

WORLD ORAL HEALTH

**DENTAL CARIES LEVELS  
AT  
12 YEARS**

MAY 1994



The Oral Health Programme  
World Health Organization



## GLOBAL GOAL FOR THE YEAR 2000

DMFT = 3 AT 12 YEARS OF AGE

### EXPLANATORY NOTE

The column headed "May 1980" contains only the information on dental caries levels included in the baseline information booklet (1980). The column headed "Early Data" contains information omitted when the 1980 booklet was prepared. These data will be used for the evaluation of the WHO Oral Health Programme for the period 1980-2000.

The 1980 classification of data divided by the 3 DMF teeth limit has been maintained in this 1994 booklet despite movement from one subdivision to the other on the basis of subsequent data.

Countries have been classified as "Developed Market-Economy Countries and Economies in Transition" or "Developing" in accordance with the classifications used in the "World Economic Survey 1992", issued by the UN Department of Economic and Social Development in February 1993.

The unification of the former Yemen Arab Republic and the People's Democratic Republic of Yemen has occurred too recently for nationally representative data to be collected. Therefore, a range of data from the country's formerly independent parts is given.

The column headed "May 1994" lists data that have been added to the Global Oral Data Bank since May 1980, both for countries for which there were previous data and for those with data available only since 1980. Countries appearing in the data lists for the first time, on the basis of data analysed or published subsequent to 1980, are included in the subdivision according to 3 DMF teeth indicated by the first set of such data postdating the 1980 booklet. Countries for which no sufficiently representative or reliable data are available are listed at the end of the booklet. Data included in the Global Oral Data Bank have been obtained from standard surveys assisted by WHO, or from published literature using comparable methods. In many cases they apply to large groups from the most populous part of a country providing a working estimate rather than being fully representative.

In each column data collection years, where available, are preferred to publication years.

GLOBAL SITUATION FOR DMFT = 3 IN YEAR 2000

Dental Caries Levels (12 years)	Number of States									
	Baseline				1994					
	Developing	Developed Market-Economies	Economies in Transition	Overall	Developing	Developed Market-Economies	Economies in Transition	Overall		
3 DMFT or less	55	2	2	59	79	3	7	85		
more than 3 DMFT	26	21	3	50	45	24	18	85		
no data available or unrepresentative data	57	9	-	66	11	2	-	13		
	TOTAL				TOTAL				175	193

Countries classified according to "World Economic Survey 1992" issued by the UN Department of Economic & Social Development, February 1993

DMFT  $\leq$  3 AT BASELINE 1980

## Developing Countries

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>AFRICA</b>						
Algeria			1.9	1974	2.3	1987
Angola					1.7	1981
Benin					0.3-1.4	1989-90
Botswana			0.5 <sup>1</sup>	1978	0.5	1981
Burkina Faso					1.7	1993
Burundi					1.0	1987-88
Cameroon, U Rep.			1.1	1978	1.5	1988
Cape Verde					2.8	1989
Central African Rep.			0.2	1974	4.1	1986
Côte d'Ivoire					2.6	1993
Ethiopia	0.2	1958	1.5 <sup>2</sup>	1975	1.0	1993
Gambia					1.6	1989
Ghana	1.3	1963-64			0.1-0.4	1989-91
Kenya			1.7	1973-77	0.9-1.8	1986
Lesotho					0.4	1991
Liberia			0.4	1977		
Malawi			0.8	1978	0.6-0.8	1992-93
Mali					2.2	1983
Mauritania					2.0	1990
Mozambique			0.8	1978	0.6-5.5	1983
Namibia					1.2	1991
Niger					1.7	1988
Nigeria			2.9	1973	0.7	1990
Rwanda					0.3 <sup>3</sup>	1993
Senegal			0.6	1975	1.5	1989
Sierra Leone					1.3	1986
Swaziland			1.1	1978		
Tanzania, Un.Rep.of			0.6	1973	0.6	1989-91
Togo			1.6	1973	0.3	1986
Uganda	0.4	1966	2.4	1972	0.4	1993
Zaire			1.0	1970	1.0	1985
Zambia			0.1	1971	2.3	1982
Zimbabwe			0.6	1972	1.3	1991

<sup>1</sup> 10-14 years<sup>2</sup> 13 years<sup>3</sup> 12-14 years

## DMFT &lt; 3 AT BASELINE 1980

## Developing Countries

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>AMERICAS</b>						
Bahamas					1.6	1981
Bolivia					7.6	1981
Chile			2.8 <sup>1</sup>	1960	5.3	1991
Guatemala	1.5	1951	1.1-1.5	1966	2.4	1988
Guyana					2.7	1983
Mexico			2.7	1972	2.5-5.1	1991
St Lucia			2.7 <sup>1</sup>	1961	-	
<b>EASTERN MEDITERRANEAN</b>						
Bahrain					1.3	1986
Djibouti					0.4-0.9	1985-88
Egypt			2.9	1973	1.2 <sup>2</sup>	1991
Iran, Islam. Rep. of			2.4	1974	2.3	1991
Jordan			0.2	1962	1.7	1991
Kuwait			2.8	1976	2.0	1982
Libyan Arab Jamahiriya			1.3	1978	1.6	1983
Morocco			2.6	1970	1.8	1989
Oman			2.1	1979	2.6	1991
Pakistan			2.1	1979	1.0	1991
Saudi Arabia			1.9	1979	1.8	1987
Somalia			1.1	1979	1.0	1992
Sudan			1.1	1979	1.8	1988
Tunisia					1.3	1988
United Arab Emirates					1.9	1991
Yemen			1.2	1979	1.6-3.1	1987-90

