

## RESEARCH REPORTS

Clinical

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### APPENDIX

# Global Burden of Oral Conditions in 1990-2010: A Systematic Analysis

**Appendix Table 1.** DALYs (in thousands) with 95% Uncertainty Intervals for Oral Conditions by Age Groups and Genders in 2010

Age Group	Men							
	Untreated Caries		Severe Periodontitis		Severe Tooth Loss		All Oral Conditions	
1-4 yrs	52.2	(20.8-102.2)					52.2	(20.8-102.2)
5-9 yrs	219.0	(87.6-420.9)					219.0	(87.6-420.9)
10-14 yrs	257.2	(102.4-499.8)					257.2	(102.4-499.8)
15-19 yrs	246.9	(101.1-483.3)	<0.1	(0.0-0.1)			246.9	(101.1-483.3)
20-24 yrs	281.4	(112.8-558.8)	9.2	(3.4-19.1)	1.8	(0.9-3.1)	292.4	(118.7-583.0)
25-29 yrs	283.5	(117.8-543.1)	85.7	(32.0-179.8)	16.8	(9.4-27.2)	386.0	(167.1-728.9)
30-34 yrs	246.8	(101.5-476.2)	212.3	(79.2-444.2)	39.0	(22.3-62.5)	498.2	(222.3-959.4)
35-39 yrs	218.4	(89.0-430.0)	355.1	(133.3-746.0)	66.2	(38.0-106.4)	639.7	(288.8-1,235.4)
40-44 yrs	166.8	(68.8-322.7)	423.6	(159.0-876.5)	99.5	(55.6-159.9)	689.8	(318.7-1,333.8)
45-49 yrs	134.0	(55.8-262.1)	406.9	(153.0-846.6)	133.8	(76.1-216.8)	674.8	(326.5-1,268.9)
50-54 yrs	116.2	(47.7-221.4)	361.0	(134.7-747.3)	179.1	(103.7-286.3)	656.3	(332.6-1,192.9)
55-59 yrs	100.2	(42.0-191.8)	310.0	(116.1-640.0)	231.6	(132.0-367.4)	641.8	(342.4-1,136.2)
60-64 yrs	68.7	(28.9-130.9)	220.5	(83.4-456.9)	264.9	(152.4-414.4)	554.1	(311.0-939.2)
65-69 yrs	45.7	(19.5-85.6)	150.3	(56.1-313.1)	281.4	(161.5-442.0)	477.4	(278.1-772.3)
70-74 yrs	32.6	(13.9-61.6)	111.7	(42.1-231.6)	275.4	(158.2-432.1)	419.7	(247.6-659.7)
75-79 yrs	19.6	(8.2-37.5)	70.5	(26.6-144.5)	201.5	(116.6-315.3)	291.5	(173.2-451.6)
80+ yrs	13.0	(5.5-24.7)	58.8	(21.7-121.1)	196.2	(114.1-307.3)	268.0	(157.4-416.9)
