An Analysis of Chart Review Methodologies within Five Major Neuropsychiatry Journals

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Study Objective: Chart reviews are used often in both academic and non-academic settings to assess specific diagnoses, treatments, outcomes, or risk factors on specific patient populations. However, reliability and reproducibility of data produced in chart reviews may be limited by imprecise methodologies. This study's objective is to assess the proportion of chart review studies published in the subspecialty of neuropsychiatry which reported methods such as case selection, defining conventions, abstractor agreement, monitoring, blinding, and confirming interrater reliability.

Methods: Five journals were selected from the specialty of Neuropsychiatry through a process emphasizing both Journal Citation Index and Journal Impact Factor. Standards were determined by conducting a literature review and interviews with faculty from the University of Colorado School of Medicine, specifically those affiliated with the Mentored Scholarly Activity (MSA) program and Colorado Multiple Institutional Review Board (COMIRB). Articles from these journals that met the chart review criteria, published between January 1, 2022, and Dec 31, 2024, were then assessed for these standards.

Results: Roughly 2,005 articles were identified. Chart reviews were found to account for 1.95% of articles. Case selection criteria were described in 39 studies (100%). Variable definitions were described in 38 studies (97.4%). Standardized abstraction

forms were sufficiently addressed to meet this study's criteria in 34 studies (87.2%). Abstractor training was reported in 8 studies (20.5%) Periodic research meetings were reported in 1 study (2.6%). Periodic abstractor monitoring was mentioned in 1 study (2.6%). Abstractor blinding to study hypothesis was mentioned in 2 studies (5.1%). Interrater reliability was mentioned in 3 studies (7.7%). Interrater reliability was tested statistically in 1 study (2.6%).

Conclusion: Despite being a common method of data collection, chart reviews are less common in the neuropsychiatry journals this study assessed. These chart reviews would be strengthened in both reliability and reproducibility by clarifying methodologies. Rigorous methodologies may increase the power and reproducibility of conclusions of chart review studies; as well, such changes would likely decrease the error of such conclusions.

Keywords: Chart Review, Record Review, Retrospective Cohort Study, Procedure, Methodology, Retrospective Data Analysis