

# Death and DALYs from Selected Water-Related Diseases, 2000 and 2004

## Description

Measuring the scope of water-related diseases has always been a challenge because of the vast extent of the problem, discrepancies in reporting, the quality of health care in different parts of the world, and a lack of standard indicators. In 1993, the Harvard School of Public Health in collaboration with the World Health Organization (WHO) and the World Bank began a new assessment of the “global burden of disease” (GBD). This effort introduced a new indicator—the “disability adjusted life year” (DALY)—to quantifying the burden of disease. The DALY is a measure of population health that combines in a single indicator years of life lost from premature death and years of life lived with disabilities. Data Table 9 lists deaths and DALYs from selected water-related diseases, as reported by the WHO for 2000 and 2004 (the most recent year for which comprehensive data is available). One DALY can be thought of as one lost year of “healthy” life. Most estimates of water-related deaths appear to fall between two and five million deaths per year. Of these deaths, the vast majority are of small children struck by virulent but preventable diarrheal diseases, as shown in this table. International policy interest in such indicators is increasing, and the WHO World Health Reports now use deaths and DALYs as basic measures of well-being and health. DALYs are reported as “standard DALYs,” using 3 percent discounting and age weights. As the table indicates, little progress has been made since 2000 in curbing death and DALYs from diarrheal diseases.

## Limitations

Deaths and illnesses from water-related diseases are inadequately monitored and reported. A wide range of estimates of deaths is available in the public literature, ranging from 2 million to 12 million deaths per year. The current best estimate of water-related deaths from diarrheal diseases is around 2 million per year (as shown in Data Table 9), but this estimate must be qualified. First of all, huge numbers of cases of diarrheal diseases are not reported at all, suggesting that some—perhaps many—deaths may be misreported as well. Second, the WHO International Classification of Disease System

simplified deaths to a single cause, defined as “the disease or injury which initiated the train of morbid events leading directly to death.” But it is well-known that diarrhea is a contributing cause of death in many circumstances. Third, other deaths from water-related disease are also poorly monitored in some places and for some diseases.

This table excludes mortality and DALYs associated with water-related insect vectors, such as malaria, onchocerciasis, and dengue fever. While few deaths from trachoma are reported, approximately six million cases of blindness or severe complications occur annually.

## SOURCES

- World Health Organization (WHO). 2001. World Health Report 2001—Mental Health: New Understanding, New Hope. Version 2 data tables on the Global Burden of Disease, Geneva, January 2004. <http://www.who.int/whr2001/2001/>
- World Health Organization (WHO). 2008. The Global Burden of Disease: 2004 Update. Disease and Injury Regional Estimates for 2004. [http://www.who.int/healthinfo/global\\_burden\\_disease/estimates\\_regional/en/index.html](http://www.who.int/healthinfo/global_burden_disease/estimates_regional/en/index.html)

**DATA TABLE 9** Deaths and DALYS from Selected Water-Related Diseases, 2000 and 2004

	2000		2004	
	Deaths	DALYs	Death	DALYs
<b>Diarrheal diseases</b>	2,019,585	63,345,722	2,163,283	72,776,516
<b>Childhood cluster diseases</b>				
Poliomyelitis	1,136	188,543	1,195	34,399
Diphtheria	5,527	187,838	5,091	173,575
<b>Tropical-cluster diseases</b>				
Trypanosomiasis	49,129	1,570,242	52,347	1,672,728
Schistosomiasis	15,335	1,711,522	41,087	1,707,144
Trachoma	72	3,892,326	108	1,334,414
<b>Intestinal nematode infections</b>				
Ascariasis	4,929	1,204,384	2,455	1,850,781
Trichuriasis	2,393	1,661,689	1,828	1,012,138
Hookworm disease	3,477	1,785,539	242	1,091,589
Other intestinal infections	1,692	53,222	1,957	58,158
<b>TOTAL</b>	<b>2,103,274</b>	<b>75,601,028</b>	<b>2,269,593</b>	<b>81,711,443</b>

Source (2004 data): [http://www.who.int/healthinfo/global\\_burden\\_disease/estimates\\_regional/en/index.html](http://www.who.int/healthinfo/global_burden_disease/estimates_regional/en/index.html)