<sup>1</sup> 10-14 years

<sup>2</sup> 12-15 years

DMFT  $\leq$  3 AT BASELINE 1980

## Developing Countries

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>EUROPE</b>						
Israel			2.4	1966	3.0	1989
Malta			2.3	1966	1.6	1986
<b>SOUTHEAST ASIA</b>						
Bangladesh			1.8	1979	3.5	1990
Bhutan					1.4	1985
India			1.2	1967	0.9-4.5	1985-91
Indonesia			0.7	1973	1.8	1990
Maldives					2.1	1984
Mongolia			1.4	1976		
Myanmar			0.8	1977	1.1	1990
Nepal					0.5-2.1	1984-86
Sri Lanka			3.0	1973	1.9	1983-84
Thailand	0.4	1960	2.7	1977	1.5	1989
<b>WESTERN PACIFIC</b>						
China	0.6	1951			0.7	1982-84
Fiji			3.0	1978	2.8	1986
Hong Kong <sup>1</sup>			2.0	1970	1.5	1986
Kiribati			0.5	1971	0.7	1992
Korea, Rep. of			0.6	1971-73	3.0	1991
Lao, PDR					1.9	1991
Malaysia	3.5-7.7	1966	2.7-5.9	1970-71	3.9	1981
Niue					2.5	1984
Papua New Guinea			3.0	1971-74	1.5-2.4	1978-83
Philippines	1.5	1967-68	2.5	1977	5.5	1987
Samoa			1.1	1972	2.5	1987
Singapore			2.9	1970	2.5	1984
Solomon Islands			1.7	1969		
Tonga			0.7	1966	1.0	1986
Tuvalu					2.4	1986
Viet Nam			1.9-6.3	1971	1.8	1990

<sup>1</sup> country with no separate WHO representation

DMFT  $\leq$  3 AT BASELINE 1980

Developed Market-Economy Countries and Economies in Transition

Developed Market-Economy Countries

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>EUROPE</b>						
Austria			1.0-3.5	1973	4.2	1990
Gibraltar					1.6	1991
Spain			1.9	1968-69	2.3	1993

Economies in Transition

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>EUROPE</b>						
Belarus			3.0	1972	3.3	1990
Romania			1.7	1968	3.9	1992
Ukraine					4.4	1988

## DMFT &gt; 3 AT BASELINE 1980

## Developing Countries

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>AFRICA</b>						
Madagascar					3.1	1992-93
Mauritius			3.2	1975	4.9	1993
Reunion <sup>1</sup>					4.9	1981
<b>AMERICAS</b>						
Anguilla <sup>1</sup>			5.6	1978	2.5	1991
Argentina			4.5	1965	3.4	1987
Barbados			6.5	1969	4.4	1983
Belize					4.0	1979-83
Brazil			8.6	1976	4.9-6.7	1988-90
Cayman Islands <sup>1</sup>					4.6	1989-90
Colombia			7.5	1973	4.8	1984
Costa Rica			8.3	1957	5.5	1992
Cuba			5.1	1973	2.9	1989
Dominica			4.8	1979	2.5	1989
Dominican Republic			7.6	1962	6.0	1986
Ecuador			3.2	1959	4.9	1988
El Salvador					5.1	1989
Grenada					5.5	1991
Haiti					3.2	1983
Honduras					6.4	1987
Jamaica					6.7	1984
Martinique <sup>1</sup>					6.3	1988
Nicaragua					5.9	1988
Panama					4.2	1989
Paraguay			3.2 <sup>2</sup>	1965	5.9	1983
Peru			3.2 <sup>2</sup>	1965	7.0	1990
St Kitts & Nevis			4.9	1962	5.5	1979-83
St Vincent & The Grenadines					3.2	1991
Suriname			4.9	1978		
Trinidad & Tobago			3.9 <sup>2</sup>	1962		

