

	1 GNI Per capita 2006 purchasing power parity \$	2 HEALTH CARE Spending as percentage of GDP 2005 %	3 DMFT Average score in 12-year-olds		4 DENTAL CARIES In young people aged 6–19 years (highest value)		5 EDENTULOUSNESS In people aged 65 or more years	
			score	data year	% affected	data year	% affected	data year
Afghanistan	–	5.2	2.9	1991*	80	1991	–	–
Albania	6,000	6.5	3.1	2005	–	–	69	1996
Algeria	5,940	3.5	2.3	1987	–	–	–	–
Andorra	–	6.3	–	–	–	–	–	–
Angola	3,890	1.8	1.7	1981	–	–	–	–
Antigua and Barbuda	15,130	4.8	0.7	1988–89	43	1988–89	–	–
Argentina	11,670	10.2	3.4	1987	99.8	1995	–	–
Armenia	4,950	5.4	2.4	1985–90	–	–	–	–
Australia	33,940	8.8	0.8	2000	55.1	2000	20	2004–06
Austria	36,040	10.2	1.0	2002	54.7	2006	15	1992
Azerbaijan	5,430	3.9	–	–	–	–	–	–
Bahamas	–	6.7	1.6	2000	–	–	–	–
Bahrain	–	3.8	1.4	1995	52	1995	–	–
Bangladesh	1,230	2.8	1.0	2000	46.4	2000	–	–
Barbados	–	6.8	0.9	2001	37	2001	–	–
Belarus	9,700	6.6	2.7	2000	94	1994	14	2000
Belgium	33,860	9.6	1.1	2001	75	2001	41	1998
Belize	7,080	4.9	0.6	1999	–	–	–	–
Benin	1,250	5.4	0.8	1998	38.8	1998	–	–
Bhutan	4,000	4.0	1.4	1985	76	1985	–	–
Bolivia	3,810	7.1	4.7	1995	87.7	1995	–	–
Bosnia and Herzegovina	6,780	8.8	4.8	2004	91	2004	78	1998
Botswana	11,730	8.3	0.5	1981	–	–	–	–
Brazil	8,700	7.9	2.8	2002–03	89	2002–03	68	2002**
Brunei	49,900	2.0	4.8	1999	88.7	1999	–	–
Bulgaria	10,270	7.7	4.4	2000	80	2000	56	2000
Burkina Faso	1,130	6.7	0.7	1999	–	–	–	–
Burundi	320	3.4	1.0	1987–88	50.6	1987–88	–	–
Cambodia	1,550	6.4	1.1	2003–07	48	2003–07	15	1990–91
Cameroon	2,060	5.2	2.8	1996*	93	1996	–	–
Canada	36,280	9.8	2.1	1996–97	76	1985	58	1993
Cape Verde	2,590	5.6	2.8	1989	89.6	1988–89	–	–
Central African Republic	690	4.0	4.1	1986	–	–	–	–
Chad	1,170	3.7	–	–	–	–	–	–
Chile	11,300	5.4	1.9	2006–07	64.4	2006–07	–	–
China	4,660	4.7	1.0	1995–96	55.3	1995–96	11	1995–96
Colombia	6,130	7.3	2.3	1998	–	–	–	–
Comoros	1,140	3.0	–	–	–	–	–	–
Congo	270	1.9	–	–	–	–	–	–
Congo, Dem. Rep. of	–	4.2	0.4–1.1	1987–91	31	1982	–	–
Costa Rica	9,220	7.1	2.3	1999	83	1996	–	–
Côte d'Ivoire	1,580	3.9	1.8	1996	62.4	1999	–	–
Croatia	13,850	7.4	6.7	2005*	85.1	1999	45	2005**
Cuba	–	7.6	1.4	1998	50	2005	–	–
Cyprus	25,060	6.1	1.1	2005	45	2002	–	–
Czech Republic	20,920	7.1	2.5	2002	93.4	1998	34	2002
Denmark	36,190	9.4	0.7	2007	57.3	2005	27	2000
Djibouti	2,180	6.9	0.9	1990	–	–	–	–

*see p 104 **see p 114

WORLD TABLE

6 ORAL CANCER Age-standardised incidence per 100,000 population 2002		7 HIV/AIDS In people aged 15–49 years 2007 % with HIV	8 SUGAR Annual consumption per person 2007		9 CIGARETTES Number consumed per year by people aged 15 and older 2007	10 DENTISTS 2007			
men	women		kg	data source [†]		number working	population per dentist	data source [†]	
6.8	5.9	–	2	1	–	900	30,161	4	Afghanistan
7.0	2.4	–	30	1	1,201	532	5,996	3	Albania
2.5	1.1	0.1	37	1	577	842	40,211	3	Algeria
–	–	–	–	1	–	51	1,471	3	Andorra
9.7	4.7	2.1	15	1	397	225	75,662	3	Angola
–	–	–	–	–	–	13	6,538	4	Antigua and Barbuda
5.4	1.3	0.5	47	1	1,014	9,000	4,392	3	Argentina
5.5	1.2	0.1	29	1	2,083	550	5,458	3	Armenia
11.1	4.7	0.2	50	1	1,130	9,131	2,272	3	Australia
6.6	1.8	0.2	44	2	1,684	4,458	1,876	3	Austria
3.0	1.3	0.2	22	1	1,089	500	16,934	3	Azerbaijan
6.6	2.3	3.0	39	–	–	60	5,517	3	Bahamas
4.7	1.8	–	–	–	–	148	5,088	3	Bahrain
13.4	16.8	–	7	1	172	4,500	35,259	3	Bangladesh
4.9	1.5	1.2	51	1	–	63	4,667	4	Barbados
12.9	1.8	0.2	44	1	1,846	1,860	5,209	3	Belarus
7.7	2.5	0.2	–	1	1,763	5,902	1,772	3	Belgium
6.7	2.4	2.1	47	1	–	32	9,000	4	Belize
2.5	1.3	1.2	4	1	–	57	158,474	3	Benin
12.8	8.4	0.1	–	–	–	65	10,123	4	Bhutan
6.7	3.8	0.2	37	1	178	1,000	9,525	3	Bolivia
8.7	2.5	<0.1	36	1	2,145	400	9,838	3	Bosnia and Herzegovina
23.1	9.5	23.9	23	–	–	60	31,367	3	Botswana
8.3	1.7	0.6	65	1	580	223,000	860	3	Brazil
3.6	3.1	–	33	–	–	70	5,571	4	Brunei
6.5	1.6	–	19	1	2,437	15,087	980	3	Bulgaria
2.7	1.8	1.6	6	1	–	80	184,800	3	Burkina Faso
5.9	4.8	2.0	2	–	–	14	607,714	4	Burundi
10.2	2.7	0.8	8	–	447	450	32,098	3	Cambodia
6.1	1.5	5.1	7	1	141	70	264,986	3	Cameroon
6.9	2.9	0.4	44	1	897	11,513	2,856	3	Canada
2.5	1.3	–	34	1	–	11	48,182	4	Cape Verde
4.4	2.2	6.3	3	1	–	13	334,077	4	Central African Republic
4.4	2.2	3.5	8	1	–	15	718,733	4	Chad
2.7	0.9	0.3	42	1	909	2,800	5,941	3	Chile
1.1	0.7	0.1	10	1	1,646	16,232	82,296	3	China
3.8	2.6	0.6	34	1	479	3,000	15,385	3	Colombia
5.9	4.8	<0.1	6	–	–	29	28,931	4	Comoros
1.7	2.0	3.5	21	1	–	20	5,450	–	Congo
2.3	1.9	–	1	1	131	300	208,787	3	Congo, Dem. Rep. of
2.1	1.7	0.4	53	1	552	3,200	1,396	3	Costa Rica
2.2	2.1	3.9	12	1	198	100	192,620	3	Côte d'Ivoire
12.5	2.7	<0.1	44	1	1,849	8,018	568	3	Croatia
6.4	2.8	0.1	61	1	1,010	3,080	3,658	3	Cuba
2.4	1.6	–	43	2	1,830	731	1,170	3	Cyprus
6.8	2.0	–	49	2	2,368	8,184	1,245	3	Czech Republic
7.0	3.3	0.2	56	–	1,495	5,698	955	3	Denmark
5.9	4.8	3.1	–	–	–	60	13,883	4	Djibouti