<b>All ages</b>	<b>2,502.2</b>	<b>(1,032.2-4,857.2)</b>	<b>2,775.5</b>	<b>(1,047.2-5,737.9)</b>	<b>1,987.2</b>	<b>(1,140.2-3,142.2)</b>	<b>7,264.9</b>	<b>(3,768.2-12,923.9)</b>
Age Group	Women							
	Untreated Caries		Severe Periodontitis		Severe Tooth Loss		All Oral Conditions	
1-4 yrs	41.2	(15.7-81.2)					41.2	(15.7-81.2)
5-9 yrs	183.3	(74.6-359.8)					183.3	(74.6-359.8)
10-14 yrs	240.3	(96.7-472.0)					240.3	(96.7-472.0)
15-19 yrs	242.2	(98.1-478.8)	<0.1	(0.0-0.1)			242.2	(98.1-478.9)
20-24 yrs	278.7	(113.5-556.0)	8.4	(3.1-17.6)	2.0	(1.1-3.5)	289.2	(119.4-573.9)
25-29 yrs	282.9	(115.5-546.1)	78.4	(29.3-162.6)	19.3	(10.9-31.4)	380.6	(169.5-715.5)
30-34 yrs	247.2	(102.9-483.2)	192.9	(71.8-397.5)	44.1	(24.8-71.5)	484.2	(217.2-916.6)
35-39 yrs	219.8	(91.6-428.4)	321.1	(119.7-668.3)	74.0	(42.0-118.2)	614.9	(278.6-1,175.3)
40-44 yrs	167.8	(69.9-323.0)	380.8	(143.5-794.5)	111.0	(63.0-180.8)	659.6	(313.2-1,254.6)
45-49 yrs	137.4	(57.1-268.1)	369.6	(138.1-773.5)	151.3	(85.5-242.6)	658.3	(324.9-1,227.0)
50-54 yrs	120.2	(50.9-226.2)	330.3	(123.7-694.4)	204.0	(116.4-321.8)	654.5	(341.0-1,177.2)
55-59 yrs	105.8	(45.1-201.7)	288.8	(108.1-616.7)	269.8	(152.0-423.6)	664.4	(361.7-1,159.1)
60-64 yrs	76.3	(32.3-143.6)	214.8	(80.2-455.4)	325.3	(187.1-512.1)	616.5	(344.8-1,021.4)
65-69 yrs	53.0	(22.5-100.5)	153.1	(57.7-325.2)	365.7	(212.8-581.1)	571.8	(331.9-918.1)
70-74 yrs	41.0	(17.7-79.3)	123.2	(46.2-264.1)	393.8	(229.4-617.6)	558.0	(330.3-886.6)
75-79 yrs	26.7	(11.3-51.2)	84.8	(31.9-180.4)	318.5	(183.3-500.2)	430.1	(255.1-679.5)
80+ yrs	22.3	(9.2-42.5)	91.3	(33.3-190.3)	402.3	(232.5-627.5)	515.9	(304.8-815.0)
<b>All ages</b>	<b>2,486.2</b>	<b>(1,033.9-4,829.0)</b>	<b>2,637.5</b>	<b>(988.8-5,520.6)</b>	<b>2,681.3</b>	<b>(1,534.7-4,216.5)</b>	<b>7,805.0</b>	<b>(4,200.0-13,486.0)</b>

