.7
Denmark	3,863	121	144	265	6.9	3,988	148	182	330	8.3
Estonia	991	43	53	96	9.7	814	42	48	89	11.0
Finland	3,775	130	143	274	7.2	3,822	186	198	384	10.0
France	42,546	1,306	1,347	2,654	6.2	45,141	1,610	1,676	3,285	7.3
Georgia	3,681	129	203	332	9.0	3,341	143	215	358	10.7
Germany	61,895	2,879	3,415	6,294	10.2	60,030	3,459	3,685	7,144	11.9
Greece	8,069	217	276	493	6.1	7,767	254	312	566	7.3
Hungary	7,350	336	375	711	9.7	6,807	365	397	762	11.2
Iceland	192	2	2	4	2.0	229	3	3	6	2.5
Ireland	2,674	44	46	90	3.4	3,290	66	69	135	4.1
Israel	3,959	141	141	282	7.1	5,776	243	225	468	8.1
Italy	43,925	1,400	1,480	2,880	6.6	40,482	1,584	1,615	3,198	7.9
Kazakhstan	10,235	305	254	559	5.5	11,358	430	367	797	7.0
Kyrgyzstan	2,896	71	54	125	4.3	4,355	144	108	252	5.8
Latvia	1,758	78	96	174	9.9	1,610	84	94	178	11.1
Lithuania	2,648	115	134	249	9.4	2,626	136	148	284	10.8
Luxembourg	327	6	7	13	3.8	415	8	10	18	4.4
Macedonia	1,428	31	39	70	4.9	1,598	44	53	97	6.1
Malta	280	11	15	26	9.2	304	15	20	35	11.6
Moldova, Republic of	2,915	117	125	242	9.3	3,095	148	154	302	9.8
Monaco	23	1	1	1	6.1	24	1	1	2	7.2
Netherlands	11,678	203	229	432	3.7	12,538	291	344	635	5.1
Norway	3,154	96	116	212	6.7	3,534	129	159	289	8.2
Poland	27,852	1,239	1,268	2,507	9.0	28,567	1,546	1,607	3,153	11.0

	2003				Crude prevalence %	2025				
	Population Aged 20-79 (000s)	Men (000s)	Women (000s)	Total (000s)		Population Aged 20-79 (000s)	Men (000s)	Women (000s)	Total (000s)	Crude prevalence %
Portugal	7,471	279	306	585	7.8	7,456	344	362	706	9.5
Romania	16,392	760	759	1,519	9.3	15,860	834	843	1,677	10.6
Russian Federation	105,244	4,418	5,276	9,694	9.2	98,969	4,909	5,838	10,747	10.9
San Marino	20	1	1	1	6.1	21	1	1	2	7.2
Serbia and Montenegro	7,542	182	240	422	5.6	7,597	215	268	483	6.4
Slovakia	3,903	168	171	339	8.7	4,127	219	224	443	10.7
Slovenia	1,511	72	73	145	9.6	1,451	87	87	174	12.0
Spain	30,329	1,210	1,795	3,004	9.9	29,155	1,479	1,466	2,945	10.1
Sweden	6,290	206	251	457	7.3	6,373	246	303	548	8.6
Switzerland	5,310	235	270	505	9.5	5,114	308	339	647	12.6
Tajikistan	3,174	70	46	117	3.7	5,305	158	110	268	5.1
Turkey	42,411	1,254	1,704	2,959	7.0	59,689	2,285	3,145	5,430	9.1
Turkmenistan	2,648	62	43	105	4.0	4,537	143	105	248	5.5
Ukraine	35,625	1,552	1,901	3,453	9.7	31,102	1,558	1,800	3,358	10.8
United Kingdom	42,423	814	858	1,672	3.9	45,322	1,080	1,062	2,141	4.7
Uzbekistan	14,144	333	228	561	4.0	22,883	754	544	1,297	4.7
WHO North American Region	289,550	10,947	12,070	23,016	7.9	374,364	16,996	19,179	36,175	9.7
Anguilla	8	0	0	0	5.5	11	0	0	1	6.7
