Letters to the Editor

Correcting Overestimations in Self-Harm Visit Data

To the Editor: I read with great interest the article "National Trends in Emergency Department Visits for Suicide Attempts and Intentional Self-Harm" by Dr. Bommersbach and colleagues, published online on June 4, 2024, in the *Journal* (1). Our research, using the same National Hospital Ambulatory Care Survey (NHAMCS) data set for the years 2016–2020 and published in 2023, also observed an upward trend in emergency department visits for self-harm, though with a more modest increase than the current study (2). I contend that this discrepancy arises from Dr. Bommersbach et al.'s classification methods, which seem to have artificially inflated the reported number of self-harm visits.

The authors utilized ICD-10 CM codes T36–T65 for classifying self-harm visits in the 2016–2021 NHAMCS data set (2). This use of the ICD-10 CM codes T36–T65 indiscriminately includes all poisoning cases—whether accidental, intentional, or assault-related. For instance, ICD-10 code T58, which encompasses carbon monoxide poisoning, does not distinguish between accidental and intentional poisoning in the public version of the data set. The specific details necessary to discern intentional self-harm or suicide attempts, such as suicidality and intentional overdose indicators, are captured only in the fifth or sixth digits of the ICD-10-CM codes—details only available in the restricted research version of the data set (3). It is to be noted that the authors have stated that they have used the public version of the data set.

The inclusion of unintentional, accidental, and assault-related poisonings due to the broad categorization of these ICD-10 codes has likely led to a significant overestimation of self-harm visits. In 2021, more than half of all visits related to injury, trauma, overdose, or adverse effects were unintentional (4).

This methodological oversight is particularly apparent from the abrupt three times jump in reported self-harm visits in 2015–2016, compared to 2013–2014 in the present study (1). The most likely explanation for this massive and sudden surge is the misclassification by the authors of accidental and unintentional poisonings as self-harm visits in the data set from 2016 onwards.

Given these concerns, I recommend a critical reassessment of the classification strategies employed in the study. Specifically, for ICD-10 codes T36–T65, it is imperative to include only those instances where the reason for visit codes explicitly indicate self-harm. Such adjustments will prevent the misclassification of accidental poisoning and assault-related incidents as self-harm, thus ensuring a more accurate representation of the data. I appreciate the opportunity to discuss these critical issues.

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Abid Rizvi, M.D.

West Virginia University, Morgantown, W.V.

Send correspondence to Dr. Rizvi (abidrizvi021@gmail.com).

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Correcting Overestimations in Self-Harm Visit Data: Response From Bommersbach and Colleagues

To the Editor: We thank Dr. Rizvi for his thoughtful discussion of the classification methods used in our study (1). His primary concern is the inclusion of T36–T65 codes that comprise unintentional, intentional, and undetermined poisoning visits. He contends this led to an overestimation of self-harm visits and recommends including only intentional self-harm codes. We acknowledge that this data limitation in classification of self-harm visits is an important consideration when interpreting our study results.

There is, however, an established research practice of including undetermined injuries as suicide-related events. Some even view this practice as a quality standard (2) as this inclusion may be important from a clinical and psychometric perspective. Clinically, it is often difficult to determine the intent of overdose events in the emergency department and a substantial percentage of intentional self-harm events are incorrectly coded as unintentional or undetermined. In a

study of ICD-10-CM codes, 8%–28% of injuries/poisonings coded as unintentional or undetermined were found to be intentional (3), while a study of ICD-9-CM codes found that 80% of undetermined intent codes among individuals with mental health diagnoses were intentional events (4). Additionally, some overdose events have both suicidal and unintentional characteristics. One study found that nearly 60% of opioid overdose survivors had at least some desire to die prior to their overdose (5). From a risk standpoint, individuals discharged from the emergency department after intentional, unintentional, and undetermined overdoses, for example, are all at significantly increased risk of suicide (6).

Psychometrically, reliance on intentional self-harm ICD-10-CM codes likely underestimates the true number of intentional self-harm visits. In a multi-site ED study, intentional self-harm codes identified only 36% of suicide attempt visits (7). Several studies have demonstrated that including undetermined poisoning codes improved sensitivity of detecting self-harm visits by 25%–60% (4, 8).

Dr. Rizvi concludes that inclusion of all poisoning cases likely explains the increase in 2015–2016 self-harm visits. As was discussed, however, the 2015–2016 transition to ICD-10-CM coding resulted in a large increase in intentional self-harm visits (9). Thus, it was not surprising to see a large increase in self-harm visits in 2015–2016 and our classification methods unlikely fully explain this observation. A post hoc analysis that extended all manners of poisoning codes over the entire study period only modestly reduced the total average annual percentage change from 19.5% to 14.7%.

Our results are also generally consistent with a study of deliberate self-harm emergency department visits using the National Emergency Department Sample. This study found a 329% increase in deliberate self-harm visits from 2007 to 2016 among children and adolescents (10).

In summary, we agree that the broader classification of intentional self-harm visits used in this study is an important consideration and limitation. However, there is a clinical and psychometric argument for broadening classification approaches beyond only intentional self-harm codes to improve capture of high-risk visits. We are grateful to Dr. Rizvi and appreciate the opportunity to discuss these considerations in greater detail.

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Tanner J. Bommersbach, M.D., M.P.H.
Mark Olfson, M.D., M.P.H.
Taeho Greg Rhee, Ph.D.

Department of Psychiatry and Psychology, Mayo Clinic, Rochester, Minn. (Bommersbach); Department of Psychiatry, Vagelos College of Physicians and Surgeons, Columbia University Irving Medical Center, New York (Olfson); Department of Epidemiology, Mailman School of Public Health, Columbia University Irving Medical Center, New York (Olfson); New York State Psychiatric Institute, New York (Olfson); Department of Psychiatry, Yale University School of Medicine, New Haven, Conn. (Rhee); New England Mental Illness, Research Education, and Clinical Center, VA Connecticut Healthcare System, West Haven, Conn. (Rhee); Department of Public Health Sciences, University of Connecticut School of Medicine, Farmington, Conn. (Rhee).

Send correspondence to Dr. Rhee (tgrhee.research@gmail.com).

The authors report no financial relationships with commercial interests.

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