[†] see p 114

	1 GNI Per capita 2006 purchasing power parity \$	2 HEALTH CARE Spending as percentage of GDP 2005 %	3 DMFT Average score in 12-year-olds		4 DENTAL CARIES In young people aged 6–19 years (highest value)		5 EDENTULOUSNESS In people aged 65 or more years	
			score	data year	% affected	data year	% affected	data year
Dominica	–	6.5	2.0	1995	–	–	–	–
Dominican Republic	5,550	5.7	4.4	1997	–	–	–	–
East Timor	7,850	13.7	–	–	–	–	–	–
Ecuador	6,810	5.3	3.0	1996	77.6	–	–	–
Egypt	4,940	6.1	0.4	2001–02	37	2001–02	17	1991
El Salvador	5,610	7.0	1.4	2000	–	–	–	–
Equatorial Guinea	16,620	1.7	–	–	–	–	–	–
Eritrea	680	4.7	–	–	–	–	–	–
Estonia	18,090	5.0	2.7	1998	76	1998	37	1987
Ethiopia	630	4.9	1.0	1993	45	1990	–	–
Fiji	4,450	4.1	1.5	1998	68	1990	6	1998
Finland	33,170	7.5	1.2	2000	76.9	1991	41	1998
France	32,240	11.2	1.2	2006	80.9	1991	16	2000
Gabon	11,180	4.1	4.4	2000	–	–	–	–
Gambia	1,110	5.2	2.3	1995	77	1995	6	1995
Georgia	3,880	8.6	2.4	1985–90	–	–	21	1986
Germany	32,680	10.7	0.7	2005	53.9	2005	23	2005
Ghana	1,240	6.2	0.4	1999–2000	22.4	2006	–	–
Greece	30,870	10.1	2.2	2000	72	2000	25	1998
Grenada	–	7.2	2.2	2000	–	–	–	–
Guatemala	5,120	5.2	5.2	2002	82.3	1989	–	–
Guinea	1,130	5.6	–	–	–	–	–	–
Guinea-Bissau	460	6.2	0.5	1986	75	1986	–	–
Guyana	3,410	5.4	1.3	1995	55	1995	–	–
Haiti	1,070	6.2	0.7	1999	46	1995	–	–
Honduras	3,420	7.5	3.7	1997	83.4	1999	–	–
Hong Kong (SAR)	39,200	–	0.8	2001	37.8	1997	9	2001
Hungary	16,970	7.8	3.3	2001	84.5	1996	26	2000
Iceland	33,740	9.4	1.4	2005	86	1993	70	1992
India	2,460	5.0	1.3	2005	83	2003*	19	2005*
Indonesia	3,310	2.1	2.2	1995	89.4	2005	24	1995
Iran	9,800	7.8	1.2	2003	48	2003	–	–
Iraq	–	4.1	1.7	2003	62	2003	–	–
Ireland	34,730	8.2	1.3	2002	74	2003	48	1989
Israel	23,840	7.8	1.7	2002	53.9	2002	–	–
Italy	28,970	8.9	1.1	2004	59.1	2002	44	1995–98
Jamaica	7,050	4.7	1.1	1995	40.9	2004–05	–	–
Japan	32,840	8.2	1.7	2005	15.7	1995	–	–
Jordan	4,820	10.5	3.3	1995	76	2004	–	–
Kazakhstan	8,700	3.9	2.1	1985–90	–	2004	–	–
Kenya	1,470	4.5	1.8	1986	50	1987	–	–
Kiribati	6,230	12.7	1.0	1994	–	–	–	–
Korea, North	–	3.5	3.0	1991	–	–	–	–
Korea, South	22,990	6.0	3.1	1995	83	2000	–	–
Kuwait	–	2.2	2.6	2000	87.4	2001	–	–
Kyrgyzstan	1,790	6.0	3.1	1973	–	–	46	1987
Laos	1,740	3.6	2.0	1991	61.3	2000	–	–
Latvia	14,840	6.4	3.4	2004	97.6	1993	–	–

