Lack of Consistency in Reporting NIS Data in Arthroplasty Research

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INTRODUCTION: The use of the National Inpatient Sample (NIS) is expanding and has been especially useful in the realm of total joint arthroplasty (TJA). Due to the structure of the database, it is important to carefully curate the data using available variables to decrease miscoding. Currently, there are no specific guidelines when analyzing TJA and associated conditions. The purpose of this study was to review existing literature using the NIS and assess common practices and deficiencies in quality when querying this commonly used database.

METHODS: From 2010 to 2020, 144 papers on TJA using the NIS database were assessed. Six criteria were selected including diagnosis related group (DRG) code, principal procedure code for the admission, day of admission for principal procedure, elective admissions, unilateral vs. bilateral procedures, and use of primary diagnosis. Descriptive statistics were employed to calculate the rates of adherence to each individual category.

RESULTS: Of the 144 papers reviewed, the most common quality characteristic included in the description of the analysis was excluding non-elective admissions (41%), excluding bilateral procedures (18.1%) and querying using the admission's primary procedure code (18.1%). None of the papers reviewed queried based on the DRG code and only 10.6% of papers used the admission's primary diagnosis code.

DISCUSSION AND CONCLUSION: The current landscape of NIS powered studies demonstrates a lack of consistency which carries implications on the generalizability and quality of the results. Further quality assurance guidelines for future NIS papers are warranted.

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	Count	%	Count	%
DRG	144	100.0%	0	0.0%
Primary Proc	118	81.9%	26	18.1%
Day 1 or 0	138	96.5%	5	3.5%
Elective	85	59.0%	59	41.0%
Bilateral Controlled	118	81.9%	26	18.1%
Primary Dx	127	89.4%	15	10.6%