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#6 - Using the CFIR-ERIC approach to implement a new perioperative anaemia and iron deficiency assessment pathway

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Objectives/aims

Implementation of pathways to screen surgical patients for preoperative anaemia and iron deficiency remains limited. Implementation science offers theories, models and frameworks that support the uptake of evidence-based practices, but testing is needed to prove their utility in real-world settings. This study sought to measure the impact of a theoretically informed, bespoke change package derived using the CFIR-ERIC approach on improving the uptake of a Preoperative Anaemia and Iron Deficiency Screening, Evaluation and Management Pathway (PAIDSEM-P).

Methods

A pre-post interventional study using a type-two hybrid-effectiveness design evaluated the impact of the change package using patient, provider, cost and implementation measures. Four hundred (400) medical record reviews provided the dataset (200 pre-implementation, 200 post). Propensity score-adjusted analyses determined the effect of the intervention on clinical outcomes, and an economic evaluation determined cost. Validated surveys facilitated data collection of implementation measures.

Main findings

Compliance improved significantly post-implementation (Odds Ratio 10.6 [95% CI 4.4-25.5] $p < 0.000$). Adjusted analyses showed clinical outcomes were not significantly changed for the proportion of patients with anaemia on day of surgery (Odds Ratio 0.792 [95% CI 0.5-1.3] $p = 0.32$), red cell transfusion (Odds Ratio 0.86



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[95% CI 0.41-1.78] $p=0.69$) and length of stay (Hazard Ratio 0.96 [95% CI 0.77-1.18] $p=0.67$). Cost savings of \$13,340 per patient were realized. Implementation outcomes were favourable for acceptability, appropriateness and feasibility. Despite a non-significant difference in clinical outcomes likely due to sampling, the change package significantly improved compliance with the PAIDSEM-P supporting the utility of the CFIR-ERIC approach.