

# Journal Pre-proof

Numbers don't lie – but tell only part of the story

James M Brophy, MD PhD

PII: S2589-790X(23)00061-6

DOI: <https://doi.org/10.1016/j.cjco.2023.03.007>

Reference: CJCO 650

To appear in: *CJC Open*

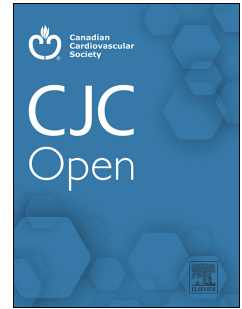
Received Date: 8 March 2023

Accepted Date: 8 March 2023

Please cite this article as: J.M Brophy, Numbers don't lie – but tell only part of the story, *CJC Open* (2023), doi: <https://doi.org/10.1016/j.cjco.2023.03.007>.

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2023 Published by Elsevier Inc. on behalf of the Canadian Cardiovascular Society.



**Numbers don't lie – but tell only part of the story**

James M Brophy MD PhD

McGill University Health Center Centre for Health Outcomes Research (CORE)

5252 Boul. de Maisonneuve West Room 2B.37

Montreal QC H4A 3S5

[james.brophy@mcgill.ca](mailto:james.brophy@mcgill.ca)

Funding sources: none

Disclosure: none

Journal Pre-proof

We appreciate Reiffel's interest in our paper and the opportunity it provides to reiterate important caveats when interpreting research findings.

First Reiffel mentions a concern with possible misclassification of diagnostic codes in administrative datasets. We agree and mentioned this among our limitations. However, this concern is mitigated by the data being generated by trained medical personnel and that these data sets have been used in over in 2,700 peer-reviewed studies (<https://www.merative.com/real-world-evidence>).

Second Reiffel notes, again as we mentioned in the original article, that propensity score methods can only adjust for measured covariates. However, Reiffel's specific concern about the impact of beta blockers was dealt with by exclusion, as both exposure groups were selected without any concomitant beta blockers. Similarly, SGLT-2 medication use was not unbalanced between the groups, as they were not on the market at the time of the data acquisition.

Third, the choice of research question, and by consequence the chosen outcome remains an essential element in any study. Reiffel argues that only unplanned atrial fibrillation hospitalizations should have been considered as an outcome, but most readers would 1) find the definition of "unplanned" to be potentially arbitrary and subjective 2) consider that outcome to be of lesser importance than our a priori chosen total repeat cardiovascular outcome measure.

Finally, as Reiffel suggests, different research questions including the effect of drug choice on AF symptoms or AF burden could have been chosen, but they quite simply were not our research question.

Accordingly, we disagree with Reiffel's assertion that "numbers can lie", rather the issue is not with the numbers per se, but rather with how they are generated and interpreted. We feel that the generation and interpretation of these numbers supports our conclusion that "given the large burden of disease with atrial fibrillation, a pressing need remains to reproduce and expand these research findings in different settings."