Note: Differences between genders were not of statistical significance, either for each specific age group or for all age groups combined.

**Appendix Table 2.** Changes in Disability-adjusted Life-years (DALYs, in thousands) and DALYs *per capita* (per 100,000 population) between 1990 and 2010 by GBD Regions\*, Shown as Changes due to Population Growth, Aging, and Changes in Gender- and Age-specific Disease Rates (untreated caries in deciduous teeth only)

Region	1990 DALYs <sup>a</sup>	Isolated Pop. Growth <sup>b</sup>	Isolated Pop. Aging <sup>c</sup>	2010 DALYs	% Δ Due to Pop. Growth	% Δ Due to Pop. Aging	% Δ Due to Δ Rates	% Δ 1990-2010
<b>DALYs (in thousands)</b>								
Global	405	434	429	426	7.2	-1.1	-0.8	5.3
Asia-Pacific, High income	5	4	4	3	-26.6	-0.5	-7.7	-34.8
Europe, Western	6	6	6	6	-5.5	0.1	-0.1	-5.6
Australasia	<1	<1	<1	<1	10.6	-1.6	-17.3	-8.3
North America, High income	7	8	8	8	11.2	-0.1	0.2	11.4
Europe, Central	7	4	4	4	-37.1	-0.5	-1.2	-38.8
Latin America, Southern	2	1	1	1	-2.2	-0.8	0.6	-2.4
Europe, Eastern	11	7	7	7	-39.0	-1.1	-1.4	-41.5
Asia, East	97	81	79	72	-16.3	-2.4	-7.2	-25.9
Latin America, Tropical	14	13	13	13	-3.7	-1.0	-2.7	-7.5
Latin America, Central	13	14	14	13	8.8	-0.1	-4.6	4.1
Asia, Southeast	48	48	48	51	-0.7	-0.8	6.0	4.6
Asia, Central	6	5	5	5	-12.0	-2.6	-0.9	-15.5
Latin America, Andean	3	4	4	4	12.0	-0.3	-1.2	10.5
North Africa/Middle East	30	32	31	33	4.1	-1.7	7.2	9.5
Caribbean	3	3	3	3	2.6	-1.3	-1.1	0.2
Asia, South	106	123	122	129	16.9	-1.3	6.9	22.4
Oceania	1	1	1	1	41.4	-0.1	-0.5	40.8
Sub-Saharan, Africa Southern	4	4	4	4	6.7	-1.1	3.2	8.8
Sub-Saharan, Africa East	19	31	31	32	62.1	0.0	2.2	64.3
Sub-Saharan, Africa Central	5	9	9	9	79.1	0.2	-0.8	78.6
Sub-Saharan, Africa West	18	29	29	29	59.3	-0.2	-0.2	58.9
<b>DALYs per capita (per 100,000 population)</b>								
Global	25	25	25	25	0.0	-1.0	-0.7	-1.7
Asia-Pacific, High income	15	15	15	13	0.0	-0.6	-10.5	-11.2
Europe, Western	9	9	9	9	0.0	0.1	-0.1	0.0
Australasia	8	8	8	7	0.0	-1.4	-15.6	-17.1
North America, High income	13	13	13	13	0.0	0.0	0.2	0.2
Europe, Central	26	26	26	26	0.0	-0.8	-1.9	-2.6
Latin America, Southern	11	11	11	11	0.0	-0.9	0.6	-0.2
Europe, Eastern	24	24	24	23	0.0	-1.8	-2.3	-4.1
Asia, East	32	32	31	28	0.0	-2.8	-8.6	-11.5
Latin America, Tropical	27	27	27	26	0.0	-1.1	-2.8	-3.9
Latin America, Central	21	21	21	20	0.0	-0.1	-4.2	-4.3
Asia, Southeast	31	31	31	33	0.0	-0.8	6.1	5.3
Asia, Central	25	25	24	24	0.0	-3.0	-1.0	-4.0
Latin America, Andean	24	24	24	24	0.0	-0.3	-1.1	-1.3
North Africa/Middle East	26	26	25	27	0.0	-1.7	6.9	5.3
Caribbean	28	28	27	27	0.0	-1.3	-1.1	-2.4
Asia, South	26	26	26	27	0.0	-1.1	5.9	4.7
Oceania	28	28	28	28	0.0	-0.1	-0.3	-0.4
Sub-Saharan, Africa Southern	19	19	19	20	0.0	-1.1	3.0	2.0
Sub-Saharan, Africa East	22	22	22	22	0.0	0.0	1.4	1.4
Sub-Saharan, Africa Central	22	22	22	22	0.0	0.1	-0.4	-0.3
Sub-Saharan, Africa West	22	22	22	22	0.0	-0.1	-0.1	-0.3

\*Regions are ordered by mean age of death.

<sup>a</sup>Estimates for 1990 were recalculated following the GBD 2010 Study protocol.

<sup>b</sup>DALYs expected with 2010, 1990 population age structure, and 1990 DALY rates (in thousands).

<sup>c</sup>DALYs expected with 2010, 2010 population age structure, and 2010 DALY rates (in thousands).

**Appendix Table 3.** Changes in Disability-adjusted Life-years (DALYs, in thousands) and DALYs *per capita* (per 100,000 population) between 1990 and 2010 by GBD Regions\*, Shown as Changes due to Population Growth, Aging, and Changes in Gender- and Age-specific Disease Rates (untreated caries in permanent teeth only)

