

Lee KJ, Tilling K, Cornish RP, Little RJ, Bell ML, Goetghebeur E, Hogan JW, Carpenter JR for the STRATOS initiative (2021): Framework for the Treatment And Reporting of Missing data in Observational Studies: The TARMOS framework.

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Missing data are common in medical research, and it is crucial to handle them appropriately to obtain valid inference. This paper presents a framework for handling and reporting missing data in observational studies. The framework has three steps: 1) developing an analysis plan including details on how missing data are going to be addressed, 2) examining the data checking the pre-planned methods are appropriate, and conduct the analysis, and 3) reporting the results from all analyses. They stress the importance of reporting all analyses, including results from a sensitivity analysis regarding the missingness mechanism. The framework is illustrated using a case study from the Avon Longitudinal Study of Parents and Children. It is hoped that using this framework will encourage researchers to thinking systematically about missing data and transparently report the effect on study results, therefore increasing the reproducibility of research findings.