

# Rapid Cycle Implementation and Retrospective Evaluation of a SARS-CoV-2 Checklist in Labor and Delivery

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## INTRODUCTION

- The redesign and implementation of a perioperative workflow for obstetric patients was necessary in preparation for a COVID-19 outbreak.
- L&D units are unique perioperative areas as they are designed to create a shared experience for family members. Labor rooms, nursing stations and ORs are often within close proximity, resulting in overlapping foot traffic. A single COVID-19 parturient presenting for care would pose significant risk of viral exposure and spread, especially if emergency cesarean delivery was required.
- The Consolidated Framework for Implementation Research (CFIR) is often used post-implementation of an innovation to retrospectively assess factors influencing implementation successes and failures. However, there are few studies on factors influencing implementation outcome in the setting of rapid change to manage pandemic spread within hospital units.

**STUDY AIM:** Identify factors that influenced implementation of perioperative workflow for care of COVID-19 parturient by performing a retrospective analysis using The Consolidated Framework for Implementation Research (CFIR)

## METHODS

- A novel checklist was created for use in real-time as a cognitive aid for the perioperative care of a COVID-19 parturient.
- Rapid cycles of real time testing, focused debriefing, and on-site walkthroughs were carried out over a two week period with obstetric, anesthesia and perinatal team members, to identify areas of optimization (Fig 1).
- To identify factors influencing implementation, retrospective analysis was done using the Consolidated Framework for Implementation Research (CFIR). CFIR classifies intervention characteristics defined by operational domain, that have been shown to influence implementation success.
- Assessment of the implementation experience was ranked by a panel of 6 experts from the departments of Obstetrics, Anesthesia and Quality and Safety. A group deliberation approach was used because of the extensive history of collaborative work that existed in the L&D unit.