*see p 104 **see p 114

WORLD TABLE

6 ORAL CANCER Age-standardised incidence per 100,000 population 2002		7 HIV/AIDS In people aged 15–49 years 2007 % with HIV	8 SUGAR Annual consumption per person 2007		9 CIGARETTES Number consumed per year by people aged 15 and older 2007	10 DENTISTS 2007			
men	women		kg	data source [†]		number working	population per dentist	data source [†]	
–	–	–	–	–	–	4	16,750	4	Dominica
3.0	2.1	1.1	33	1	335	6,000	1,627	3	Dominican Republic
–	–	–	–	–	–	42	–	3	East Timor
1.6	1.4	0.3	37	1	234	3,000	4,447	3	Ecuador
0.7	0.2	–	36	1	1,082	26,000	2,904	3	Egypt
0.4	0.2	0.8	35	1	275	800	8,571	3	El Salvador
4.4	2.2	3.4	–	–	–	15	33,800	4	Equatorial Guinea
5.9	4.8	1.3	3	–	–	16	303,188	4	Eritrea
8.4	2.1	1.3	58	2	1,718	688	1,940	3	Estonia
7.7	7.9	2.1	4	1	52	65	1,278,446	3	Ethiopia
1.9	1.5	0.1	68	1	–	70	11,986	3	Fiji
5.3	2.7	0.1	34	2	956	4,863	1,085	3	Finland
14.8	2.7	0.4	40	2	876	20,800	2,964	3	France
14.1	3.8	5.9	17	1	–	20	66,550	3	Gabon
1.0	1.4	0.9	44	1	–	20	85,450	3	Gambia
9.0	1.4	0.1	31	1	1,040	1,125	3,907	3	Georgia
11.1	2.8	0.1	46	1	1,125	52,202	1,582	3	Germany
2.5	1.3	1.9	9	1	80	100	234,780	3	Ghana
3.0	1.2	0.2	34	–	3,017	17,900	623	3	Greece
–	–	–	–	–	–	20	5,300	4	Grenada
2.5	1.4	0.8	54	1	325	2,046	6,527	4	Guatemala
2.9	1.5	1.6	14	1	–	60	156,167	4	Guinea
2.5	1.3	1.8	5	–	–	13	130,385	3	Guinea-Bissau
2.6	0.9	2.5	35	1	–	20	36,900	3	Guyana
2.4	1.0	2.2	20	1	–	60	159,967	3	Haiti
2.5	1.4	0.7	37	1	450	500	14,212	3	Honduras
–	–	–	26	1	499	1,630	4,421	3	Hong Kong (SAR)
19.1	4.5	0.1	45	2	1,623	2,000	5,015	3	Hungary
4.3	3.9	0.2	37	1	–	327	920	3	Iceland
12.8	7.5	0.3	18	1	99	34,500	33,885	3	India
1.5	1.0	0.2	19	1	974	9,500	24,382	3	Indonesia
2.9	1.7	0.2	31	1	764	12,500	5,697	3	Iran
3.9	3.5	–	24	1	784	2,323	12,481	3	Iraq
5.3	1.6	0.2	39	2	1,391	1,360	3,163	3	Ireland
5.1	2.6	0.1	38	1	1,173	4,300	1,611	3	Israel
7.1	1.9	0.4	31	–	1,596	28,857	2,040	3	Italy
4.1	2.4	1.6	40	1	480	212	12,802	4	Jamaica
2.8	2.0	–	19	1	2,028	63,236	2,024	3	Japan
2.2	1.1	–	47	1	846	982	6,033	3	Jordan
14.9	2.7	–	30	1	1,805	500	30,844	3	Kazakhstan
6.9	3.6	–	20	1	167	250	150,152	3	Kenya
–	–	–	–	–	–	3	31,667	4	Kiribati
3.4	1.8	–	4	1	714	8,315	2,725	4	Korea, North
3.4	1.8	<0.1	47	1	1,733	21,788	1,092	4	Korea, South
2.6	1.2	–	33	1	1,509	1,168	2,441	3	Kuwait
8.1	1.7	0.1	24	1	1,017	146	36,418	3	Kyrgyzstan
2.6	6.1	0.2	9	1	544	196	29,893	4	Laos
8.3	1.0	0.8	35	1	1,890	1,860	1,224	3	Latvia

[†] see p 114

	1 GNI Per capita 2006 purchasing power parity \$	2 HEALTH CARE Spending as percentage of GDP 2005 %	3 DMFT Average score in 12-year-olds		4 DENTAL CARIES In young people aged 6–19 years (highest value)		5 EDENTULOUSNESS In people aged 65 or more years	
			score	data year	% affected	data year	% affected	data year
Lebanon	9,600	8.7	3.4	2000	86	1991	35	1994
Lesotho	1,810	5.5	0.4	1991	20	1991	–	–
Liberia	260	6.4	0.4	1977	–	–	–	–
Libya	11,630	3.2	1.0	1994	59.6	1989	–	–
Lithuania	14,550	5.9	3.6	2001	84	2001	39	1998
Luxembourg	60,870	7.7	3.0	1990	–	–	–	–
Macau (SAR)	–	–	1.8	2006	82	1996	–	–
Macedonia	7,440	7.8	3.0	1999	95.2	1999	–	–
Madagascar	870	3.2	3.1	1993	92	1993	–	–
Malawi	690	12.2	0.8	1992–94	–	–	–	–
Malaysia	12,160	4.2	1.6	1997	83.9	1997	42	2000
Maldives	4,740	12.4	2.1	1984	97	1984	–	–
Mali	1,000	5.8	2.2	1983	–	–	–	–
Malta	20,990	8.4	1.6	1985	–	–	–	–
Marshall Islands	8,040	15.4	–	–	86.8	1990	–	–
Mauritania	1,970	2.7	2.0	1990	–	–	–	–
Mauritius	10,640	4.3	4.9	1993	84	1990	–	–
Mexico	11,990	6.4	2.0	2001	80.5	1997	31	2002–03
Micronesia, Fed. States of	6,070	13.5	2.1	1984	–	–	–	–
Moldova	2,660	7.5	2.3	1992	–	–	–	–
Mongolia	2,810	4.3	1.9	1997	75	1997	–	–
Montenegro	8,930	8.0	2.9–7.8	1994	–	–	–	–
Morocco	3,860	5.3	2.5	1999	86	1999	–	–
Mozambique	660	4.3	0.5–2.1	1983	50	1997	–	–
Myanmar	–	2.2	1.0	1999	86	1991	–	–
Namibia	4,770	5.3	1.2	1996–97	59	1996–97	–	–
Nepal	1,010	5.8	0.5	2004	67	1999–00	–	–
Netherlands	37,940	9.2	0.8	2002	45	1992–93	61	1998
New Zealand	25,750	8.9	1.6	2006	54.3	1997	–	–
Nicaragua	2,720	7.9	1.5	2002	72.6	2002	–	–
Niger	630	3.8	1.3	1997	55.5	1997	–	–
Nigeria	1,410	3.9	0.5	2003–04	46.2	1990–91	1	1998–99
Norway	50,070	9.1	1.7	2004	59.8	2004	16	2008*
Oman	–	2.5	1.7	2001	84.5	1994	–	–
Pakistan	2,410	2.1	1.4	2003	–	–	20	2003
Panama	8,690	7.3	3.6	1997	92.8	1993	19	1993
Papua New Guinea	1,630	4.2	1.7	1995	57	1995	–	–
Paraguay	4,040	7.8	3.8	1999	–	–	–	–
Peru	6,490	4.5	2.9	1996	–	–	–	–
Philippines	3,430	3.2	2.9	2005–06	97.1	2005–06	–	–
Poland	14,250	6.2	3.2	2003	81.1	2003	35	1999
Portugal	19,960	10.2	1.5	1999	53	2000	70	2000
Qatar	–	4.1	–	–	–	–	–	–
Romania	10,150	5.5	2.8	2000	94	1995	–	–
Russia	12,740	5.2	2.9	1996–98	–	–	–	–
Rwanda	730	7.2	0.3	1993	–	–	–	–
St Kitts and Nevis	–	5.5	5.5	1979–83	–	–	–	–
St Lucia	–	5.9	6.0	2004	–	–	–	–

