



Epi Data Tables

New York City Department of Health and Mental Hygiene

November 2011

Disability-adjusted life years (DALYs) in New York City

Data Tables

Table 1. Leading causes of DALYs, New York City, 2005

Table 2. Leading causes of DALYs by sex, New York City, 2005

Defining DALYs

For each condition, disability-adjusted life years measures years of health life lost. They combine in a single measure years lost to premature death and years lived with a disability. Mortality is expressed as years of life lost (YLL), and disability as years lived with disability (YLD). People who die before an expected age can be thought of as dying early, or prematurely. Years of life lost to premature death were computed based on the difference between a standard life expectancy and age at death. Each condition is assigned a disability weight. Years lived with disability are based on the disability weight and average duration specific to each condition. The number of DALYs for any given condition was the sum of years of life lost and years lived with a disability for that condition ($DALYs = YLL + YLD$). The health conditions can then be ranked by the number of DALYs – showing the relative burden to New Yorkers associated with specific diseases and injuries.

Data Sources & Methods

This study was based on the methodology from a national study: Michaud CM, et al. The burden of disease and injury in the United States 1996. *Population Health Metrics* 2006,4:11. Years of life lost (YLL) were calculated using 2005 mortality data for NYC from the National Center for Health Statistics that had been adjusted by national researchers as described in Murray et al (1, 2). Data were stratified by sex, age group and race. Life expectancy estimates from the national study based on the life expectancy in Japan (82.5 years for women and 80.0 years for men) were used for calculation of YLL. For the national study, YLD calculations took into account the severity and duration of each condition. For NYC YLD, U.S. Census Bureau population estimates for New York City in 2005 by sex were used to calculate years lived with disability (YLD) by applying national YLD rates and ratios from the Michaud et al. study. If the national YLL:YLD ratio was less than 10, then the NYC YLD was equal to the national YLD:YLL ratio multiplied by NYC YLL. If the national YLD:YLL ratio was greater than or equal to 10 (producing unreliable City estimates), then NYC YLD was equal to the national YLD rate multiplied by the NYC population. Results were weighted for age and discounted to be consistent with national and global studies.

Limitations: The data from the national study are from 1996 and patterns of disease and disability may have changed since then. In addition, misclassification of cause of death on death certificates can affect results (e.g. cardio-vascular disease over-reporting).

[To access the related Epi Data Brief, go to www.nyc.gov/html/doh/downloads/pdf/epi/databrief11.pdf](http://www.nyc.gov/html/doh/downloads/pdf/epi/databrief11.pdf)

1. Murray CJ, Kulkarni SC, Ezzati M. Understanding the coronary heart disease versus total cardiovascular mortality paradox: a method to enhance the comparability of cardiovascular death statistics in the United States. 2006. *Circulation* 113: 2071–2081.
2. Murray CJ, Dias RH, Kulkarni SC, Lozano R, Stevens GA, et al. Improving the comparability of diabetes mortality statistics in the U.S. and Mexico. 2008. *Diabetes Care* 31: 451–458.

Table 1. Leading causes of disability-adjusted life years (DALYs), New York City, 2005

Source: NYC DOHMH Divisions of Epidemiology and Mental Hygiene

DALYs = Disability-adjusted life years; YLL = Years of life lost; YLD = Years of disability

Rank	Cause	DALYs	YLL	YLD
1	Ischemic Heart Disease	89,481	81,278	8,203
2	Major Depression	42,110	0	42,110
3	HIV	37,495	28,130	9,365
4	Alcohol Use	35,050	4,475	30,575
5	Osteoarthritis	29,330	94	29,236
6	Asthma	27,745	2,974	24,771
7	Diabetes	26,557	12,690	13,867
8	Lung Cancer	25,074	23,936	1,138
9	Cerebrovascular Disease	24,258	12,595	11,663
10	Hypertension	21,804	17,775	4,029
11	Chronic Obstructive Pulmonary Disease	18,209	7,645	10,564
12	Homicide and Violence	18,100	15,613	2,487
13	Drug Use	16,097	2,178	13,919
14	Congenital Anomalies	15,694	6,569	9,125
15	Breast Cancer	15,020	13,139	1,881
16	Poisoning	14,777	14,553	224
17	Lower Respiratory Infections	14,658	14,003	655
18	Road Traffic Accidents	12,868	9,498	3,370
19	Alzheimer's Disease/Other Dementias	12,823	1,949	10,874
20	Colorectal Cancer	11,742	9,929	1,813

Mortality data and population estimates are from 2005. Disability data is from 1996.

New York City estimates were based on the methodology of Michaud CM et al. Popul Health Metr. 2006;4:11.

Table 2. Leading causes of disability-adjusted life years (DALYs) by sex, New York City, 2005

Source: NYC DOHMH Divisions of Epidemiology and Mental Hygiene

DALYs = Disability-adjusted life years; YLL = Years of life lost; YLD = Years of disability

Men					Women				
Rank	Cause	DALY	YLL	YLD	Rank	Cause	DALY	YLL	YLD
1	Ischemic Heart Disease	44,319	40,884	3,435	1	Ischemic Heart Disease	45,162	40,394	4,768
2	Alcohol Use	23,322	4,067	19,255	2	Major Depression	28,228	0	28,228
3	HIV	22,115	16,657	5,458	3	Osteoarthritis	16,222	46	16,176
4	Asthma	14,195	1,414	12,781	4	HIV	15,380	11,473	3,907
5	Major Depression	13,882	0	13,882	5	Breast Cancer	15,020	13,139	1,881
6	Lung Cancer	13,861	13,263	598	6	Asthma	13,550	1,560	11,990
7	Diabetes	13,256	6,612	6,644	7	Cerebrovascular Disease	13,518	6,916	6,602
8	Homicide and Violence	13,164	11,272	1,892	8	Diabetes	13,301	6,078	7,223
9	Osteoarthritis	13,108	48	13,060	9	Alcohol Use	11,728	408	11,320
10	Drug Use	11,876	1,491	10,385	10	Lung Cancer	11,212	10,673	539
11	Hypertension	11,391	9,378	2,013	11	Hypertension	10,413	8,397	2,016
12	Poisoning	10,814	10,679	135	12	Chronic Obstructive Pulmonary Disease	9,387	3,950	5,437
13	Cerebrovascular Disease	10,734	5,679	5,055	13	Alzheimer's Disease/Other Dementias	8,137	1,332	6,805
14	Road Traffic Accidents	8,937	6,710	2,227	14	Lower Respiratory Infections	7,520	7,148	372
15	Chronic Obstructive Pulmonary Disease	8,822	3,695	5,127	15	Congenital Anomalies	7,403	3,086	4,317
16	Congenital Anomalies	8,291	3,483	4,808	16	Colorectal Cancer	6,227	5,221	1,006
17	Lower Respiratory Infections	7,137	6,855	282	17	Post-traumatic Stress Disorder	5,791	0	5,791
18	Self-inflicted Injury/Suicide	7,000	6,903	97	18	Panic Disorder	5,407	0	5,407
19	Falls	6,732	2,255	4,477	19	Homicide and Violence	4,936	4,341	595
20	Bipolar Disorder	5,636	0	5,636	20	Bipolar Disorder	4,871	0	4,871

Mortality data and population estimates are from 2005. Disability data is from 1996.

New York City estimates were based on the methodology of Michaud CM et al. Popul Health Metr. 2006;4:11.