Antigua and Barbuda	41	2	1	2	5.8	57	2	2	5	8.2
Aruba	43	2	2	4	9.7	59	3	3	6	10.9
Bahamas	193	6	11	17	9.0	266	11	20	30	11.4
Barbados	189	7	9	16	8.5	217	14	14	28	12.8
Belize	124	4	4	7	5.7	216	9	9	17	7.8
Bermuda	39	2	2	4	9.7	54	3	3	6	10.9
British Virgin Islands	13	1	1	1	8.3	18	1	1	2	9.6
Canada	22,640	1,099	835	2,034	9.0	27,135	1,651	1,381	3,032	11.2
Cayman Islands	22	1	1	2	9.7	31	2	2	3	10.9
Dominica, Commonwealth of	42	2	2	4	8.4	58	3	3	6	9.8
Grenada	54	2	2	4	6.8	74	3	3	6	8.4
Guadeloupe	289	9	10	19	6.5	345	13	15	28	8.2
Guyana	457	9	18	28	6.0	480	14	31	46	9.5
Haiti	4,113	80	157	236	5.7	6,679	157	308	464	7.0
Jamaica	1,528	39	71	111	7.2	2,197	75	135	210	9.6
Martinique	265	8	9	17	6.5	305	12	13	25	8.2
Mexico	59,336	1,617	2,792	4,409	7.4	87,640	3,235	5,800	9,035	10.3
St Kitts and Nevis	23	1	1	2	6.6	32	1	1	3	8.0
St Lucia	101	3	3	6	6.2	132	5	6	11	8.4
St Vincent and the Grenadines	71	3	3	5	7.7	97	5	5	9	9.4
Trinidad and Tobago	861	11	57	68	7.9	1,042	44	80	123	11.8
USA	199,097	8,041	7,980	16,020	8.0	247,219	11,735	11,345	23,081	9.3
WHO South and Central American Region	251,850	6,021	8,137	14,158	5.6	363,881	11,000	15,156	26,156	7.2
Argentina	23,958	563	742	1,305	5.4	31,775	836	1,006	1,842	5.8
Bolivia	4,480	100	117	217	4.8	7,927	209	241	450	5.7
Brazil	109,901	2,496	3,186	5,682	5.2	150,418	4,556	6,101	10,657	7.1
Chile	9,864	231	326	557	5.6	13,327	356	550	906	6.8
Colombia	25,524	492	607	1,099	4.3	39,178	1,025	1,250	2,274	5.8
Costa Rica	2,493	66	106	172	6.9	3,909	139	228	368	9.4
Cuba	7,980	386	667	1,053	13.2	8,749	541	979	1,512	17.3
Dominican Republic	4,991	191	309	500	10.0	7,081	332	589	920	13.0
Ecuador	7,548	171	190	361	4.8	11,887	357	406	763	6.4
El Salvador	3,620	80	146	225	6.2	5,775	168	306	474	8.2
French Guiana	100	5	6	11	11.1	190	11	15	26	13.7
Guatemala	5,620	117	192	309	5.5	11,171	271	456	728	6.5
Honduras	3,302	71	117	188	5.7	6,123	164	277	441	7.2
Netherlands Antilles	148	7	11	18	12.3	180	11	16	28	15.4
Nicaragua	2,567	58	99	157	6.1	5,124	146	149	395	7.7
Panama	1,779	50	79	129	7.3	2,590	97	163	260	10.0
Paraguay	2,979	52	64	115	3.9	5,533	115	151	265	4.8
Peru	15,397	367	425	793	5.1	23,753	724	864	1,588	6.7
Puerto Rico	2,671	116	236	351	13.2	3,251	168	340	508	15.6
Suriname	251	8	13	22	8.6	315	16	23	39	12.3
Uruguay	2,217	55	96	150	6.8	2,627	72	117	188	7.2
Venezuela	14,460	341	404	746	5.2	22,997	686	837	1,523	6.6
WHO South-East Asian Region	705,292	19,911	19,386	39,296	5.6	1,081,026	41,380	40,187	81,567	7.5
Bangladesh	75,020	1,496	1,419	2,915	3.9	130,288	3,218	3,089	6,307	4.8
Bhutan	1,054	19	20	39	3.7	2,044	44	45	89	4.3