<sup>1</sup> country without separate WHO representation

<sup>2</sup> 10-14 years

## DMFT &gt; 3 AT BASELINE 1980

## Developing Countries

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
Uruguay			4.0 <sup>1</sup>	1962	4.1	1992
Venezuela					3.6	1986
<b>EASTERN MEDITERRANEAN</b>						
Afghanistan					3.1 <sup>1</sup> -3.8	1985-91
Cyprus					2.5 <sup>2</sup>	1990
Iraq			4.0	1979	1.1	1990
Lebanon	1.2	1961	3.6	1974	5.0	1993
Syrian Arab Repub.			4.4	1974	1.9	1989
<b>EUROPE</b>						
Turkey					2.7	1987
Yugoslavia			4.0-6.0	1975	6.1	1986
<b>WESTERN PACIFIC</b>						
Brunei Darussalam					4.9	1987
Cambodia					1.6	1990
Cook Islands					4.9	1978
French Polynesia <sup>3</sup>			10.5	1977	2.5-3.8	1987
Micronesia, Fed. States of <sup>3</sup>			5.1	1966	2.1	1984
New Caledonia <sup>3</sup>			4.4 <sup>1</sup>	1969	4.4	1991
Samoa, American			3.7	1978		
Vanuatu			3.4	1970	1.2	1991

<sup>1</sup> 10-14 years<sup>2</sup> 11-13 years<sup>3</sup> country without separate WHO representation

DMFT > 3 AT BASELINE 1980

Developed Market-Economy Countries and Economies in Transition

Developed Market-Economy Countries

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>AFRO</b>						
South Africa			3.4	1978	1.8	1988-89
<b>AMERICAS</b>						
Canada			6.0	1977	3.0-4.3	1988-91
USA			4.0	1965-67	1.8	1986-87
<b>EUROPE</b>						
Belgium			3.1	1972	2.7	1991
Denmark			6.4	1978	1.3	1992
Finland			7.5	1975	1.2	1991
France			3.5	1975	2.1	1993
Germany			6.0 <sup>1</sup>	1973	4.1	1989
Greece			3.8	1959	4.4	1985
Iceland	8.7	1970			3.4	1990
Ireland			5.4	1972	1.9	1992
Italy			4.0-6.9	1978-79	3.0	1985
Liechtenstein					3.4	1988
Luxembourg					3.0	1990
Netherlands			6.5-8.2	1974	1.7	1991
Norway			8.4	1973	2.3	1991
Portugal			4.6	1979	3.2	1989
San Marino					3.7	1987
Sweden	7.8	1937	6.3	1977	2.0	1990
Switzerland			2.3-9.9	1963-75	2.0	1987-89
United Kingdom of Great Britain & Northern Ireland			4.7	1973	1.4	1993
<b>WESTERN PACIFIC</b>						
Australia			2.6-6.0	1973-78	1.4	1990
Japan			5.9	1975	4.3	1991
New Zealand			6.0	1973	1.5	1993

<sup>1</sup> reported as more than 6.0 DMF teeth

DMFT > 3 AT BASELINE 1980

Developed Market-Economy Countries and Economies in Transition

Economies in Transition

REGION / Country	EARLY DATA		MAY 1980		MAY 1994	
	DMFT	DATE	DMFT	DATE	DMFT	DATE
<b>EUROPE</b>						
Albania					2.8	1990
Armenia					2.4	1987
Bulgaria					3.5	1990
Czech Republic					3.3	1987
Estonia					4.1	1988
Georgia					2.4	1986
Hungary			6.0	1977	4.3	1991
Kazakhstan					2.0	1988
Kyrgyzstan					3.1	1973
Latvia					7.7	1987
Lithuania					3.9	1986
Moldova, Repub. of					2.3	1986
Poland			7.0	1969-74	5.1	1990
Russian Fed.					3.5	1991
Slovakia <sup>1</sup>			5.4	1957	3.6	1987
Tajikistan					1.2	1973
Turkmenistan					2.6	1986-87
Uzbekistan					2.8	1988-90