*see p 104 **see p 114

WORLD TABLE

6 ORAL CANCER Age-standardised incidence per 100,000 population 2002		7 HIV/AIDS In people aged 15–49 years 2007 % with HIV	8 SUGAR Annual consumption per person 2007		9 CIGARETTES Number consumed per year by people aged 15 and older 2007	10 DENTISTS 2007			
men	women		kg	data source [†]		number working	population per dentist	data source [†]	
6.0	1.1	0.1	37	1	1,837	4,285	957	3	Lebanon
2.9	1.6	23.2	14	–	–	16	125,500	4	Lesotho
4.3	2.3	1.7	4	–	–	13	288,462	4	Liberia
3.3	1.6	–	45	1	860	850	7,247	4	Libya
8.5	1.4	0.1	42	2	920	2,900	1,169	3	Lithuania
9.0	2.7	0.2	–	2	–	301	1,551	3	Luxembourg
–	–	–	–	–	–	51	9,431	3	Macau (SAR)
7.1	1.9	<0.1	37	1	2,336	800	2,548	3	Macedonia
5.9	4.8	0.1	7	1	276	410	48,007	4	Madagascar
1.3	1.2	11.9	12	1	–	–	–	–	Malawi
3.4	2.7	0.5	48	1	646	2,203	12,062	3	Malaysia
–	–	–	–	–	–	14	21,857	4	Maldives
1.1	0.5	1.5	9	1	–	50	8,140	3	Mali
8.9	2.9	0.1	50	2	1,287	102	3,990	3	Malta
–	–	–	–	–	–	4	14,750	4	Marshall Islands
2.5	1.3	0.8	53	1	–	64	48,813	4	Mauritania
6.9	1.2	1.7	33	1	846	83	15,205	3	Mauritius
2.7	1.5	0.3	19	1	470	4,500	23,674	3	Mexico
4.4	2.7	–	–	–	–	10	11,100	4	Micronesia, Fed. States of
10.1	1.7	0.4	28	1	2,239	258	14,705	3	Moldova
1.2	1.3	0.1	–	–	–	305	8,620	3	Mongolia
7.0	2.5	–	13	2	–	263	2,274	4	Montenegro
2.6	1.2	0.1	38	1	430	500	62,448	3	Morocco
2.0	7.0	12.5	8	1	213	159	134,572	4	Mozambique
8.6	3.5	0.7	4	1	209	1,500	32,532	3	Myanmar
16.1	7.2	15.3	29	1	–	63	32,921	3	Namibia
12.8	8.4	0.5	5	1	274	383	73,619	3	Nepal
5.6	3.3	0.2	48	–	888	8,000	2,052	3	Netherlands
5.6	3.3	0.1	55	1	565	2,100	1,990	3	New Zealand
1.3	0.3	0.2	38	1	386	500	11,206	3	Nicaragua
2.4	1.0	0.8	6	1	–	36	395,167	3	Niger
2.6	1.0	3.1	9	1	103	3,853	38,436	3	Nigeria
5.5	2.7	0.1	35	1	493	5,200	903	3	Norway
2.3	1.2	–	–	–	–	460	5,641	4	Oman
14.7	14.7	0.1	26	1	391	7,000	23,415	3	Pakistan
3.9	2.7	1.0	37	1	291	950	3,519	3	Panama
40.9	26.3	1.5	6	1	–	17	372,412	3	Papua New Guinea
5.1	0.8	0.6	4	1	968	140	199,307	3	Paraguay
2.7	2.3	0.5	37	1	129	14,766	1,890	3	Peru
5.7	4.7	–	22	1	1,073	10,181	8,640	3	Philippines
7.3	1.4	0.1	46	2	1,810	39,523	964	3	Poland
13.4	2.5	0.5	32	1	1,318	9,132	1,163	3	Portugal
2.6	2.1	–	–	1	–	690	1,219	4	Qatar
7.2	1.1	0.1	28	1	1,480	3,930	5,455	3	Romania
6.9	1.5	1.1	46	1	2,319	37,200	3,831	3	Russia
6.2	0.8	2.8	2	1	–	11	884,091	3	Rwanda
–	–	–	50	1	–	17	2,941	4	St Kitts and Nevis
–	–	–	–	–	–	9	18,333	4	St Lucia

