

A scoping review of global neurosurgery and ethics

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Abstract:

Neurological disorders are the leading cause of disability and second for death globally.[1] In 2015, the landmark Lancet Commissions article by Meara et al. highlighted the global inequalities present in accessing surgical services in general for low- and middle-income countries (LMIC).[2] In a notable example, access to safe care significantly affects children with hydrocephalus, one of the most prevalent and increasing neurosurgical conditions in LMIC.[3] Given this background, there has been a professional push for the field of neurological surgery within high-income countries (HIC) to address the immorality present in these global and structural inequalities. However, the extent to which ethical discussions occur in global neurosurgery, and in regard to what topics, is unclear. So far, a scoping review has been conducted at the intersection of ethics and global surgery, with its results identifying four major ethical domains of discussion and that the majority of the publications are originating from authors in HIC.[4] Given global neurosurgery uniquely addresses pathologies with high levels of morbidity and mortality, it is unclear how such results apply to the intersection of ethics and the global neurosurgery literature. To clarify this ambiguity, we propose a scoping review specifically pertaining to the topics of global neurosurgery and ethics by asking “[w]hat are the ethical considerations reported in the current literature to guide the practice of global neurosurgery?” This review will follow PRISMA-ScR guidelines as relevant databases are screened for articles that meet inclusion criteria.[5] Ultimately, the results aim to provide a summary of the burgeoning contemporary neuroethical landscape as it pertains to global neurosurgery so that gaps in the literature can be identified and the field’s differences to global surgery can be better understood.

Methods:

1. Protocol conducted in line with PRISMA-ScR guidelines and like “Ethical considerations in global surgery: a scoping review” by Grant et. al in 2020.
2. Six major public scholarly databases were analyzed up to 12/2023:
 - CINAHL, Embase, JSTOR, Medline, PubMed, Web of Science

A final collection of articles was reviewed for the inclusion criteria of:

1. Resulted from the following search: (“ethic*” OR “moral*”) AND (“global” OR “internation*” OR “low-income” OR “middle-income” OR “LMIC” OR “developing countr*”) AND (“neurosurg*” OR “neurological surgery”)
2. International affiliations/topics
3. Relevant content written in English
4. Discussions surrounding ethical practices, value judgements, or professional philosophies