<sup>1</sup> data from former Czechoslovakia as no data for Slovakia available

## REFERENCES

### DMFT $\leq$ 3 AT BASELINE

#### Developing Countries

<u>Country</u>	<u>Date</u>	<u>Reference</u>
<b>AFRO</b>		
Algeria	1974	WHO/ORH/J2/625/1974/Mathon
	1987	WHO/ORH/J2/625/1987/Benabdelhafid
Angola	1981	Pinto, WHO/STC report Angola 1981
Benin	1989-90	WHO/ORH/J2/337/1990/Dossou
Botswana	1978	Baerum, report NORAD consultancy March 1979
	1981	WHO/ORH/J2/325/1981/Condon
Burkina Faso	1993	WHO/ORH/J2/386/1993/Tapsoba Hadissa
Burundi	1987-88	Vecchiati, Trop. Dent. J., Tome XI, No. 1, March 1988
Cameroon, U. Rep.	1978	WHO/ORH/J2/329/1978/Ecrement
	1988	WHO/ORH/J2/329/1988/Vinther
Cape Verde	1989	WHO/ORH/J2/365/1989/Ryckewaert
Central African Republic	1974	Milkinmov, Stomatologija Moskva 57(4): 80, 1978
	1986	WHO/ORH/J2/330/1986/Daugherty
Cote d'Ivoire	1993	WHO/ORH/J2/347/1993/Boal
Ethiopia	1958	Littleton Public Health Report, 78,631;(ICNND).
	1975	WHO/ORH/J2/338/1975/Olsson
	1993	WHO/ORH/J2/338/1993/Albergho & Agostini
Gambia	1989	WHO/ORH/J2/343/1989/Gudmundsen
Ghana	1963-64	Haupt, Arch.Oral Biol. 12, 1337-1341, 1967
	1989-91	WHO/ORH/J2/344/1989/Quansah
		WHO/ORH/J2/344/1991/Thorpe
Kenya	1973-77	WHO/ORH/J2/349/1973/Gad
	1986	Muturo & Patel, Epid. & Disease Control, Senior Level, 1986
Lesotho	1991	WHO/ORH/J2/350/1991/Condon & Makenete
Liberia	1977	WHO/ORH/J2/351/1977/Gratiaen
Malawi	1978	WHO/ORH/J2/380/1978/Seyani
	1992-93	WHO/ORH/J2/380/1992/1993/Sibale
Mali	1983	WHO/ORH/J2/355/1983
Mauritania	1990	WHO/ORH/J2/356/1990/Fadel
Mozambique	1978	WHO/ORH/J2/366/1978/Hobdell
	1983	Olsson & Tanda, 'Preventive Dental Care in Mozambique':discussion paper presented at WHO/ORH Expert Committee Meeting, 1983
Namibia	1991	WHO/ORH/J2/358/1991/Schier
Niger	1988	WHO/ORH/J2/360/1988/Furtner
Nigeria	1973	Henshaw, data held in WHO/ORH
	1990	WHO/ORH/J2/361/1990/Adeyinka
Rwanda	1993	WHO/ORH/J2/372/1993/Barrack & Fountain
Senegal	1975	di Pasquale, WHO report SEN/HMD/001, 1975
	1989	WHO/ORH/J2/375/1989/Bourgeois
Sierra Leone	1986	Benjamin, WHO/AFRO Report, 1988
Swaziland	1978	WHO/ORH/J2/379/1978/Akinosi
Tanzania, Un.Rep.of	1973	WHO/DNH Unit/J2/382/1973/Langebaeck
	1989-91	WHO/ORH/J2/382/1989/Mosha
		Vinther, MOH/WHO/ORH Project Report, 1991
Togo	1973	Paret, WHO report AFR/DNH/07, 1973
	1986	WHO/ORH/J2/383/1986/Türp

Uganda	1966	Moller, Arch. Oral Biol. 15,221
	1972	Jensen, Comm. Dent. & Oral Epid. 1(2): 74-83, 1973
	1993	Mosha & Tirwomwe, Min. of Health Report, 1993
Zaire	1970	Barnes, WHO Project 0018
	1985	WHO/ORH/J2/334/1985/Pene Shenda
Zambia	1971	Desai, Med. J. Zambia 7(1): 7, 1973
	1982	IADR Conference, Lagos (Nigeria), February 1982
Zimbabwe	1972	Muldoon, J. Dent. Assoc. S.A., 28, 465
	1991	WHO/ORH/J2/363/1991/Sithole

## AMRO

Bahamas	1981	WHO/ORH/J2/426/1981/Fine
Bolivia	1981	Data supplied by PAHO, July 1993
Chile	1960	Witkop Public Health Report 77, 929
	1991	WHO/ORH/J2/439/1991/Petersen
Guatemala	1951	Hurtarte, J. Dent. Res. 34: 390
	1966	Sweeney et al., Arch. of Oral Biol. 11: 687-698, 1966
	1988	McNulty & Fos, J. of Dent. for Child., 129, March-April 1989
Guyana	1983	CAREC Surveillance Report Vol. 10, No. 10, 1984
Mexico	1972	Acosta, Amer. J. Clin. Nut. 27, 359
	1991	WHO/ORH/J2/466/1991/Mendoza Roaf
		WHO/ORH/J2/466/1991/Nava Romero
St Lucia	1961	ICNND survey