Region	1990 DALYs <sup>a</sup>	Isolated Pop. Growth <sup>b</sup>	Isolated Pop. Aging <sup>c</sup>	2010 DALYs	% Δ Due to Pop. Growth	% Δ Due to Pop. Aging	% Δ Due to Δ Rates	% Δ 1990- 2010
<b>DALYs (in thousands)</b>								
Global	3,304	4,422	4,441	4,562	33.9	0.6	3.7	38.1
Asia-Pacific, High income	32	35	35	35	7.3	0.7	0.2	8.2
Europe, Western	102	112	113	114	9.8	1.0	1.3	12.1
Australasia	3	4	4	4	27.7	0.3	4.5	32.6
North America, High income	46	57	57	57	23.6	0.0	-1.4	22.2
Europe, Central	115	115	116	116	-0.2	1.1	0.2	1.0
Latin America, Southern	15	19	19	20	26.3	3.1	0.8	30.1
Europe, Eastern	190	182	184	183	-4.5	1.1	-0.6	-4.0
Asia, East	827	1,018	1,025	1,028	23.1	0.8	0.4	24.4
Latin America, Tropical	68	93	96	97	36.8	4.6	0.5	41.9
Latin America, Central	90	131	135	135	44.6	4.3	0.3	49.3
Asia, Southeast	299	412	427	433	38.0	4.9	1.9	44.8
Asia, Central	48	59	61	61	21.5	3.9	-0.1	25.3
Latin America, Andean	22	31	32	32	44.1	4.2	1.1	49.4
North Africa/Middle East	180	281	297	297	56.1	9.1	0.2	65.4
Caribbean	20	26	26	26	27.9	1.6	-0.9	28.6
Asia, South	947	1,416	1,438	1,413	49.5	2.3	-2.7	49.1
Oceania	4	6	7	6	58.7	3.2	-1.9	60.0
Sub-Saharan, Africa Southern	36	51	52	52	40.0	4.5	-0.3	44.2
Sub-Saharan, Africa East	117	204	207	206	74.4	2.6	-0.6	76.3
Sub-Saharan, Africa Central	33	60	60	60	83.4	1.0	1.5	86.0
Sub-Saharan, Africa West	109	184	188	187	69.4	3.1	-0.5	71.9
<b>DALYs per capita (per 100000 population)</b>								
Global	71	71	71	73	0.0	0.4	2.7	3.2
Asia-Pacific, High income	21	21	21	21	0.0	0.6	0.2	0.8
Europe, Western	28	28	29	29	0.0	0.9	1.2	2.1
Australasia	15	15	15	16	0.0	0.3	3.5	3.8
North America, High income	18	18	18	18	0.0	0.0	-1.2	-1.2
Europe, Central	102	102	103	103	0.0	1.1	0.2	1.3
Latin America, Southern	34	34	35	35	0.0	2.4	0.6	3.1
Europe, Eastern	93	93	94	93	0.0	1.2	-0.6	0.5
Asia, East	78	78	79	79	0.0	0.7	0.3	1.0
Latin America, Tropical	50	50	52	52	0.0	3.3	0.3	3.7
Latin America, Central	63	63	65	65	0.0	3.0	0.2	3.2
Asia, Southeast	75	75	77	78	0.0	3.5	1.4	4.9
Asia, Central	82	82	84	84	0.0	3.2	-0.1	3.1
Latin America, Andean	65	65	67	67	0.0	2.9	0.7	3.7
North Africa/Middle East	70	70	74	75	0.0	5.8	0.1	6.0
Caribbean	75	75	76	75	0.0	1.2	-0.7	0.5
Asia, South	99	99	100	98	0.0	1.6	-1.8	-0.2
Oceania	82	82	83	82	0.0	2.0	-1.2	0.8
Sub-Saharan, Africa Southern	81	81	83	83	0.0	3.2	-0.2	3.0
Sub-Saharan, Africa East	69	69	70	70	0.0	1.5	-0.4	1.1
Sub-Saharan, Africa Central	76	76	76	77	0.0	0.6	0.8	1.4
Sub-Saharan, Africa West	66	66	67	67	0.0	1.8	-0.3	1.5

\*Regions are ordered by mean age of death.

<sup>a</sup>Estimates for 1990 were recalculated following the GBD 2010 Study protocol.

<sup>b</sup>DALYs expected with 2010, 1990 population age structure, and 1990 DALY rates (in thousands).

<sup>c</sup>DALYs expected with 2010, 2010 population age structure, and 2010 DALY rates (in thousands).

**Appendix Table 4.** Changes in Disability-adjusted Life-years (DALYs, in thousands) and DALYs *per capita* (per 100,000 population) between 1990 and 2010 by GBD Regions\*, Shown as Changes due to Population Growth, Aging, and Changes in Gender- and Age-specific Disease Rates (severe periodontitis only)