[†] see p 114

	1 GNI Per capita 2006 purchasing power parity \$	2 HEALTH CARE Spending as percentage of GDP 2005 %	3 DMFT Average score in 12-year-olds		4 DENTAL CARIES In young people aged 6–19 years (highest value)		5 EDENTULOUSNESS In people aged 65 or more years	
			score	data year	% affected	data year	% affected	data year
St Vincent and the Grenadines	–	6.0	3.2	1991	85	1991	–	–
Samoa	5,090	4.9	2.5	1994	–	–	–	–
São Tomé and Príncipe	1,490	9.8	–	–	–	–	–	–
Saudi Arabia	22,300	3.4	5.9	2002	96	2002–03	46	1992
Senegal	1,560	5.4	1.2	1994	82.1	2000	–	–
Serbia	9,320	8.0	2.9–7.8	1994	–	–	–	–
Seychelles	14,360	6.8	1.5	2005	70.9	2005	–	–
Sierra Leone	610	3.7	1.3	1986	65	1991	–	–
Singapore	43,300	3.5	1.0	2002	–	–	33	1995
Slovakia	17,060	7.1	4.3	1998	88	1998	–	–
Slovenia	23,970	8.5	1.8	1998	95.1	1998	16	1998
Solomon Islands	1,850	4.3	2.7	1994	–	–	–	–
Somalia	–	–	1.0	1992	–	–	–	–
South Africa	8,900	8.7	1.1	1999–2002	60.3	1999–2000	26	1998**
Spain	28,200	8.2	1.1	2000	68	2000	31	2001**
Sri Lanka	–	4.1	1.4	1994–95	76.4	1994–95	37	1994–95
Sudan	1,780	3.8	2.1	1990	73.8	1990	–	–
Suriname	7,720	5.3	1.9	2002	–	–	–	–
Swaziland	4,700	6.3	0.8	1994	–	1998	–	–
Sweden	34,310	9.2	1.0	2005	42	2005	16	1996–97
Switzerland	40,840	11.4	0.9	1998	52	200	14	2002
Syria	4,110	4.2	2.3	1998	–	–	–	–
Tajikistan	1,560	5.0	1.2	1985–90	–	–	–	–
Tanzania	33,650	5.1	0.3	2004	65	1999	13	2001*
Thailand	980	3.5	1.6	1999	87.4	2000–01	16	1994
Togo	5,100	5.3	0.3	1986	–	1998	–	–
Tonga	770	5.0	3.1	1998	92.3	1998	–	–
Trinidad and Tobago	5,470	4.5	0.6	2004	62	1994	–	–
Tunisia	16,800	5.5	1.3	1994	58	1994	–	–
Turkey	6,490	5.7	2.7	1988	85	2001–02	67	2007**
Turkmenistan	8,410	4.8	2.6	1985–90	–	–	–	–
Tuvalu	–	8.8	2.0	1994	–	–	–	–
Uganda	–	7.0	0.9	2002	80	2002	–	–
Ukraine	880	7.0	4.4	1992	–	–	–	–
United Arab Emirates	6,110	2.6	1.6	1995	76.1	2002	–	–
United Kingdom	–	8.2	0.7	2004–05	53.7	1997	46	1998
United States of America	980	15.2	1.2	1999–2004	78.2	1999–2004	24	1999–02*
Uruguay	44,070	8.1	2.5	1999	90.3	1999	–	–
Uzbekistan	9,940	5.0	1.4	1996	83.4	1996	22	1996
Vanuatu	2,190	4.3	1.2	1994	–	–	–	–
Venezuela	3,480	4.7	2.1	1997	–	–	–	–
Vietnam	10,970	6.0	1.9	2001	83.7	2001	–	–
Yemen	2,310	5.1	3.1	1987	79	1987	–	–
Zambia	2,090	5.6	2.3	1982	25.9	1989	–	–
Zimbabwe	1,140	8.1	1.3	1991	45	1995	–	–
World	9,209	6.3	2.0		69.5		32.2	

*see p 104 **see p 114

WORLD TABLE

6 ORAL CANCER Age-standardised incidence per 100,000 population 2002		7 HIV/AIDS In people aged 15–49 years 2007 % with HIV		8 SUGAR Annual consumption per person 2007		9 CIGARETTES Number consumed per year by people aged 15 and older 2007	10 DENTISTS 2007			
men	women		kg	data source [†]		number working	population per dentist	data source [†]		
–	–	–	–	–	–	5	24,000	4	St Vincent and the Grenadines	
5.2	0.7	–	21	–	–	8	23,375	3	Samoa	
–	–	–	–	–	–	11	14,364	4	São Tomé and Príncipe	
3.0	4.1	–	32	1	648	6,673	3,707	3	Saudi Arabia	
3.8	3.0	1.0	16	1	380	300	41,263	3	Senegal	
7.0	2.5	0.1	33	1	–	800	12,323	3	Serbia	
–	–	–	–	–	–	94	926	4	Seychelles	
2.5	1.3	1.7	5	1	–	14	419,000	3	Sierra Leone	
4.0	2.2	0.2	72	1	406	1,350	3,286	3	Singapore	
12.2	1.8	<0.1	32	2	1,430	3,200	1,684	3	Slovakia	
9.3	2.1	<0.1	15	2	2,537	786	2,547	3	Slovenia	
34.1	21.7	–	–	–	–	26	19,077	4	Solomon Islands	
5.9	4.8	0.5	25	1	–	36	241,639	3	Somalia	
11.2	2.9	18.1	46	1	511	3,348	14,509	3	South Africa	
13.5	2.3	0.5	33	–	2,225	24,515	1,806	3	Spain	
24.5	9.2	–	35	1	205	825	23,393	3	Sri Lanka	
10.6	5.7	1.4	24	1	75	487	79,179	3	Sudan	
2.0	1.0	2.4	48	1	–	4	114,500	4	Suriname	
2.4	1.4	26.1	102	1	–	32	35,656	4	Swaziland	
4.5	3.0	0.1	44	2	751	11,000	829	3	Sweden	
9.0	2.5	0.6	75	1	1,698	4,350	1,720	3	Switzerland	
3.4	1.3	–	42	1	1,067	2,000	9,965	3	Syria	
2.6	1.3	0.3	17	1	–	1,003	6,716	4	Tajikistan	
8.5	4.3	6.2	8	1	108	450	89,898	3	Tanzania	
4.5	4.2	1.4	39	1	634	7,300	8,751	3	Thailand	
2.5	1.3	3.3	10	1	306	39	168,846	3	Togo	
–	–	–	25	–	–	10	10,000	3	Tonga	
4.3	2.3	1.5	56	1	1,337	86	15,500	3	Trinidad and Tobago	
3.0	1.2	0.1	36	1	1,532	300	34,423	3	Tunisia	
3.2	1.7	–	27	1	1,499	18,226	4,108	3	Turkey	
12.9	3.3	<0.1	18	1	496	1,000	4,965	3	Turkmenistan	
–	–	–	–	–	–	2	5,500	4	Tuvalu	
2.2	2.5	5.4	8	1	–	170	181,671	3	Uganda	
12.2	1.8	1.6	51	1	2,526	6,500	7,108	3	Ukraine	
3.2	2.8	–	37	1	1,092	1,200	3,650	3	United Arab Emirates	
5.0	2.7	0.2	41	–	790	20,680	2,939	3	United Kingdom	
7.9	3.4	0.6	30	1	1,196	136,417	2,242	3	United States of America	
6.4	1.3	0.6	39	1	793	2,546	1,312	3	Uruguay	
9.3	2.3	0.1	19	1	317	1,980	13,824	3	Uzbekistan	
3.7	2.0	–	–	–	–	–	–	–	Vanuatu	
3.2	2.1	–	39	1	622	30,000	922	3	Venezuela	
3.8	2.9	0.5	15	1	887	1,500	58,250	3	Vietnam	
4.6	6.4	–	23	1	317	850	26,340	4	Yemen	
5.1	0.4	15.2	10	1	71	20	596,100	3	Zambia	
2.7	2.2	15.3	18	1	86	120	111,242	3	Zimbabwe	
6.3	3.2	2.3	30		967	1,128,591	62,595		World	

[†] see p 114

COMMENTS ON DATA

Many people, even in public health, do not appreciate the value of sound and reliable health statistics. Others, on the contrary, overemphasise the need to have statistics before taking any action. Both extremes are probably not appropriate; at times, however, it is difficult to find a realistic middle ground.