India	603,677	17,970	17,534	35,504	5.9	909,790	37,276	36,200	73,476	8.1
Maldives	144	1	1	3	1.8	304	3	3	7	2.1
Mauritius	786	41	43	85	10.7	986	69	76	145	14.7
Nepal	12,004	245	243	488	4.1	21,644	553	556	1,108	5.1
Sri Lanka	12,607	138	125	263	2.1	15,971	217	218	435	2.7
WHO Western Pacific Region	1,383,705	19,938	23,091	43,029	3.1	1,750,653	33,765	41,997	75,762	4.3
Australia	13,805	476	379	854	6.2	16,950	721	580	1,301	7.7
Brunei Darussalam	209	10	13	22	10.7	332	22	28	50	15.0
Cambodia	6,332	44	81	125	2.0	12,191	98	162	260	2.1
China, Hong Kong	5,424	233	247	480	8.8	6,765	387	477	863	12.8
China, Macau	323	13	14	27	8.2	425	24	31	55	12.9
China, People's Republic of	877,935	10,751	13,059	23,809	2.7	1,079,641	19,913	26,217	46,130	4.3
Cook Islands	13	0	1	1	6.6	17	1	1	1	7.3
East Timor	403	3	3	6	1.4	764	6	6	13	1.6
Fiji	480	18	21	40	8.3	641	31	35	66	10.3
French Polynesia	147	5	6	12	8.0	217	10	13	23	10.8
Guam	93	3	3	6	6.7	148	6	5	11	7.5
Indonesia	132,849	1,195	1,353	2,548	1.9	186,983	2,507	2,703	5,210	2.8
Japan	97,090	3,477	3,252	6,729	6.9	90,130	3,654	3,495	7,149	7.9
Kiribati	60	2	2	4	6.2	82	3	3	7	7.9
Korea, Democratic People's Republic of	14,835	431	343	774	5.2	18,008	635	499	1,135	6.3
Korea, Republic of	34,147	1,210	976	2,186	6.4	39,095	1,820	1,423	3,243	8.3
Lao People's Democratic Republic	2,658	6	22	28	1.1	4,933	12	42	54	1.1
Malaysia	13,280	527	724	1,252	9.4	21,032	1,088	1,514	2,602	12.4
Marshall Islands	46	2	2	4	8.6	64	3	3	7	10.3
Micronesia	82	3	3	6	6.7	113	5	5	10	8.5
Mongolia	1,451	10	10	20	1.4	2,355	23	24	46	2.0
Myanmar	28,474	69	243	312	1.1	41,135	136	416	552	1.3
Nauru	8	1	1	2	30.2	10	2	2	4	33.0
New Caledonia	140	2	3	5	3.8	217	4	6	10	4.7
New Zealand	2,603	97	100	197	7.6	3,106	135	143	278	9.0
Niue	1	0	0	0	6.8	2	0	0	0	7.6
Palau	12	1	1	1	8.7	16	1	1	2	10.3
Papua New Guinea	2,551	20	29	49	1.9	4,546	52	79	131	2.9
Philippines	42,133	399	611	1,010	2.4	69,936	811	1,260	2,071	3.0
Samoa	74	2	3	4	5.9	109	3	3	7	6.1
Singapore, Republic of	3,032	172	201	374	12.3	3,884	331	427	758	19.5
Solomon Islands	221	2	3	5	2.1	480	5	9	14	2.9
Taiwan	13,767	307	459	766	5.6	18,911	481	759	1,240	6.6
Thailand	42,236	348	533	882	2.1	55,716	570	888	1,458	2.6
Tokelau	1	0	0	0	6.4	1	0	0	0	7.6
Tonga	65	4	5	8	12.4	90	6	8	14	15.9
Tuvalu	7	0	0	0	8.6	9	0	1	1	10.8
Vanuatu	101	1	1	2	2.2	195	2	4	6	3.2
Vietnam	46,620	95	386	481	1.0	71,403	256	726	982	1.4

Source: International Diabetes Federation (2003) *The Diabetes Atlas (Second edition)* International Diabetes Federation:Brussels.

Fig 12.7 Prevalence of diabetes, 2003, the World

