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Abstract

This study examined the hypothesis that secondary use of data will lead to improvement in electronic data quality in the operating theatre. The study merged two theoretical approaches, research and Total Data Quality Measurement (TDQM). These approaches were used to measure the impact of secondary use of data and to bring about continuous quality improvement in data quality.

A pretest-posttest design was used to measure the data quality of 148 electronic surgical records against the quality dimensions completeness, concordance and timeliness. Quality interventions were based on secondary use of data from the pretest phase of the study findings and pretest posttest analysis undertaken using the z tests. The p value of significance was set at 0.5%.

The findings showed a non-significant improvement in completeness (88% to 92%, $p=0.1288$) and concordance (82% to 89%, $p=0.1105$), and a contrasting reduction in the timeliness (27% to 24%, $p=0.3155$). The null hypothesis was accepted. There was significant improvement in a number of surgical records for completeness (41% to 58%, $p=0.0045$) and concordance (33% to 58%, $p=0.0000$). For individual surgical fields, the data improved significantly in 7 items in the completeness data set and in 3 items in the concordance data set. The gaps in surgical data quality are confirming the procedure code, laterality specification and the timeliness in confirming the surgical procedure code.

The potential for secondary use of data to improve data quality was confirmed.