## EMRO

Bahrain	1986	WHO/ORH/J2/735/1986/Westwater
Djibouti	1985-88	Alquier, R-P., Eval. de la Santé bucco-dentaire en Rép. de Djibouti Ibrahim, Report to Regional Meeting on Strengthening Oral Health in Primary Health Care 1993. WHO-EM/ORH/57-E/L
Egypt	1973	Zahran, Egypt Dent. J. 20(4): 13-36, 1974
	1991	Ministry of Health, National Survey, 1991
Iran, Islam. Rep. of	1974	WHO/ORH/J2/737/1975/Amighi
	1991	WHO/ORH/J2/737/1991/Sagadhiani
Jordan	1962	Russell, ICNND Survey
	1991	WHO/ORH/J2/748/1991/Abla Sayegh
Kuwait	1976	Husain & Ragai El-Mostehy, J. Kwt. Med. Assoc. II, 1977
	1982	Glass, Report on Oral Health of School Children in Kuwait - National Dental Health Survey, 1982.
Libyan Arab Jamahiriya	1978	WHO/ORH/J2/760/1978/Godfrey
	1983	WHO/ORH/J2/760/1983/Leous
Morocco	1970	Poulsen, Arch. Oral Biol. 17, 1165-1175, 1972
	1989	WHO/ORH/J2/663/1989/Mfeser
Oman	1979	Barnes, WHO Assignment Report, 1979
	1991	Barnes, WHO Assignment Report, 1991
Pakistan	1979	Moller, WHO Assignment Report, 1980
	1991	WHO/ORH/J2/763/1991/Maher & Khero
Saudi Arabia	1979	Barnes & Zahran, WHO Assignment Report, 1979
	1987	Report of Oral Health Survey of Saudi Arabia, College of Dentistry, King Saud University
Somalia	1979	Moller, WHO Situation Analysis, 1979
	1992	WHO/ORH/J2/770/1992/Vecchiati
Sudan	1979	Barnes, WHO Situation Analysis, 1979
	1988	Ghandour, Report to Regional Meeting on Strengthening Oral Health in Primary Health Care 1993. EM/MTG.SOH.PHC/4
Tunisia	1988	Enquete épi. nat. sur l'état de sante bucco dentaire des enfants

United Arab Emirates	1991	Leous, WHO Assignment Report, 1992
Yemen	1979	Barmes, WHO Situation Analysis, 1979
	1987-90	WHO/ORH/J2/787/1987/Tewari WHO/ORH/J2/725/1990/Hussein

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Israel	1966	Rozenweig, J. Pub. Hlth. Dent. 26, 353
	1989	Zadik et al, Comm. Dent. Oral. Epid. 1992; 20: 54-5
Malta	1966	Oliveri, Brit. Dent. J. 124, 177
	1986	WHO/ORH/J2/661/1986/Galea

## SEARO

Bangladesh	1979	WHO/ORH/J2/531/1979/Tchernykh
	1990	Arvidson-Bufano and Holm, Trop Dent J, 13:81-6, 1990
Bhutan	1985	WHO/ORH/J2/532/1985/Singh
India	1967	Gill, J. Indian Dent. Assoc. 40, 227
	1985-91	Gaubha et al., J. Ind. Dent. Assoc., Vol. 58: , 505-512, 1986 WHO/ORH/J2/545/1986/Rahmatulla Mistry, survey Bombay 1987 WHO/ORH/J2/545/1991/Brake Parkash et al., Clin. & Bacteriol. Study of Dent. Caries in Children, 1991
Indonesia	1973	WHO/SEA/DH/28/Sheiham & Ibnu (unpublished)
	1990	Morgan et al., Comm. Dent. Health 1992; 9: 171-9
Maldives	1984	WHO/ORH/J2/557/1984/Tewari
Mongolia	1976	WHO/ORH/J2/563/1976/Baltcheva
Myanmar	1977	WHO/ORH/J2/533/1977/Than Khin Maung
	1990	Moller JJ, WHO Assignment Report 1991; from Aung Than, et al, 1990
Nepal	1984	WHO/ORH/J2/569/1984/Tewari
	1986	WHO/ORH/J2/569/1986/Westbäcke
Sri Lanka	1973	Abayaratne, Thesis, University of Ceylon 1973
	1983-84	WHO/ORH/J2/539/1983/1984/Saparamadu
Thailand	1960	Russell, ICNND Nutrition Survey, 1963
	1977	WHO/ORH/J2/575/1977 Nat. Pathfinder Survey
	1989	Dent. Hlth. Div., Dept. of Hlth., Min. of Public Hlth., Bangkok

## WPRO

China	1951	Afonsky, J. Dent. Res. 30, 53
	1982-84	Yang Shi, Dept. of Stomatology, Beijing Medical College, Beijing
Fiji	1978	WHO/ORH/J2/840/1978/Speake & Singh
	1986	Ministry of Health, Suva
Hong Kong	1970	Sundram, WHO/WPRO 5501. 1973
	1986	Lo, Thesis: Dent. Caries Among Hong Kong Child., July, 1987
Kiribati	1971	WHO/ORH/J2/845/1971/Hollis
	1992	WHO/ORH/J2/845/1992/Howarth
Korea, Rep. of	1971-73	WHO Report/WPRO 5501/1971/1973
	1991	Kim, et al. A study on the oral health status of Korean people, January-December, 1991. Seoul National University, Dept. of Preventive and Public Health Dentistry
Lao, P.D.R.	1991	WHO/ORH/J2/859/1991/Barnaud
Malaysia	1966	Nuruddin, Dent. J. of Malaysia & Singapore 8(1): 54-60. 1968
	1970-71	National Dental Survey
	1981	Ministry of Health, Rep. of Malaysia, 1982 (Dent. Epid. Survey of Schoolchildren in Sarawak)

