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Mortality Trends and Signs of Health Progress in the United States

Improving Understanding and Action

J. Michael McGinnis, MD, MPP

In life, death is the ending point. In much of biomedical science and health policy, death is often the starting point. As the saying goes, the finality of death tends to focus the mind—as



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it does the attention of policy makers and resource allocation. Although health progress depends on understanding and action far beyond that singular event, concise and reliable information about

death as a touchstone reference point is necessary, but is not sufficient.

In this issue of *JAMA*, Ma and colleagues¹ contribute important data to help advance understanding of death rates in the United States and the progress reflected in the trends. Their comprehensive assessment of the mortality component of vital statistics data from 1969 to 2013 offers valuable insights on the trends over nearly half a century in deaths from all causes, as well as for 6 leading causes of death. During that period, age-standardized death rate per 100 000 for all causes decreased by 42.9% (from 1278.8 to 729.8), with the most **substantial relative reduction in deaths from stroke (down 77%, from 156.8 to 36.0) and heart disease (down 67.5%, from 520.4 to 169.1)**. Impressive declines were also documented in mortality from **unintentional injuries (down 39.8%, from 65.1 to 39.2), cancer (down 17.9%, from 198.6 to 163.1), and diabetes (down 16.5%, from 25.3 to 21.1)**. On the other hand, the authors report that the **death rate for chronic obstructive pulmonary disease (COPD) doubled (from 21.0 to 42.2) in that period**.

Although death may be the most definitive marker in health and health care, the need for clear insights on the age of onset, severity, and duration of illness and injury take on greater significance as the population grows older. The authors also contribute on this dimension, reporting that deaths occurring at earlier ages—indicated as age-standardized years of potential life lost before age 75 years—also declined by 52.4% from 1969 to 2013 (from 134.7 to 64.1), with the largest de-

clines, again, occurring for stroke (down 74.8%, from 6.0 to 1.5), heart disease (down 68.3%, from 28.8 to 9.1), unintentional injuries (down 47.5%, from 19.9 to 10.4), and cancers (down 40.6%, from 21.4 to 12.7). Years of potential life lost also declined by 14.5% for diabetes (from 1.9 to 1.6) and were unchanged, overall, for COPD, declining slightly in the most recent time period. The authors note that, **as expected, there has been a lag in the decline in years of potential life lost for COPD as smoking rates have declined, and also that diabetes deaths have recently increased, associated with increases in obesity prevalence among adults**.

On the other hand, for the purposes of strategic health priorities, health policy initiatives, and optimal core data system capacity to provide the guidance needed, important implicit messages are inherent in what Ma et al were **not able to report from their assessment of the data available from the nation's vital statistics over this period; eg, the trends and outcomes related to basic health challenges such as dementia, mental health, human immunodeficiency virus (HIV)/AIDS, health disparities, as well as those related to the various factors identified** as knowledge deepens about the etiologic and potentiating elements involved in these conditions.

For example, in terms of rapidly emerging challenges, **Alzheimer disease, with a greater than two-thirds increase in deaths from 2000 to 2013, moved from the eighth to the sixth leading cause of death in that period**, but comparable data are not available back to 1969 for the condition.²⁻⁴ Suicide increased by a third from 2000 to 2013, highlighting the importance of mental health and depression as prominent health challenges not reflected in the earlier data.^{3,4} Human immunodeficiency virus became a prominent national and global health concern in the 1980s and 1990s, ranking at one point as high as the eighth leading cause of death, but was not recognized in 1969 and is no longer among the top 10 causes of death. Deaths from HIV/AIDS in the United States have declined from more than 50 000 in 1995 to about 7000 in 2013.^{4,5}

Also of clear and compelling importance to shaping health strategies is the existence of substantial disparities among population groups in the occurrence and effects of ill health. In 2013, death rates among black people were approximately double those for white people for infant mortality, heart disease, diabetes, and prostate cancer, and death rates among black people exceeded those for white people by about 40% for stroke, 30% for breast cancer and colon cancer, and nearly 20% for all-cause mortality.⁴ Ultimately, the most fundamental national challenge is bringing the best health possible to its entire population, regardless of race, ethnicity, and socioeconomic status. Available data must serve better in this respect. The current data suggest that substantial and disturbing health care disparities continue to exist in the United States.

This is not a criticism of the report by Ma et al, in which the authors reported data available from the nation's vital statistics records. The limitations do suggest, however, the importance of reaching beyond the broad mortality starting points to develop a more robust vital statistics concept and framework for accelerating progress. Death rate may have at one time served as a sufficient measure of health system performance, but assessment now requires more textured insights, including those that reflect the improving capacity to measure health status, risk prevalence, and service access, effectiveness, and affordability.

The issue is not that more is better. Ironically, as the science and capacity for measurement have increased, the ability for reliable conclusions about system performance relative to potential has declined. The number of measures requested and gathered to assess health and health care activities has proliferated in a substantially unstructured fashion, including burdensome data requirements of marginal productivity. Apart from certain mortality records, health data are required and reported inconsistently and often unreliably from jurisdiction to jurisdiction, organization to organization, and even division to division within the same organization.

Rather what is needed is a set of national vital health indicators that is broader than mortality, but still a limited number, tightly constructed, standardized, and reliably available at all levels from local to national. Earlier this year, an Institute of Medicine Committee on Core Metrics for Better Health at Lower Cost, released its report, *Vital Signs: Core Metrics for Health and Health Care Progress*.^{6,7} The Committee recommended 15 core measures across 4 domains—healthy people, quality care, affordable care, and engaged people—which could be assembled from a manageable set of standardized measures to be collected system-wide. Whether through adoption of this or some other expanded notion of what should constitute the nation's truly vital signs, the time has arrived to match the capacity with the potential and the need.

ARTICLE INFORMATION

Author Affiliation: National Academy of Medicine, Washington DC.

Corresponding Author: J. Michael McGinnis, MD, MPP, National Academy of Medicine, Institute of Medicine, 500 Fifth St NW, Washington DC 20001 (mcginnis@nas.edu).

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