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Project Title

How to handle missing spirometry data in population-based studies

Project Summary

Spirometry has increasingly been utilized in population-based studies including the Canadian Longitudinal Study on Aging (CLSA), to assess the presence of lung disease at the population level. According to the literature, about 10 to 30% of participants in population-based studies do not have valid spirometry data due to either contraindication from spirometry tests or poor quality spirometry. Of the 30,097 participants within the CLSA comprehensive cohort, 29.1% have no spirometry data available at baseline due to low quality spirometry or contraindication for spirometry and are considered as "missing" in the statistical analysis. The substantial amount of missing spirometry data may lead to efficiency reduction and serious bias, which undermine the validity of research findings.

Keywords

Missing data, Spirometry, Multiple imputation, Population-based study