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Actual Causes of Death in the United States

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Abstract

Objective. –To identify and quantify the major external (nongenetic) factors that contribute to death in the United States.

Data Sources. –Articles published between 1977 and 1993 were identified through MEDLINE searches, reference citations, and expert consultation. Government reports and compilations of vital statistics and surveillance data were also obtained.

Study Selection. –Sources selected were those that were often cited and those that indicated a quantitative assessment of the relative contributions of various factors to mortality and morbidity.

Data Extraction. –Data used were those for which specific methodological assumptions were stated. A table quantifying the contributions of leading factors was constructed using actual counts, generally accepted estimates, and calculated estimates that were developed by summing various individual estimates and correcting to avoid double counting. For the factors of greatest complexity and uncertainty (diet and activity patterns and toxic agents), a conservative approach was taken by choosing the lower boundaries of the various estimates.

Data Synthesis. –The most prominent contributors to mortality in the United States in 1990 were tobacco (an estimated 400 000 deaths), diet and activity patterns (300 000), alcohol (100 000), microbial agents (90 000), toxic agents (60 000), firearms (35 000), sexual behavior (30 000), motor vehicles (25 000), and illicit use of drugs (20 000). Socioeconomic status and access to medical care are also important contributors, but difficult to quantify independent of the other factors cited. Because the studies reviewed used different approaches to derive estimates, the stated numbers should be viewed as first approximations.

Conclusions. –Approximately half of all deaths that occurred in 1990 could be attributed to the factors identified. Although no attempt was made to further quantify the impact of these factors on morbidity and quality of life, the public health burden they impose is considerable and offers guidance for shaping health policy priorities.(*JAMA*. 1993;270:2207-2212)

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