Region	1990 DALYs <sup>a</sup>	Isolated Pop. Growth <sup>b</sup>	Isolated Pop. Aging <sup>c</sup>	2010 DALYs	% Δ Due to Pop. Growth	% Δ Due to Pop. Aging	% Δ Due to Δ Rates	% Δ 1990-2010
<b>DALYs (in thousands)</b>								
Global	3,441	4,862	5,372	5,413	41.3	14.8	1.2	57.3
Asia-Pacific, High income	112	127	146	149	13.6	17.0	2.5	33.0
Europe, Western	327	368	407	391	12.3	12.0	-4.8	19.5
Australasia	23	31	34	35	31.4	15.7	3.7	50.7
North America, High income	159	200	221	224	25.6	13.2	1.4	40.3
Europe, Central	116	125	132	133	7.8	6.0	1.0	14.9
Latin America, Southern	68	91	95	95	34.0	6.9	-0.8	40.1
Europe, Eastern	245	252	260	265	2.7	3.2	2.2	8.1
Asia, East	770	1,008	1,262	1,272	31.0	33.0	1.2	65.2
Latin America, Tropical	139	209	242	250	50.4	24.0	5.7	80.1
Latin America, Central	113	180	213	210	58.5	29.2	-2.8	85.0
Asia, Southeast	308	468	553	545	51.9	27.6	-2.6	77.0
Asia, Central	51	68	71	69	32.9	6.6	-3.9	35.5
Latin America, Andean	26	41	46	46	55.7	18.4	1.8	76.0
North Africa/Middle East	132	237	261	257	79.4	18.2	-2.7	94.9
Caribbean	16	21	25	24	34.6	23.0	-7.9	49.6
Asia, South	543	875	940	943	61.0	12.0	0.6	73.6
Oceania	1	2	2	2	66.2	17.7	3.2	87.1
Sub-Saharan, Africa Southern	20	31	33	34	53.4	8.9	5.7	68.0
Sub-Saharan, Africa East	167	299	295	292	79.1	-2.5	-1.8	74.8
Sub-Saharan, Africa Central	28	51	48	48	82.7	-10.1	-2.4	70.1
Sub-Saharan, Africa West	75	130	126	129	74.2	-5.3	3.4	72.4
<b>DALYs per capita (per 100000 population)</b>								
Global	97	97	107	108	0.0	10.5	0.8	11.3
Asia-Pacific, High income	83	83	96	98	0.0	14.9	2.2	17.1
Europe, Western	105	105	116	112	0.0	10.7	-4.3	6.4
Australasia	146	146	164	168	0.0	11.9	2.8	14.7
North America, High income	73	73	81	82	0.0	10.5	1.1	11.6
Europe, Central	124	124	130	132	0.0	5.6	0.9	6.5
Latin America, Southern	198	198	208	207	0.0	5.1	-0.6	4.6
Europe, Eastern	143	143	147	150	0.0	3.1	2.1	5.2
Asia, East	90	90	113	114	0.0	25.2	0.9	26.1
Latin America, Tropical	140	140	162	167	0.0	16.0	3.8	19.8
Latin America, Central	112	112	132	130	0.0	18.4	-1.8	16.7
Asia, Southeast	106	106	125	123	0.0	18.2	-1.7	16.5
Asia, Central	116	116	122	119	0.0	4.9	-2.9	2.0
Latin America, Andean	111	111	124	126	0.0	11.8	1.2	13.0
North Africa/Middle East	76	76	83	82	0.0	10.1	-1.5	8.6
Caribbean	78	78	91	86	0.0	17.1	-5.9	11.2
Asia, South	79	79	85	86	0.0	7.5	0.4	7.8
Oceania	32	32	36	36	0.0	10.6	1.9	12.5
Sub-Saharan, Africa Southern	65	65	69	72	0.0	5.8	3.7	9.5
Sub-Saharan, Africa East	149	149	146	145	0.0	-1.4	-1.0	-2.4
Sub-Saharan, Africa Central	98	98	93	91	0.0	-5.5	-1.3	-6.9
Sub-Saharan, Africa West	68	68	66	67	0.0	-3.0	2.0	-1.0

\*Regions are ordered by mean age of death.

<sup>a</sup>Estimates for 1990 were recalculated following the GBD 2010 Study protocol.

<sup>b</sup>DALYs expected with 2010, 1990 population age structure, and 1990 DALY rates (in thousands).

<sup>c</sup>DALYs expected with 2010, 2010 population age structure, and 2010 DALY rates (in thousands).

**Appendix Table 5.** Changes in Disability-adjusted Life-years (DALYs, in thousands) and DALYs *per capita* (per 100,000 population) between 1990 and 2010 by GBD Regions\*, Shown as Changes due to Population Growth, Aging, and Changes in Gender- and Age-specific Disease Rates (severe tooth loss only)

