

May 1, 2016

**RE: Methodology used for collecting national health statistics**

Dr. Thomas Frieden  
Director, U.S. Centers for Disease Control and Prevention  
1600 Clifton Road  
Atlanta, GA 30329-4027

Dear Dr. Frieden,

We are writing this letter to respectfully ask the Centers for Disease Control and Prevention (CDC) to change the way it collects our country's national vital health statistics each year. The list of most common causes of death published is very important--it informs our country's research and public health priorities each year. The current methodology used to generate the list has what we believe to be a serious limitation. As a result, the list has neglected to identify the third leading cause of death in the U.S.—medical error. The limitation stems from a historic policy that says death certificates can only be tabulated with an ICD billing code. For example, a patient who dies directly from a medical error is not counted in our national health statistics as a country, under-representing an important burden of health in the U.S.

We define death due to medical error as death due to 1) an error in judgment, skill, or coordination of care, 2) a diagnostic error, 3) a system defect resulting in death or a failure to rescue a patient from death, or 4) a preventable adverse event. The prevalence of death due to medical error leading to patient deaths has been established in the literature. From studies that analyzed documented health records, we calculated a pooled incidence rate of 251,454 deaths per year.(1) If we project this quantity into the total number of deaths in the year 2013 (2,596,993 deaths), they would account for 9.7% of all deaths in the nation.(2) This figure far surpasses the current third leading cause of death on the CDC's most recent rank order. Moreover, the 251,454 estimate we derived from the literature is an underestimate because the studies conducted did not include outpatient deaths or deaths at home due to a medical error.

Currently, the CDC uses a deaths collection system that only tallies causes of death occurring from diseases, morbid conditions, and injuries.(3) The information on death certificates filled out by physicians, funeral directors, medical examiners, and coroners form the basis of an annually updated list of the most common causes of death. We found that the death certificate form has a major limitation. Since 1949, when the U.S. adopted the International Form of Medical Certificate of Cause of Death, the CDC has tabulated the national mortality statistics by assigning an International Classification of Disease (ICD) billing code to the cause of death.(4) As a result, causes of death not associated with an ICD code, such as human and system factors in medical care,

are not captured. While current system is consistent with World Health Organization (W.H.O.) guidelines, allowing common measurement definitions between countries, the U.S. should be a leader in recognizing the role of medical error in national health statistics.

We suggest that the CDC allow clinicians to list medical error as the cause of death, and, in the interim, the CDC should list medical error as the third most common cause of death in the U.S. after heart disease (611,105 deaths per year) and cancer (584,881 deaths per year) and replacing respiratory disease (149,205 deaths per year).(2) The U.S. government and private sector spend a lot of money on *heart disease* research and prevention. They also spend a lot of money on *cancer* research and prevention. It is time for the country to invest in medical quality and patient safety proportional to the mortality burden it bears. This would mean research in technology that reduces harmful and unwarranted variation in medical care, the non-technical (behavioral) and communication skills that prevent harm, ways to improve the diagnostic accuracy, and the prevention before and rescue after a preventable adverse event. Each year, the U.S. Agency for Healthcare Research and Quality receives thousands of project proposals aimed at reducing preventable harm, but very few ever get funded because funding work on the delivery of care has historically taken a back seat to funding new treatments. Our Johns Hopkins research team even submitted a grant proposal to reduce unnecessary cancer surgery to the National Cancer Institute, but it was rejected from the N.C.I. despite being funded by the prestigious Robert Wood Johnson Foundation. Based on the prevalence of the problem of poor quality medical care, the human suffering and price tag due to error are significant and merits proportional funding.

The ICD code book is limited in its ability to be a classification system for keeping national health vital statistics due to its inability to capture most types of medical error. Creating one additional field on the death certificate form to inquire if immediately preventable complications stemming from the patient's medical care was the primary contributor to the patient's death would advance the science of safety. This information should also have the same medico legal protection that currently protects hospital quality improvement data from legal discovery.

Appropriately recognizing the role of medical error in health care has enormous implications for medicine. Drawing on reliable data, deaths from care, rather than from the disease that brought the person into care, should be addressed with the same resources and vigor as other scientific endeavors. At minimum, listing the death burden of medical error would help create an open dialog about the problem. Currently, deaths due to medical error result only in internal discussions in confidential forums such as a hospital's internal root cause analysis committee or a department's morbidity and mortality conference. These forums review only a fraction of detected adverse events and the lessons learned are rarely disseminated beyond the borders of a single department or institution. We need more honest conversations about the problem. It would also help the many clinicians who cope with the mental trauma, and even post traumatic stress disorder, after being involved in a patient death due to error.

The CDC's annual list of most common causes of death in the U.S. should strive for accuracy. It informs our country's national funding campaigns. An accurate list is important to appropriately shape the trajectory of public health initiatives in areas where the most people are being affected. It could also me an example to other countries around the world that also need to reform their methodology for collecting national health statistics.

Increasing the transparency of the magnitude of the problem can lead to the design of safer systems mitigating their frequency, visibility, and consequences in both the U.S. and internationally.

Reducing costly medical errors is critical towards the important goal of creating a safer, more reliable health care system. Measuring and understanding the problem is the first step.

Sincerely,



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## Literature Cited

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