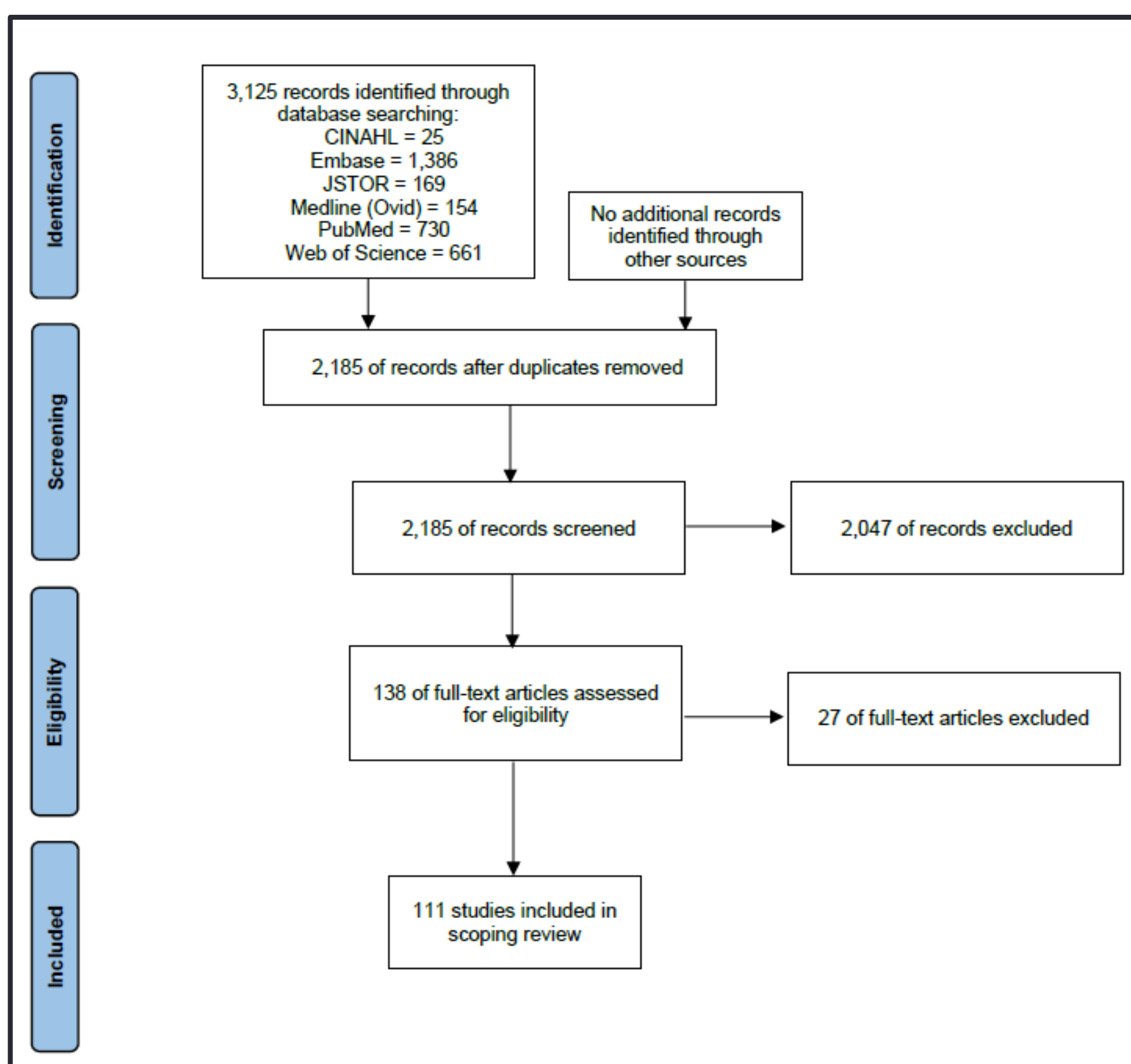
