

## Enhanced recovery after surgery implementation strategy: a systematic review of barriers and facilitators

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### Background

Enhanced Recovery After Surgery (ERAS) pathways are being increasingly adopted throughout the world based upon their success in reducing length of hospital stay, costs and complications following surgery. Implementation of ERAS programs is challenging because they are complex quality improvement interventions that involve a wide-range of healthcare providers. Few publications describe ERAS implementation in detail. We examined the body of published ERAS literature to assess how authors describe barriers and facilitators of their ERAS implementation strategy to identify, in aggregate, best practices that should be considered. We utilized the Consolidated Framework for Implementation Research (CFIR) framework to extract these elements and summarize common barriers and facilitators of ERAS implementation. CFIR has five major domains: (1) intervention characteristics; (2) inner setting; (3) outer setting; (4) characteristics of the individuals; and (5) the process of implementation and is a validated tool for studying implementation of quality improvement projects.

### Methods

A systematic review of was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) statement. An ERAS pathway was defined as, a bundle of multiple perioperative interventions that involve a multidisciplinary team, was labeled as something different than traditional care, and had a formal way of measuring outcomes. Included papers had to both specifically address barriers and facilitators of ERAS implementation and had to provide sufficient detail that the CFIR domain could be identified. Any discrepancy was settled by discussion and consensus. Data was extracted by two independent researchers using an agreed upon standardized extraction form.

### Results

The initial search strategy returned 4563 results. By screening titles and abstracts we eliminated 3883 studies leaving 680 articles for full text screening. Of these, 53 studies were included in our review. In brief, the broad facilitator themes identified by the CFIR framework were; 1. Adaptability of the program and ability to have and demonstrate early “wins” 2. Gaining buy in from both frontline providers as well as hospital leadership 3. having a strong ERAS team that met regularly 4. Utilization of champions and full time ERAS staff when possible 5. Having formal implementation framework when possible. The broad barriers identified were 1. Meeting with resistance to change from frontline providers 2. Not having

enough resources for implementation 3. External factors such as patient complexity or rural hospital location.

### **Conclusions**

The majority of ERAS literature focuses on the efficacy, safety, or cost effectiveness of these protocols. However, most clinicians are left wondering about how to implement these programs and whether or not it would be effective in the context of their home institution. In order to promote the spread of ERAS programs, more high quality studies on the implementation process itself are needed.