Niue	1984	Ministry of Health, Niue
Papua New Guinea	1971-74	WHO/ORH/J2/872/1971/Barnes
	1978	Taylor, Pre-Fluoridation Survey in Goroku, Arawa
	1983	WHO/ORH/J2/872/1983/Soo
Philippines	1967-68	Abalos, National Dental Health Survey, Philippines, 1967
	1977	Nati. Dent. Epid. Survey, Dental Services Research Division, Ministry of Health, Manila, 1977
	1987	Department of Health. National Survey, 1987
Samoa	1972	Camrass, Br. Dent. J. 135(7): 337-340, 1973
	1987	WHO/ORH/J2/888/1987/WPRO
Singapore	1970	Goh et al., National Dental Survey, Dental Journal of Malaysia & Singapore, Vol. 12(1):15-21,1972
	1984	Ministry of Health, Singapore
Solomon Islands	1969	WHO/WPRO 0160 Annex 9
Tonga	1966	Moi, 085/WPR/70
	1986	National Oral Health Survey, data provided by WPRO
Tuvalu	1986	Ministry of Health, Tuvalu
Viet Nam	1971	Konzelman, data held WHO/ORH
	1990	Ministry of Health, National Survey, 1990

## DMFT $\leq$ 3 AT BASELINE

### DEVELOPED MARKET-ECONOMY COUNTRIES & ECONOMIES IN TRANSITION

#### Developed Market-Economy Countries

<u>Country</u>	<u>Date</u>	<u>Reference</u>
<b>EURO</b>		
Austria	1973	Binder, Caries Res. 7, 179
	1990	Geyer, Ministry of Health, 1990
Gibraltar	1991	Morillo & Mitropolous, Caries Res., May-June 1992
Spain	1968-69	Gimino et al., Rev. Sanid. Hig. Pub. 45:361-433, 1971
	1993	WHO/ORH/J2/676/1993/Llodra Calvo

#### Economies in Transition

<u>Country</u>	<u>Date</u>	<u>Reference</u>
<b>EURO</b>		
Belarus	1972	Baziyan, Report from WHO assisted Centre, Moscow, 1973
	1988	Kuzmina, Report from WHO Collaborating Centre, Moscow, 1989
Romania	1968	Stomatologia Bulkur.
	1992	Havriluc, Ministry of Health, 1992
Ukraine	1988	Kuzmina, Report from WHO Collaborating Centre, Moscow, 1989

## DMFT > 3 AT BASELINE

### DEVELOPING COUNTRIES

<u>Country</u>	<u>Date</u>	<u>Reference</u>
<b>AFRO</b>		
Madagascar	1992-93	Petersen, et al., National Oral Health Survey Report 1994
Mauritius	1975	Franklin, WHO report AFR/DH/II Annex 2
	1993	WHO/ORJ/J2/357/1993/Lahti
Reunion	1981	WHO/ORH/J2/370/1982/Grosset
<b>AMRO</b>		
Anguilla	1978	WHO/ORH/J2/486/1978/Pollard
	1991	WHO/ORH/J2/486/1991/Langmaid
Argentina	1965	Estudio del estado bucodental en la ciudad de Santa Fe, 1975
	1987	Programa Nacional de Estadísticas en Salud
Barbados	1969	PAHO/FAO & Government of Barbados national food and nutrition survey
	1983	CAREC Surveillance Report Vol. 10, No. 10, 1984
Belize	1979-83	CAREC Surveillance Report Vol. 10, No. 10, 1984
Brazil	1976	Wey Moriera et al., Comm. Dent. & Oral Epid. 5, 1977
	1988	Harari et al, Survey in State of Rio de Janeiro, 1988
	1990	WHO/ORH/J2/430/1990/Fritz
Cayman Is.	1989-90	Reported by Chief Dental Officer, Cayman Islands, January 1990
Colombia	1973	Bojanini, Sit. de Salud Oral en Medellin, Colombia
	1984	Estudio Nacional de Salud, Morbilidad Oral, Instituto Nacional de Salud, Bogota
Costa Rica	1957	Pauly, J. Amer. Dent. Assoc. 79, 889-895, 1969
	1992	Salas et al., Ministry of Health, San José
Cuba	1973	Künzel, Caries Res., 16: 272-276, 1982
	1989	Data supplied by PAHO, July 1993
Dominica	1979	WHO/ORH/J2/447/1979/Jacques
	1989	Leake, et al. Journal Canadian Dent Assoc, 56(11):1025-8, Nov 1990
Dominican Rep.	1962	Godoy, Bol. Ofic. Sanit. Panam. 53, 340-342, 1962
	1986	Data supplied by PAHO, July 1993
Ecuador	1959	Russell, ICNND Survey
	1988	Estudio Epidemiológico de Salud Bucal en escolares fiscales del Ecuador, Instituto de Recursos Odontológicos del Area Andina
El Salvador	1989	WHO/ORH/J2/453/1989/Molina
Grenada	1991	Aponte-Merced et al., Oral Health Survey 1991
Haiti	1983	Franz et al., Helv. Odont. Acta 27(3): 1983
Honduras	1987	Colindres, et al. Encuesta Nacional de Salud Bucal en Alumnos de las Escuelas de Educacion Primaria. Publication Cientifica No. 022-11-88
Jamaica	1984	WHO/ORH/J2/464/1984/Warpeha
Martinique	1988	Obry-Musset, et al. Comm Dent Oral Epid 19:54-5, 1991
Nicaragua	1988	Data supplied by PAHO, July 1993
Panama	1989	Data supplied by PAHO, July 1993
Paraguay	1965	Russell, ICNND Survey
	1983	Data supplied by PAHO, July 1993
Peru	1965	Russell, ICNND Survey
	1990	Data supplied by PAHO, July 1993
St Kitts & Nevis	1962	Russell, ICNND Survey
	1979-83	CAREC Surveillance Report Vol. 10, No. 10, 1984
St Vincent/Grenadines	1991	WHO/ORH/J2/486/1991/Olusegun Alonge
Suriname	1978	WHO/ORH/J2/476/1978/Guile

