Hidden Malpractice: The Underrepresentation of Medical Error in U.S. Mortality Data

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At 3:54 PM, on June 14th, 2019, the National Rifle Association posted a highly controversial tweet comparing gun-related mortality to other causes of death. In their tweet, the NRA argued that gun-related deaths pale in comparison to "medical malpractice deaths [which] stand at over 500 times higher than accidental gun-related fatalities, with as many as 400,000 deaths per year."[1] A cursory investigation of the internet reveals dozens of articles with similar statistics - all of them stating that medical error accounts for anywhere from 200,000 to 400,000 deaths a year, a claim that firmly places medical error as the third leading cause of death in the United States. This widespread statistic originates from a 2016 BMJ article titled "Medical error - the third leading cause of death in the U.S.", written by John Hopkins medical researchers Martin Makary and Michael Daniel. Though numerous sources have hailed the "results" of this article as concrete fact, Makary and Daniel's article is not a scientific study, but rather an extrapolatory piece more concerned on bringing light to the lack of national data on medical error than calculating the exact number of deaths that occurred due to physician error. I contend that the circulation of this particular statistic represents the widespread lack of health data on the topic of medical error, a "black box" phenomenon that has only been perpetuated by the lack of counting and the rigidity of previous ICD classifications.

As one progresses through the article, it becomes clear that Makary and Daniel are not reporting the results of a study they conducted themselves. Instead, they aggregate four smaller studies (none of which collected national data), ranging from one study that investigated North Carolina hospitals from 2002-2007 to another that studied a specific population of Medicare patients, among other studies. After analyzing them, Makary and Daniel calculated a mean rate

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[1]NRA TV. "'If Accidental Gun Deaths Are an Epidemic, What Does That Say about Other Deaths in This Country? 'for Instance, Medical Malpractice Deaths Stand at over 500 Times Higher than Accidental Gun-Related Fatalities with as Many as 400,000 Deaths per Year." -@Dloesch Pic.twitter.com/Zppdeaxunw," Twitter (Twitter, June 14, 2019), https://twitter.com/NRATV/status/1139622032008605696.

of medical error related deaths, which they then extrapolated to "all registered U.S. hospital

admissions in 2013."[2] Using this method, Makary and Daniel estimated that their collected data

"translated to over 400,000 deaths a year", meaning that medical error would theoretically be

"the third most common cause of death in the U.S."[3] However, unlike the way in which sources

like the NRA have used this statistic, Makary and Daniel intended for this number to be used to

draw attention to the undercounting and representation of medical error in mortality statistics.

Makary and Daniel's article, at its core, aims to bring attention to the underrepresentation

of medical error and its "contribution to mortality", as well as to "call for better reporting" of

such occurrences."[4] In many aspects, their argument is similar to the argument that health

researchers China Mills and Eva Hilberg make in their article "The construction of mental health

as a technological problem in India." In their work, Mills and Hilberg center their case study of

mental health in India around the concept of the "black box", a phenomenon that works to

obscure and "render invisible" the "complex array of decisions and judgements that go into the

creation of" health data.[5] The phenomenon of the "black box" is also present in the narrative of

mortality data collection referred to by Makary and Daniel. During their article, there is a distinct

focus on the way in which mortality data is collected from death certificates. Currently, death

certificates rely on "assigning an International Classification of Disease (ICD) code to the cause

of death."[6] Unfortunately, as Makary and Daniel argue, the ICD method of categorization (which

has been in use since 1949) fails to capture "human and system factors" such as poor

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[2] Martin A Makary and Michael Daniel, "Medical Error-the Third Leading Cause of Death in the US," The BMJ (British Medical Journal Publishing Group, May 3, 2016), https://www.bmj.com/content/353/bmj.i2139.
[3] Makary and Daniel, "Medical Error - the Third Leading…".
[4] Makary and Daniel, "Medical Error - the Third Leading…".
[5] China Mills and Eva Hilberg, "The Construction of Mental Health as a Technological Problem in India," Critical Public Health (Taylor and Francis Group, August 13, 2018), https://www.researchgate.net/publication/327017976_The_construction_of_mental_health_as_a_technological_problem_in_India.
[6] Makary and Daniel, "Medical Error - the Third Leading…".