Collecting data on health is a complex undertaking that requires appropriate and agreed indicators, a health system strong enough to undertake surveys or data reporting on a regular basis, as well as political support to allocate sufficient budgets to statistics. While much progress has been made in general health and health systems performance data collection, particularly those related to measuring the *Millennium Development Goals*, much remains to be done in the areas of health workforce and especially in all areas related to oral health. Initiatives from WHO, the European Union and others to integrate appropriate oral health indicators in routine health data surveys are welcome steps in the right direction that have yet to be implemented at a national level in many countries. Including key oral health data in international health statistics is a task still to be tackled on a broader scale.

The maps and charts of the Atlas reflect averages from disparate data sets of varying coverage and quality. Averages, unfortunately, obscure significant differences from the mean and may paint a rosier picture for some countries than may exist for significant portions of their respective populations. Those averages may consequently also obscure areas for future data collection and research, as well as associated recommendations for action.

Some of the data sources used throughout this atlas are outdated, unreliable or not comprehensive in coverage. Researching the data revealed astonishing gaps in data availability and quality, ignorance of existing appropriate indicators, or simply absence of any data at all. On the other hand, for many countries or regions of the world, data ranging from acceptable to very good exists. In order for this gap to be addressed, significant political and financial efforts are required. However, despite the shortcomings of some underlying data, the sources used are generally the best available; and the maps highlight key issues in oral health that require international attention and action.

Although all possible efforts were made to present the most recent and reliable data, errors and omissions will occur. We welcome suggestions and comments on specific data aspects and accuracy, but encourage all to read the following remarks first, outlining the source and limitation of specific data. After all "No one loves the messenger who brings bad news"! (*Antigone*, Sophocles, Greek tragedian, 496–406 BCE).

5 MAPPING DENTAL CARIES

Despite dental caries being the most widespread chronic disease on the planet, the lack of reliable data are striking. The *WHO Oral Health Country/Area Profile Programme*, used for the map, is the only international source of data, yet 41% of data entries for caries are 10–19 years old, 16% older than 20 years, while only 8% of datasets are less than 5 years old. Furthermore, many datasets do not rely on a national survey and are thus not representative for an entire country, but rather present data from only one region, city or village. Differences within countries, i.e. between rural and urban or different socio-economic strata, are not reflected at all in this data. The focus of the data is on 5–6-year-old or 12–15-year-old children; while data for other age groups are not comprehensively

recorded. In addition, there is a general critique of using the DMFT index to measure dental caries (for more details see: Fejerskov O, Kidd EAM. *Dental caries: the disease and its clinical management*. Oxford: Blackwell Munksgaard; 2008, p126). For some countries (Serbia, Mozambique, Montenegro, Democratic Republic of Congo), the WHO database only gives a DMFT range, and the map colour is determined by the average value.

The graph indicating percentages of the different DMFT components according to country income group is a modified version of the data given by Baelum et al. 2007 (Baelum V, van Palenstein Helderma W, Hugson A, Yee R, Fejerskov O. A global perspective on changes in the burden of caries and periodontitis: implications for dentistry. *J Oral Rehabilitation*. 2007;34:872-906).

6 GUM DISEASES

Periodontal disease is usually recorded using the (CPITN) index, which was too complex to be used in this publication. We therefore included data on total toothlessness (edentulousness/edentulism) as a proxy for the impact of gum disease, well aware that a number of other factors contribute to tooth loss. The data presented are based on the *WHO Oral Health Country/Area Profile Programme*, which is even more limited with regards to periodontal disease than for dental caries. Data are only available for 127 countries, and information on more than 60 is older than 10 years. As described in the comments for dental caries earlier, limitations apply to national representativeness, age groups and socio-economic differences within countries. It should also be noted that the data only refer to complete edentulism, although missing a few but not all teeth can have a significant impact on quality of life too.

7 ORAL CANCER

Male and female age-standardised incidence and mortality rates for oral cancer were sourced from *International Agency for Research on Cancer*, which is part of the WHO system. Their GLOBOCAN database uses the latest available estimate figures for the year 2002. However, although the populations of the different countries are those estimated for the middle of 2002, the disease rates are not those for the year 2002, but from the most recent data available, generally 2–5 years earlier. Full details of the limitations of the GLOBOCAN 2002 data are available at: <http://www-dep.iarc.fr/globocan/database.htm>

The GLOBOCAN 2002 database uses the ICD10 code C00-C08 to define oral cancer. This definition includes the following cancer localisations: lips, tongue, floor of the mouth, gingiva, palate, salivary glands and other oral mucosa areas.

8 NOMA

There is a severe lack of global data on noma, due to the specific characteristics of the disease. The only figures accessible are the number of noma cases referred for treatment, which are dependent on the existence of a system of medical records for each patient. In 1994, the WHO organised an expert consultation using the Delphi method. It was estimated that only 10%–15% of noma cases were referred for treatment and that the mortality rate was 80%–90%. The total number of cases worldwide per year was estimated at 140,000.

The inset map of Africa gives the latest available figures from 2006. The data are based on a survey undertaken by WHO/AFRO (unpublished) using reported numbers from 21 Sub-Saharan countries, and estimating the incidence assuming a scenario of 10% referred cases and

90% mortality rate; thus following the methods used by Fieger et al. (Fieger A, Marck KW, Busch R, Schmidt A. An estimation of the incidence of noma in north-west Nigeria. *Trop Med Int Health*. 2003;8:402-407) and the WHO Report on Noma (World Health Organization. Noma today: a public health problem? Report of an expert consultation organised by WHO using the Delphi method (WHO/MMC/NOMA/98.1). Geneva: WHO; 1998). The resulting number of 42,800 cases in 2006 may be an underestimation, since only 21 countries of the WHO/AFRO region participated and key countries affected by noma, such as Sudan and Somalia, are not part of WHO/AFRO.