Trinidad & Tobago	1962	Russell, ICNND Survey, W. Indies
Uruguay	1962	Russell, ICNND Survey
	1992	Ramos, Director of Oral Health, Ministry of Public Health, Uruguay
Venezuela	1986	Data supplied by PAHO, July 1993

## EMRO

Afghanistan	1985	Leous, WHO/ORH Assignment Report, 1985
	1991	Leous, Mission Report, 1991
Cyprus	1990	Pilot survey in oral health for schoolchildren in Cyprus, Dental Services, Ministry of Health, 1992
Iraq	1979	Legler et al., J. Dent. Res. 59(II): 1936, 1980
	1990	Sulaiman, Report to Regional Meeting on Strengthening of Oral Health in PHC - School Oral Health 1993. EM/MTG.SOH.PHC/4
Lebanon	1961	Russell, J. Dent. Res, 45, 957-963, 1966
	1974	Tamari, Int. Dent. J. 24(3): 407-415, 1974
	1993	WHO/ORH/J2/756/1993/Hussein
Syrian A.R.	1974	WHO/ORH/J2/777/1974/Burhani
	1989	Al Khateeb, Report to Regional Meeting on Strengthening of Oral Health in PHC - School Oral Health 1993. EM/MTG.SOH.PHC/4

## EURO

Turkey	1987	WHO/ORH/J2/682/1988/Saydam
Yugoslavia	1975	Perovic, Fac. of Stomatology, Belgrade
	1986	Vrbic et al., National Dental Survey, 1986

## WPRO

Brunei Darussalam	1987	National survey, data provided by WPRO
Cambodia	1990	WHO/ORH/J2/833/1990/Durward
Cook Islands	1978	WHO/ORH/J2/837/1978/Smith
French Polynesia	1977	Glass, unpublished data held WHO/ORH
	1987	Howell, Service d'Hygiène Dentaire, 1987
Micronesia, Fed.	1966	Div. of Hlth. Stats., Dept. of Hlth. Services, TTPI, 1970
States of	1984	WHO/ORH/J2/882/1984/Wong Hee Deong
New Caledonia	1969	WHO/WPRO/1969/Baume
	1991	WHO/ORH/J2/866/1991/Janin
Samoa, American	1978	WHO/ORH/J2/826/1978/Le May
Vanuatu	1970	WHO/WPRO/1970/Holles
	1991	Wong Hee Deong, WHO Assignment Report, 1991