Region	1990 DALYs <sup>a</sup>	Isolated Pop. Growth <sup>b</sup>	Isolated Pop. Aging <sup>c</sup>	2010 DALYs	% Δ Due to Pop. Growth	% Δ Due to Pop. Aging	% Δ Due to Δ Rates	% Δ 1990-2010
<b>Total DALYs (in thousands)</b>								
Global	5,324	7,749	8,508	4,668	45.5	14.3	-72.1	-12.3
Asia-Pacific, High income	226	270	391	188	19.4	53.9	-90.2	-16.9
Europe, Western	721	829	957	546	15.0	17.7	-57.0	-24.3
Australasia	38	51	61	34	34.7	25.3	-70.5	-10.5
North America, High income	430	544	611	356	26.4	15.6	-59.4	-17.4
Europe, Central	249	277	318	140	11.3	16.6	-71.7	-43.8
Latin America, Southern	65	88	97	60	36.4	13.9	-57.8	-7.5
Europe, Eastern	437	459	495	277	5.0	8.3	-49.8	-36.6
Asia, East	697	968	1,173	676	38.9	29.4	-71.3	-3.0
Latin America, Tropical	238	375	457	212	57.4	34.5	-103.0	-11.2
Latin America, Central	194	324	378	167	66.7	28.1	-108.7	-14.0
Asia, Southeast	313	500	572	282	59.6	23.3	-92.8	-10.0
Asia, Central	73	97	96	54	33.7	-0.9	-58.7	-25.9
Latin America, Andean	44	71	82	46	61.7	25.4	-81.4	5.7
North Africa/Middle East	328	618	641	287	88.7	6.9	-107.9	-12.3
Caribbean	54	75	86	45	39.2	19.4	-75.5	-16.8
Asia, South	894	1,474	1,584	1,015	64.8	12.3	-63.7	13.5
Oceania	3	5	5	3	73.5	13.1	-72.6	14.0
Sub-Saharan, Africa Southern	48	76	85	38	58.4	18.3	-98.4	-21.7
Sub-Saharan, Africa East	131	236	234	128	80.1	-1.0	-80.9	-1.8
Sub-Saharan, Africa Central	34	60	57	32	80.1	-10.9	-73.6	-4.5
Sub-Saharan, Africa West	108	190	183	83	75.3	-5.9	-92.7	-23.2
<b>DALYs per capita (per 100,000 population)</b>								
Global	175	175	192	106	0.0	9.8	-49.5	-39.8
Asia-Pacific, High income	189	189	274	131	0.0	45.1	-75.6	-30.4
Europe, Western	254	254	293	167	0.0	15.4	-49.6	-34.1
Australasia	266	266	316	177	0.0	18.8	-52.4	-33.6
North America, High income	218	218	245	142	0.0	12.3	-47.0	-34.6
Europe, Central	296	296	341	150	0.0	14.9	-64.4	-49.5
Latin America, Southern	217	217	239	147	0.0	10.2	-42.4	-32.2
Europe, Eastern	280	280	302	169	0.0	7.9	-47.4	-39.6
Asia, East	96	96	116	67	0.0	21.1	-51.3	-30.2
Latin America, Tropical	283	283	345	160	0.0	21.9	-65.5	-43.6
Latin America, Central	234	234	273	121	0.0	16.8	-65.2	-48.4
Asia, Southeast	129	129	148	73	0.0	14.6	-58.2	-43.6
Asia, Central	194	194	192	107	0.0	-0.7	-43.9	-44.6
Latin America, Andean	226	226	261	148	0.0	15.7	-50.3	-34.6
North Africa/Middle East	229	229	238	107	0.0	3.7	-57.2	-53.5
Caribbean	313	313	357	187	0.0	14.0	-54.2	-40.2
Asia, South	157	157	169	108	0.0	7.5	-38.6	-31.2
Oceania	100	100	107	65	0.0	7.5	-41.8	-34.3
Sub-Saharan, Africa Southern	189	189	211	94	0.0	11.5	-62.1	-50.6
Sub-Saharan, Africa East	145	145	144	79	0.0	-0.6	-44.9	-45.5
Sub-Saharan, Africa Central	145	145	137	77	0.0	-6.0	-40.9	-46.9
Sub-Saharan, Africa West	121	121	117	53	0.0	-3.4	-52.8	-56.2

\*Regions are ordered by mean age of death.

<sup>a</sup>Estimates for 1990 were recalculated following the GBD 2010 Study protocol.

<sup>b</sup>DALYs expected with 2010, 1990 population age structure, and 1990 DALY rates (in thousands).

<sup>c</sup>DALYs expected with 2010, 2010 population age structure, and 2010 DALY rates (in thousands).