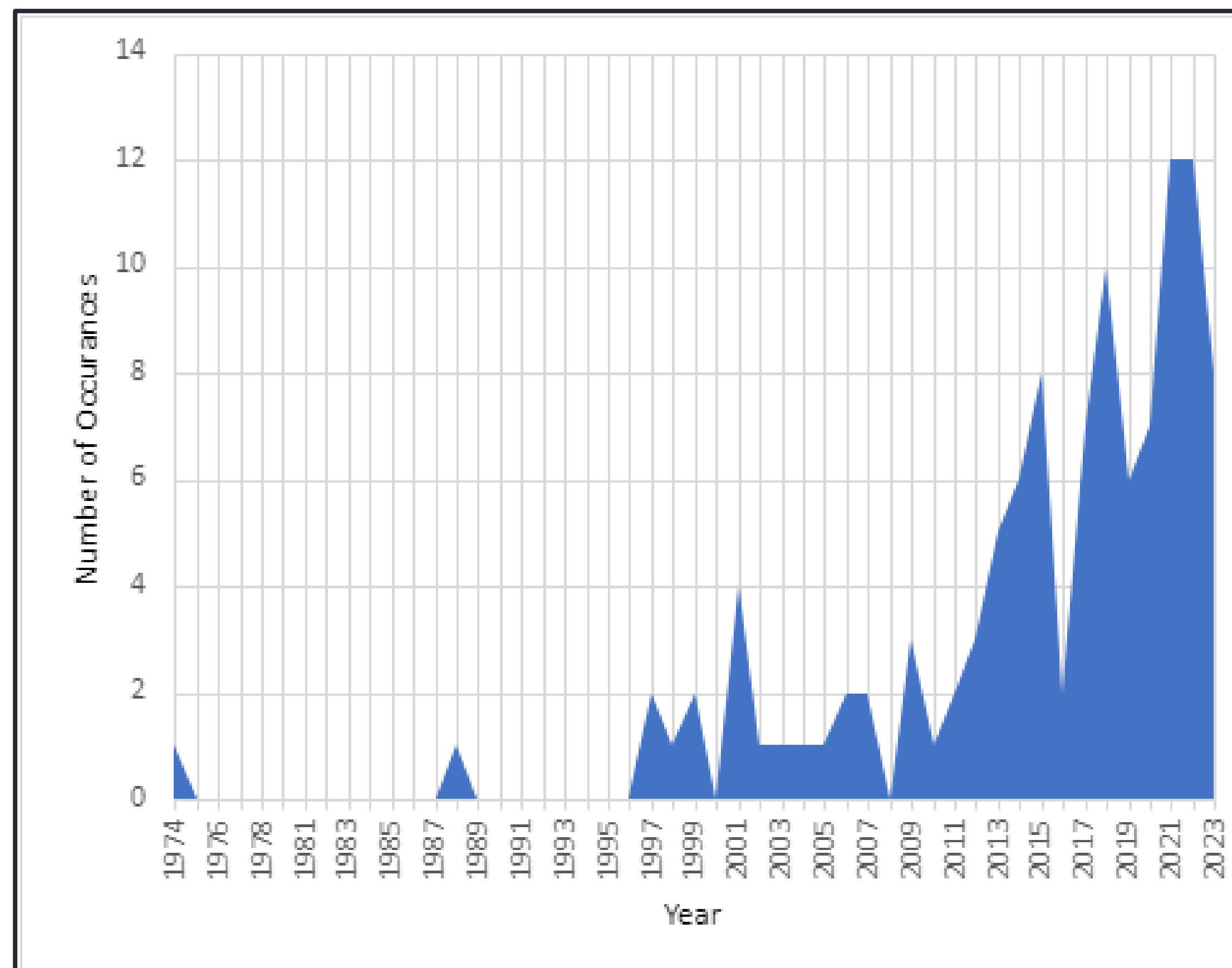