# DMFT > 3 AT BASELINE

## DEVELOPED MARKET-ECONOMY COUNTRIES & ECONOMIES IN TRANSITION

### Developed Market-Economy Countries

<u>Country</u>	<u>Date</u>	<u>Reference</u>
<b>AFRO</b>		
South Africa	1978 1988-89	WHO/ORH/J2/377/78/Louw (mixed race sample) National Oral Health Survey
<b>AMRO</b>		
Canada	1977 1987  1989-90 1991	Nutrition Canada, Dental Survey Weighted data supplied by Prof. G. Beagrie, Univ. of British Columbia, Vancouver, 1988 Payette et al., Dépt. de Santé Comm., Hôp. St. Luc, 1991 WHO/ORH/J2/437/1991/Piedalue
USA	1965-67 1986-87	National Center for Health Statistics. N.106, Series II US Dept. of Health & Human Services, National Institute of Dental Research. Oral Health of United States Children, 1989.
<b>EURO</b>		
Belgium	1972 1991	Lebette, Bull. Group Inter. Recher. Sci. Stomat. 15, 43 Boute, Vrije Universiteit, Brussels, 1991
Denmark	1978 1992	Hansen, Comm. Dent. & Oral Epid. 7, 107 Skak-Iversen, Department of Health, 1992
Finland	1975 1991	Report of National Board of Health, Helsinki Report of National Board of Health, Helsinki
France	1975 1993	Sitbon, Thesis, University of Paris VII, 1976 Reported by Union française pour la Santé bucco-dentaire 1993
Germany	1989	National Oral Health Survey, Institute of German Dentists, 1990
Greece	1959 1985	Hadjimarkos, J. Dent. Res. 39(3): 590-597, 1960 WHO/ORH/12/648/1985/Athanassouli
Iceland	1970 1990	Möller, Thesis Eliasson, Faculty of Odontology, University of Iceland 1991
Ireland	1972 1992	Thomas, J. Irish Dent. Assoc. 21(4): 7-17, 1975 Whelton et al., Children's Dental Health in the Western Health Board in Ireland, 1992
Italy	1978-79 1985	WHO/ORH/J2/656/1978/1979/Vogel/Strohmenger Strohmenger, University of Milan, 1985
Liechtenstein	1988	Report of Symposium on Caries Status in Europe. Caries Res 1990;24:381-96
Luxembourg	1990	Ecker, Country profiles on oral health in Europe 1991, WHO/EURO
Netherlands	1974 1991	Plasschaert, Ned. Tijdschr. Tandheel., 81, 342 van den Heuvel, Department of Health, 1991
Norway	1973  1991	'Oral Health Care Systems': Final Report - Int. Collab. Study on Dental Manpower Systems, coordinated by WHO Health Directorate, Oslo, 1992

Portugal	1979	WHO/ORH/J2/671/1979/Bom Successo
	1989	WHO/ORH/J2/671/1989/Almeida
San Marino	1987	WHO/ORH/J2/674/1987/Ciacci
Sweden	1937	Westin, Condition of Teeth & Disease in Upper Norland III, 1937
	1977	Mansson et al., Swed. Dent. J. 3: 193/203
	1990	'Oral Health & Dental Care in Sweden', Nat. Board of Health & Welfare, 1991
Switzerland	1963-75	Marthaler, Helv. Odont. Acta 16: 45-68, 1972
	1987-89	Menghini et al., Dental Caries in Swiss Schoolchildren aged 7 and 12. Results of a nationwide survey 1987-1989. Schweiz Monatsschr Zahnmed, in press 1994
United Kingdom of Great Britain & Northern Ireland	1973	Child Dental Health in England & Wales, 1973
	1993	OPCS Monitor, February 1994

## WPRO

Australia	1973-80	'Oral Health Care Systems': Final Report - Int. Collab. Study of Dent. Manpower Systems, coordinated by WHO, & School Dental Records Data
	1990	The Child Dental Health Survey Australia, 1990. Dental Statistics and Research No. 2., Australian Institute of Health & Welfare, 1993
Japan	1975	Nat. Oral Hlth. Survey 1977
	1991	'Oral Health in Japan (1992)'Min. of Health & Welfare, Japan, 1992
New Zealand	1973	'Oral Health Care Systems': Final Report - Int. Collab. Study of Dent. Manpower Systems, coordinated by WHO
	1993	Ministry of Health, Wellington, New Zealand 1994

## Economies in Transition

Country                      Date                      Reference

## EURO

Albania	1990	Beijeri, National Oral Health Survey 1990
Armenia	1987	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Bulgaria	1990	Dinkova & Atanasov, Sit. Analysis of Oral Health in Gabrovo
Czech Republic	1987	Institute of Dental Research, Prague
Estonia	1988	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Georgia	1986	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Hungary	1977	Act. Pard. Aca. Scient. Hung. 19, 1978
	1991	WHO/ORH/J2/650/1991/Czukur
Kazakhstan	1988	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Kyrgyzstan	1973	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Latvia	1987	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Lithuania	1986	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Moldova, Repub. of	1986	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Poland	1969-74	WHO/ORH/J2/669/1975/Wloch
		'Oral Health Care Systems': Final Report - Int. Collab. Study of Dental Manpower Systems, coordinated by WHO
	1990	Int. Collab. Study of Oral Health Outcomes, 1990
Russian Federation	1991	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Slovakia	1957	Poncova, Report on National Survey, 1955-1957
	1988	Nat. Oral Health Survey, (Czechoslovakia) 1988
Tajikistan	1973	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Turkmenistan	1986-88	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992
Uzbekistan	1988-89	WHO Collab. Centre at Moscow Medical Stomatological Institute, 1992

NO SUFFICIENTLY REPRESENTATIVE  
OR RELIABLE DATA AVAILABLE

Developing Countries

**AFRO**

Chad  
Comoros  
Congo  
Equatorial Guinea  
Gabon  
Guinea  
Guinea Bissau  
Sao Tome and  
Principe  
Seychelles

**EMRO**

Qatar

**SEARO**

Korea, Dem. People's  
Rep.

Developed Market-Economy Countries

**EURO**

Holy See<sup>1</sup>  
Monaco

<sup>1</sup> non-WHO Member State