9 HIV/AIDS

The map is based on the latest available data from UNAIDS and shows the estimated percentage of the population aged 15–49 who were HIV-positive in 2007 (Joint United Nations Programme on HIV/AIDS (UNAIDS). *Report on the global AIDS epidemic 2008*. Geneva: UNAIDS; 2008)

10 BIRTH DEFECTS

The incidence rates were taken from Gundlach KK, Maus C. Epidemiological studies on the frequency of clefts in Europe and world-wide. *J Craniomaxillofac Surg*. 2006 Sep;34 Suppl 2:1-2. In order to display the incidence rates visually, an average was calculated for each range, which served as the basis for the bar chart. The range is represented but not labelled on the chart for simplicity. The incidence data are expressed as average number of birth defects per 100,000 live births. Some terminology relating to ethnic groups was modified. The "Asian" group does not include data from Japan or Mongolia.

12 ECONOMICS

The conversion basis for prices quoted in the *Medical Tourism Survey 2007* US\$ was based on a dollar conversion rate of US\$1.75 = £1 and a Euro rate of €1.2 = £1.

13 IMPACT OF ORAL DISEASES

The world map on percentage of children affected by dental decay relies mainly on data of the *WHO Oral Health Country/Area Profile Programme*. Similar limitations to those mentioned in relation to previous data from this source apply (see 5 MAPPING DENTAL CARRIES and 6 GUM DISEASES). The World Table lists the different age groups and years used. Most data are not representative for an entire country or even specific groups within a country. The data are old: 28% is 5–9 years old, 50% is 10–19 years old, 10% is 20 years or more out of date; and only 10% is up to five years old.

15 SUGAR

The map data are mainly based on statistics published by the International Sugar Organisation, a global organisation of the sugar industry, in their annual *Sugar Yearbook 2008*, reporting about 2007 (Source 1 as indicated in the World Table). These statistics include, for some countries, data on industrial sugar consumption as well as data for ethanol production. Sugar consumption per capita is calculated based on total sugar consumption as provided from the data source divided by the population, using the latest available population data from the United Nations Department of Economic and Social Affairs, Population Division, 2007. The resulting amount of sugar consumed per capita does not necessarily equal actual sugar intake, but proportions could also be consumed in other ways (food exports, ethanol, etc.).

Data for countries in the European Union and several other countries were not available from the *Sugar Yearbook 2008*; instead, data from the *FAO Statistical Yearbook 2005–2006* were used (Source 2 indicated in World Table).

16 TOBACCO

Data on global cigarette consumption were used from: Mackay J, Eriksen M, Shafey O. *The Tobacco Atlas*, 3rd

edition. American Cancer Society; 2009, courtesy of the American Cancer Society.

17 SOCIO-ECONOMIC STATUS

Caries prevalence and income data in the inset are based on a paper by Hobdell & Ortiz (2009, submitted) using the *WHO Oral Health Country/Area Profile Programme* and World Bank GDP data from 2002.

The diagram relating Care Index and GDP (Country Income and Dental Care) is modified from: Brunton PA, Vrihoef T, Wilson NH. Restorative care and economic wealth: a global perspective. *Int Dent J*. 2003 Apr;53:97-99. Their data are based on data from the *World Health Report 1999* (GDP, adjusted for purchasing parity) for selected countries where detailed DMFT data was available from the *WHO Oral Health Country/Area Profile Programme*.

The diagram displaying the strength of the relationship of different oral diseases to socio-economic status (Socio-Economic Factors) is modified from: Hobdell MH, Oliveira ER, Bautista R, Myburgh NG, Lalloo R, Narendran S, Johnson NW. Oral diseases and socio-economic status (SES). *Br Dent J*. 2003 Jan 25;194:91-6; discussion 88.

The graphic "Responsibility for Oral Health" was modified from: Boufford J. Leadership development for global health. In: Foege WH, Daulaire N, Black R, Pearson C, editors. *Global health leadership and management*. San Francisco: Jossey-Bass; 2005. p. 241.

19 FLUORIDE

The world map detailing the percentage of the population within countries benefiting from optimal levels of fluoride in the water is based on data provided by the British Fluoridation Society in their publication *One in a million – the facts about water fluoridation*, 2004. Much of the data, particularly that relating to naturally occurring fluoride in water date from before 1990. Newer data were used when available.

There is very little data on the percentage of populations within countries benefiting from fluoridated salt since this fluoride delivery system depends upon consumer choice. The availability of fluoridated salt was based on information contained in the PAHO publication *Promoting Oral Health. The Use of Salt Fluoridation to Prevent Dental Caries*, 2005, and on more recent data from publications and other sources.

The *Borrow Foundation* was kind enough to provide information on the number of children covered by their international milk fluoridation programmes.

Information on global fluoride use was based on estimations made for the year 2000 by Rugg-Gunn (2001), but was updated where more recent estimations had been made. Care should be taken in interpreting this data since populations might be benefiting simultaneously from multiple sources of fluoride. Thus, for example, the majority of those who are exposed to fluoridated water are probably also benefiting from the use of fluoride toothpaste. A simple summation of the number of people using different modes of fluoride delivery therefore cannot provide a reliable estimate of the number of people globally benefiting from fluoride.

The proportion of children reached with milk fluoridation was calculated as a percentage of the total child population. The total child population was taken from the *2009 CIA World Factbook* and included people aged 0–14 years.

20 FLUORIDE TOOTHPASTE

Since fluoride toothpaste is a commercial commodity, data on fluoride toothpaste sales and use are not easily available. This lack of even simple market figures is striking, considering that fluoride toothpaste is the most widespread mode of fluoride delivery worldwide. Data on the average annual expenditure per person on toothpaste were sourced from Stamm (2007). It should be noted that

the average annual expenditure on toothpaste is related not only to the price of toothpaste per region but also to the number of people using toothpaste and the amount used per person per year. In addition, non-fluoridated toothpastes will contribute to a limited extent to the data presented on annual expenditure on toothpastes per region.

Data on the annual cost of fluoride toothpaste in terms of the number of days of household expenditure were based on a study conducted by Goldman et al. (2008). Annual supply was based on 182 g/person.

