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CORR Insights®: The National Hospital Discharge Survey and the Nationwide Inpatient Sample: The Databases Used Affect Results in THA Research

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Where Are We Now?

When I began my career in health services research nearly 15 years ago, datasets were scarce, making it difficult to study clinical practice. Today, there are more datasets available than we can ever reasonably analyze, and there are a seemingly endless number of

important questions to study. At the same time, the ready access to data, combined with the ability to “publish” (quotation marks deliberate) “research” (quotation marks, again, deliberate) to the Internet at a moment’s notice, creates new and fundamental problems.

Methods matter. Choice of datasets, inclusion and exclusion criteria, and statistical methods are critical for

researchers, clinicians, and policy makers. Seemingly simple decisions have huge implications. If a researcher decides to use data from the US Medicare program, he or she has eliminated all hip fractures occurring in privately insured patients and most fractures in younger patients. A researcher who uses Medicare data, but eliminates all patients younger than age 65 (a common practice) has excluded a large number of younger patients enrolled in Medicare because of renal failure or disability. Each of these decisions impacts: 1) the actual results, and 2) the generalizability of the findings.

This CORR Insights® is a commentary on the article “The National Hospital Discharge Survey and the Nationwide Inpatient Sample: The Databases Used Affect Results in THA Research” by Bekkers and colleagues available at: DOI: [10.1007/s11999-014-3836-y](https://doi.org/10.1007/s11999-014-3836-y). The author certifies that he, or any member of his immediate family, has no funding or commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted article.

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Where Do We Need To Go?

Bekkers and colleagues remind us that choosing the right database matters. In the current study, the researchers used two widely available and rigorous databases (The National Hospital Discharge Survey [NHDS] and the Nationwide Inpatient Sample [NIS]) to

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explore differences in patient demographics, comorbidity, and outcomes in patients who received THA. Consistent with prior research [2, 3] the current study demonstrates that methodological nuances can yield vastly different results. Specifically, Bekkers and colleagues found that the two datasets differed with respect to patients' demographics, comorbidities, and outcomes. Such findings are completely expected and also tremendously important.

Why do different datasets yield different results? First, in the case of the current study, the NHDS and NIS include different hospitals and thus different patients. Second, both datasets relied upon ICD9-CM coding, and it is well known that coding practices differ across hospitals. Third, different hospitals have real differences in quality. Therefore, at least some of the differences in adverse events that were detected (eg, myocardial infarction, renal failure) after THA might reflect real differences in performance between hospitals rather than artifact.

Clinicians, researchers, and policy makers need to understand the deci-

sions (big and small) that are inherent in any research protocol. Journal editors and peer-reviewers should consistently provide this information in published manuscripts. In an era of blogs and endless "white papers" and "technical reports," the peer-review process becomes more important than ever.

How Do We Get There?

Journal editors certainly are doing their part [1]. Disclosure of conflicts of interest has been standardized to a large degree by the International Committee of Medical Journal Editors. Methodological issues have been made more consistent by guidelines—STROBE for observational studies, CONSORT for randomized trials.

We in the research community need to ask ourselves and our peers to follow these guides. Better peer-review and better research studies allow us as clinicians to be more confident in the studies we are reading.

Finally, I would like to see more replication. Studies of common orthopaedic conditions and procedures should be replicated using different databases until we are confident about which implants, which surgical techniques, and which procedures work best.

It is a long journey, but an important one.

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