communication and judgments that lead to patient deaths, effectively acting as a "black box" that obscures the prevalence of medical error in the broader landscape of patient death. This is largely due to the fact that the ICD aims to narrowly categorize death based on "tightly based proximal causes (eg, suicide, currently the 10th leading cause of death in the USA) or on well-specified physiological disease processes (eg, heart disease, the first-leading cause)."[7]

Because medical error related deaths are complicated to define and are "only rarely the direct cause (e.g. when a patient is given a massive overdose of an anesthetic agent)", medical error is essentially erased as a prominent cause of death in the U.S.[8] Take, for instance, the narrative of the young woman who died after a successful transplant operation that is detailed in Makary and Daniel's article. After the woman came back to the hospital post-transplant with general pain complaints, doctors conducted a variety of tests/procedures, including a pericardiocentesis (a procedure in which a needle is inserted around the heart tissue to extract excess fluid). Once an autopsy was performed after the woman's death, it was discovered that a mistake in the pericardiocentesis procedure had caused the needle to graze the woman's liver and result in a lethal pseudoaneurysm. Despite this, the "death certificate listed the cause of death as cardiovascular."[9]

To address this issue, the majority of the studies used in Makary and Daniel's article relied on a relatively new counting mechanism called the IHI Global Trigger Tool, which was developed in 2003. The IHI Global Trigger Tool, unlike the ICD classification, uses teams of "nurses, pharmacists, and respiratory therapists" to conduct a review of the hospital's record on a

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[7]Kaveh G Shojania and Mary Dixon-Woods, "Estimating Deaths Due to Medical Error: The Ongoing Controversy and Why It Matters," BMJ Quality & Safety (BMJ Publishing Group Ltd, May 1, 2017), https://qualitysafety.bmj.com/content/26/5/423.
[8]Shojania and Dixon-Woods, "Estimating Deaths Due to Medical Error…".
[9] Makary and Daniel, "Medical Error - the Third Leading…".

patient's death, which is then further reviewed by a "physician who authenticates the findings."[10] The studies that used this tool (which has since been adopted in hundreds of hospitals around the country, but has yet to be nationally implemented),[11] including the 2008 Medicare study referred to by Makary and Daniel, have also reported much higher rates of medical error in patient deaths than studies purely basing their results off of the ICD classification. This further scrutiny is a major reason as to why Makary and Daniel point to these studies as being more accurate than past studies that have been conducted.

Though news sources may misconstrue the statistic originating from Makary and Daniel's article that places medical error as the third leading cause of death in the U.S. as an objective fact, the greater value of the statistic comes from the social construction of the number itself. A further investigation of mortality data and how it resulted in a much higher estimate of medical error deaths reveals how "not counting" becomes a form of erasure that diminishes patient experiences and the prevalence of deep-rooted issues within the medical system. As Makary and Daniel demonstrate, the ICD classification of causes of death fails to represent instances of direct physician error, instead replacing these experiences with other underlying causes of death. Furthermore, the statistic reveals the importance of calculating health data. While the statistic from Makary and Daniel is only a broad estimate, such numbers are important to point out the lack of proper national data collection and the need to establish a concrete metric that can be "tracked, graphed, and compared across time and space."[12] Just as anthropology researcher Wendland alludes to in her chapter titled "Estimating Death: A Close Reading of Maternal Mortality Metrics in Malawi", the importance of health data is not purely derived from the

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[10]Office of Inspector General, U.S ..., "IHI Global Trigger Tool for Measuring Adverse Events - Second Edition," Office of Inspector General, 2009, https://oig.hhs.gov/documents/toolkits/933/IHI_Guidance_Document_-_Hospital_Trigger_Tool.pdf.
[11]Office of Inspector General, U.S ..., "IHI Global Trigger Tool…"
[12] Vincanne Adams and Claire L Wendland, "Estimating Death: A Close Reading of Maternal Mortality Metrics in Malawi," in *Metrics What Counts in Global Health* (Durham, NC: Duke University Press, 2016), pp. 57-81.

accuracy of the statistic, but rather from the political attention, financial resources, and scrutiny that such statistics garner.

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