23 ADVOCACY AND INTEGRATION

The world map indicating presence of a Chief Dental Officer or similar person dedicated to oral health within the government is based on the FDI database of World Chief Dental Officers. This collection relies on:

- Self-reported data from governments
- A regular questionnaire survey undertaken by the FDI's Section of Public Health
- Data provided by WHO/AFRO
- Data from the *Directorio odontológico del latinoamerica y del caribe (DOLAC)* compiled by the Pan American Health Organization (PAHO).

The accuracy of the information cannot be guaranteed.

24 THE DENTAL TEAM

No comprehensive world statistics for dental assistants, dental hygienists, dental therapists and dental laboratory technicians exist. While two publications (Kravitz & Treasure. Survey of the dental workforce in the Commonwealth. London: Commonwealth Dental Association; 2007 and Manual of dental practice. Brussels: Council of European Dentists; 2008) give some detail about Commonwealth and European Union member states, data for the rest of the world are not easily available. Two recent papers indicate about 450,000 dental hygienists in 21 countries (Johnson PM. International profiles of dental hygiene 1987 to 2006: a 21-nation comparative study. *Int Dent J.* 2009;59:63-77) and 14,500 dental therapists in 54 countries (Nash DA, Friedman JW, Kardos TB et al. Dental therapists: a global perspective. *Int Dent J.* 2008;58:61-70.) The numbers for dental personnel reported by the *WHO World Health Statistics 2008* are not detailed enough, as they group all dental team members in the same category. In addition, their data sources are not revealed.

25 DENTISTS

The statistics about the numbers of dentists for each country come from two different sources:

- Self-reported data from member associations of the FDI (2002–09; indicated as source 3 in the World Table)
- The *WHO World Health Statistics 2008* (indicated as source 4 in the World Table).

The WHO source gives numbers of dentistry personnel (including dental nurses, hygienists and dental laboratory technicians), rather than pure dentist numbers. Among all statistics for health professionals from the *WHO World Health Statistics*, only the "dentist" category uses such an undifferentiated approach, while figures for physicians, nurses and pharmacists are well separated. The reason for this difference in statistical recording is unclear.

Where possible, the highest self-reported National Dental Association member numbers from the FDI membership database between 2002 and 2009 were used in order to cover fluctuations in membership of national dental associations. However, not all dentists in a given country are mandatory members of the National Dental Association, so the numbers tend to be lower than in reality. Nevertheless, we preferred them over the numbers from the *WHO World Health Statistics*, since the WHO numbers grossly overrate the number of dentists by lumping all dental personnel together in this category. To highlight the problem: the figure for dentists in the USA reported by the American Dental Association is 117,822

(2008); the US Labour Office reports 161,000 (2006, see <http://www.bls.gov/oco/ocos072.htm>), while the WHO source mentions 463,663 (2000–06)! Where no data from an FDI member association were available, or the country was not a member of the FDI (2002–09), the figure from the *WHO World Health Statistics 2008* was used, as indicated in the World Table.

The calculation of the dentist:population ratio used the same population figures as mentioned previously (United Nations, 2007). The ratios for countries with small numbers need to be interpreted with caution, since little differences in the number of dentists greatly affect the ratio. In addition, the world map gives an average for the respective countries and thus generalises the usually huge geographical differences within countries. The dentist: population ratios tend to be much greater in rural areas than in urban areas; as illustrated with the inset map for the African region.

The inset relating to gender ratios are taken from the WHO's Global Health Atlas and uses information from 2000 or later (see http://www.who.int/globalatlas/docs/HRH/HTML/Sex_occ.htm). It is interesting to note that no comprehensive data on gender distribution for the global oral health workforce exists. Total dentist numbers given in this study do not match the data about country dentist numbers given in the World Table since different years and sources were used.

26 WORKFORCE CHALLENGES

The cartogram uses the total number of dentists per country (calculated as described above) and shows it as a function of the country surface on the map. One square of the map represents 1,000 dentists.

There is virtually no data on international migration of dentists, despite considerable international effort to collect data on migration of nurses or physicians. This may be due to the overall small volume of dentist migration, yet for smaller countries migration can be a significant problem. The table indicating the migration streams is based on a publication of the OECD (Dumont JC, Zurn P. Part III: Immigrant health workers in OECD countries in the broader context of highly skilled migration. International Migration Outlook SOPEMI 2007 Edition. Paris: OECD; 2007). Their estimations, however, are based on data from 1999–2000. It is thus justified to say that the map presented is only a snapshot of a situation about 10 years ago – yet no more recent data could be identified. The migration data have been simplified and condensed; only the major migration streams of 100+ dentist, source countries and destination countries are represented on the map.

27 DENTAL EDUCATION

The statistics of dental schools worldwide are based on a number of sources, mainly the FDI World Directory of Dental Schools, last updated in 2006; the FDI Basic Country Facts from 2004, a collection of self-reported data from FDI member associations; and the *Directorio odontológico del latinoamerica y del caribe (DOLAC)* from the Pan American Health Organization (PAHO). Additional sources, as indicated in the World Table, complement this data. For most countries, the number of dental schools has remained stable over the last 10 years, particularly in high-income countries. In specific countries, such as Brazil, India, Pakistan and others, the number of dental education institutions has increased significantly, mainly due to a boom in private dental schools.

29 FDI WORLD DENTAL FEDERATION

The map of FDI member countries uses the latest available data from April 2009.

Important copyright information

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About the data of *The Oral Health Atlas*

The maps and charts of *The Oral Health Atlas* reflect averages from disparate data sets of varying coverage and quality. Averages, unfortunately, obscure significant differences from the mean and may paint a rosier picture for some countries than may exist for significant portions of their respective populations. Those averages may consequently also obscure areas for future data collection and research, as well as associated recommendations for action.

Some of the data sources used throughout the atlas are outdated, unreliable or not comprehensive in coverage. Researching the data revealed astonishing gaps in data availability and quality, ignorance of existing appropriate indicators, or simply absence of any data at all. On the other hand, for many countries or regions of the world, data ranging from acceptable to very good exists. In order for this gap to be addressed, significant political and financial efforts are required. However, despite the shortcomings of some underlying data, the sources used are generally the best available; and the maps highlight key issues in oral health that require international attention and action. The latest data used is from April 2009 (where available).

Although all possible efforts were made to present the most recent and reliable data, errors and omissions will occur. The FDI is not responsible for any mistakes in the data and their display. We welcome suggestions and comments on specific data aspects and accuracy, but encourage all to read the *Author's Comments on the Data* first, outlining the sources and limitations of specific data.

For full references see the reference section of *The Oral Health Atlas*.