Figure 1: PRISMA flow chart of the scoping articles included in the analysis.

Results:



Graph 1: Trend of Articles on The Topic of Global Neurosurgical Ethics Over Time (1974 to 2023).

Neuroethical Implications:

Our preliminary results have demonstrated articles with a focus on Psychiatric Surgery were affiliated with more HIC authors, as were articles focused on specific LMICs.

In addition, our preliminary results have begun to illustrate the contemporary neuroethical landscape as it pertains to global neurosurgery to identify areas of the literature with limited research and highlight the differences in global neurosurgery to global surgery.

Limitations:

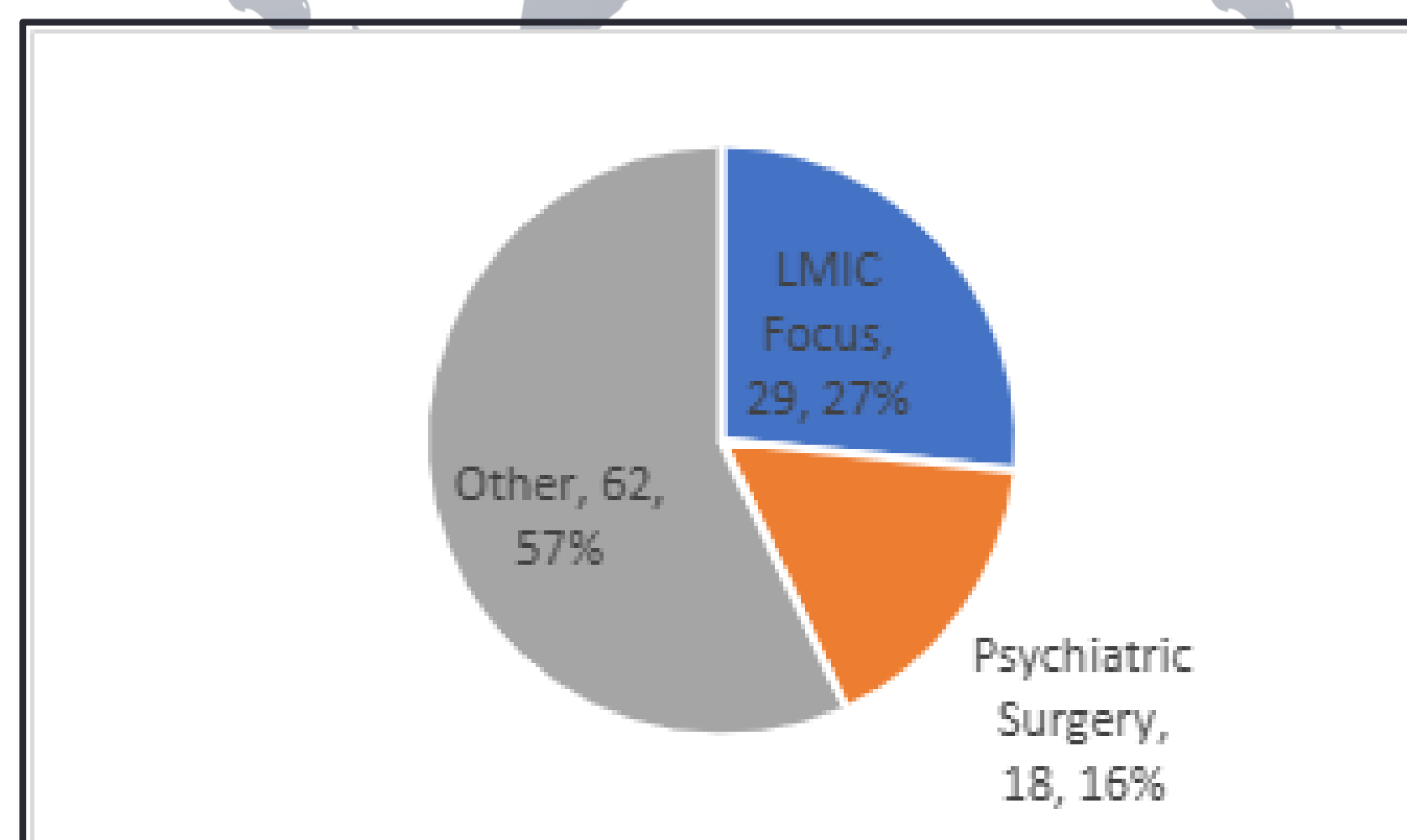
The results presented are preliminary and include all but two articles. The ethical topics discussed in this cohort still need to be analyzed and interpreted. Lastly, results are likely biased by the need for the articles to be published in English.

Next Steps:

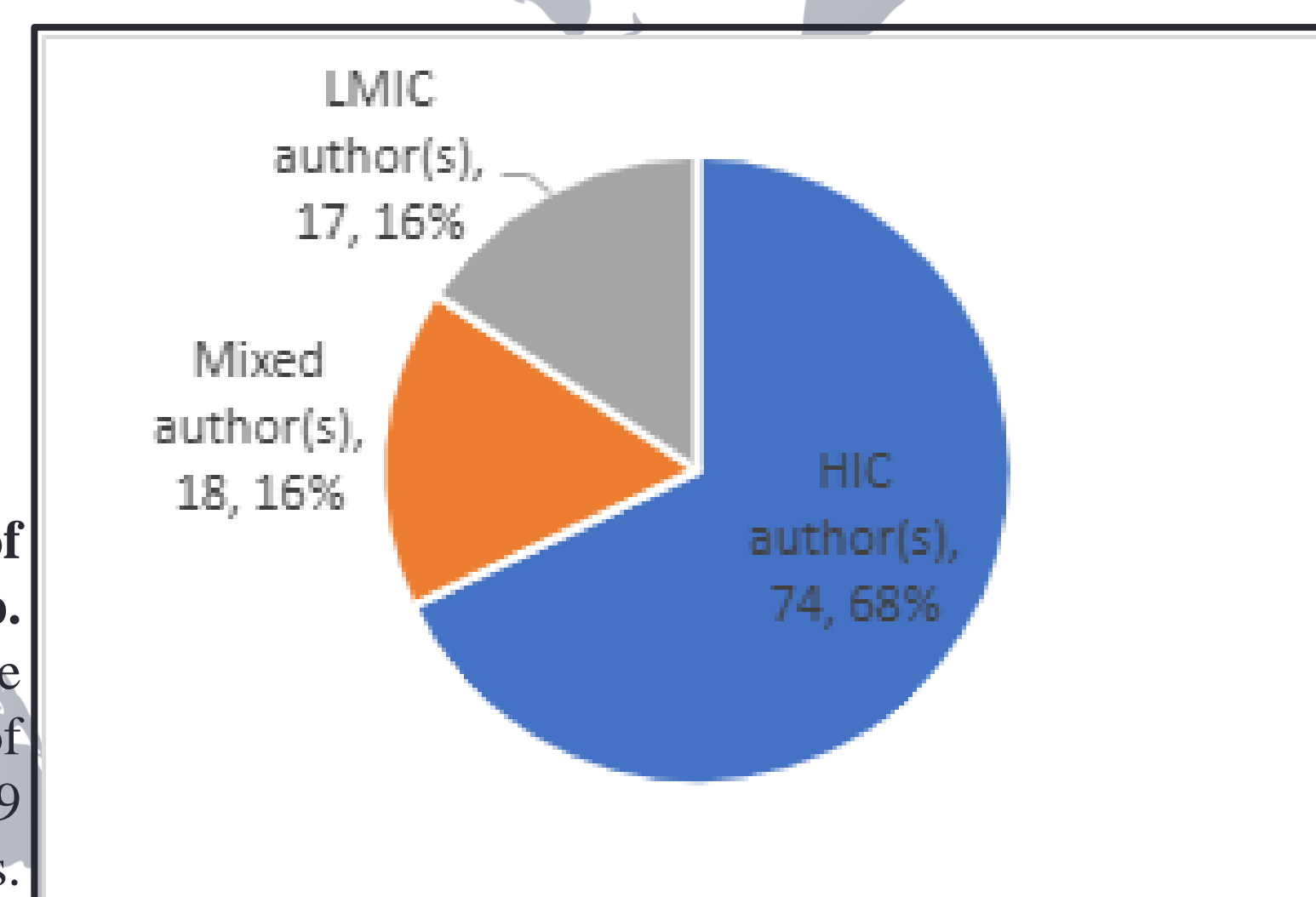
We will be conducting further inductive ethics coding to delineate specific topics discussed frequently and identify gaps in the literature. These will primarily be compared to the findings from “Ethical considerations in global surgery: a scoping review” by Grant et. al.

References:

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6. Fleshgrinder. English: Blank globe, focus on Europe. 2009. https://commons.wikimedia.org/wiki/File:Blank_globe.svg (accessed 9 April 2024)
7. Moher D, Liberati A, Tetzlaff J, et al. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLOS Med*. 2009;6:e1000097.



Graph 2: Percentage Breakdown of Article Focuses. Of the articles meeting inclusion criteria, distribution of general topic was analyzed as pertaining to Low- and Middle-Income Countries (LMIC) and Psychiatric Surgery. *Includes 109 of the 111 identified articles.



Graph 3: Percentage Breakdown of Authorship. This graph illustrates the percentage breakdown of author location. *Includes 109 of the 111 identified articles.

Comparison to Prior Findings:

Compared to “Ethical considerations in global surgery: a scoping review” by Grant et. al in 2020, our authorship data obtained is relatively similar to the roughly 80% of authorship with HICs affiliations. Namely, our findings show roughly 75% of authorship was completed by those affiliated with HICs (Graph 3).

Interestingly, while Grant et. al had 55 articles in their cohort we had roughly double, 111 (Figure 1). This discrepancy, may be due to our broad inclusion criteria of what counts as an ethical argument as well as international affiliations (e.g., authorship and article focus).