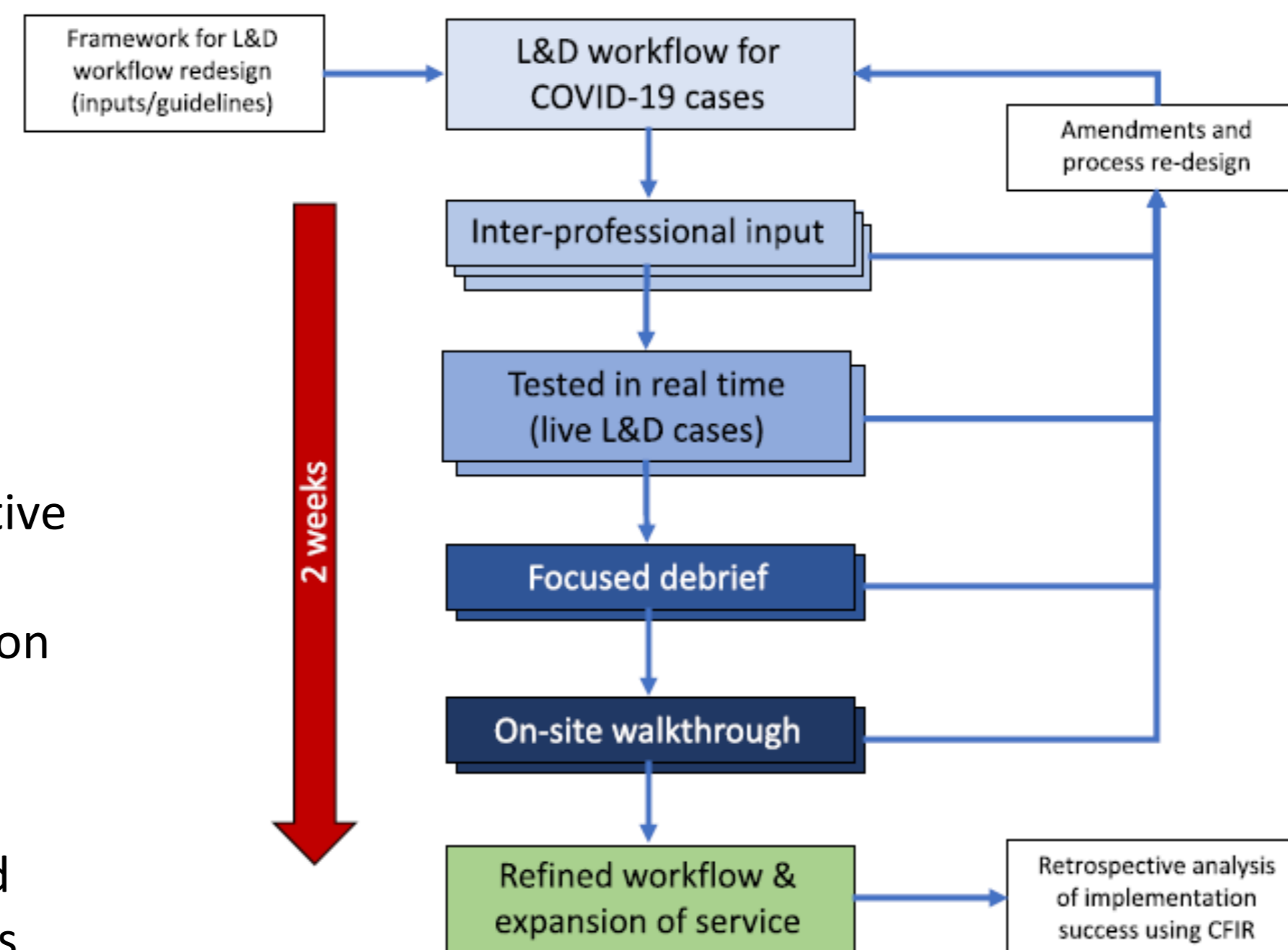
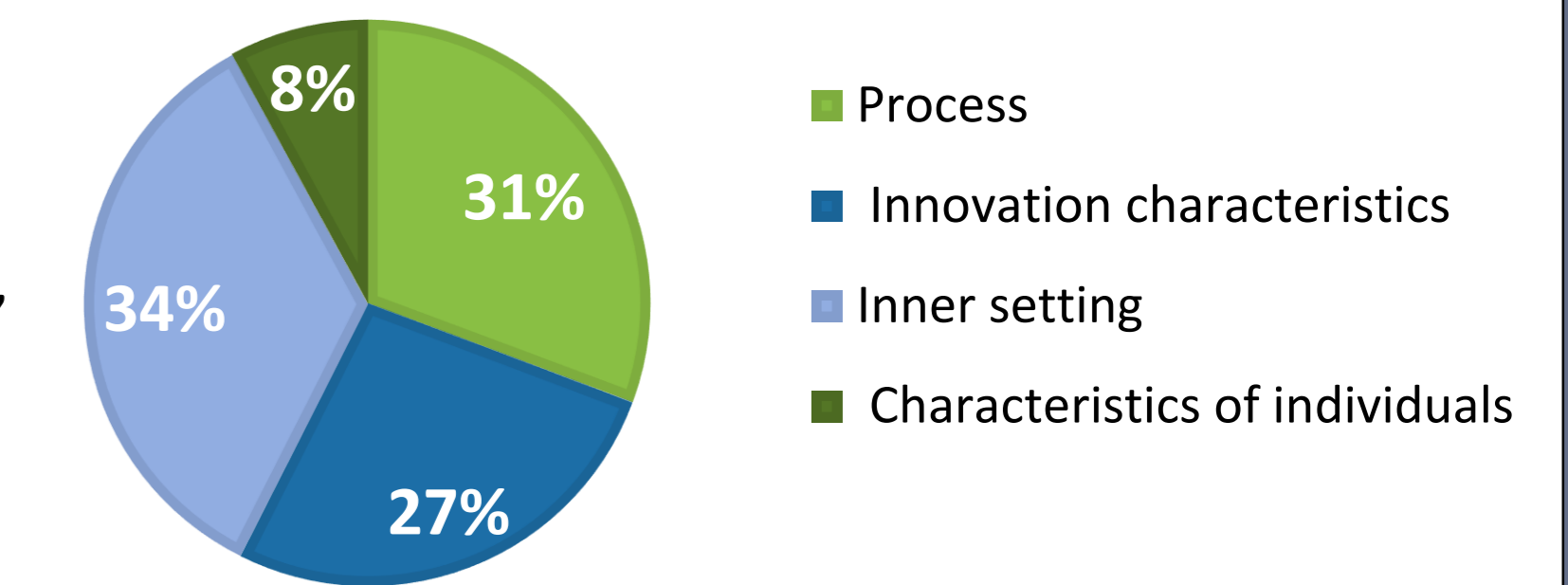


Figure 1. CFIR Consolidated Framework for Implementation Research

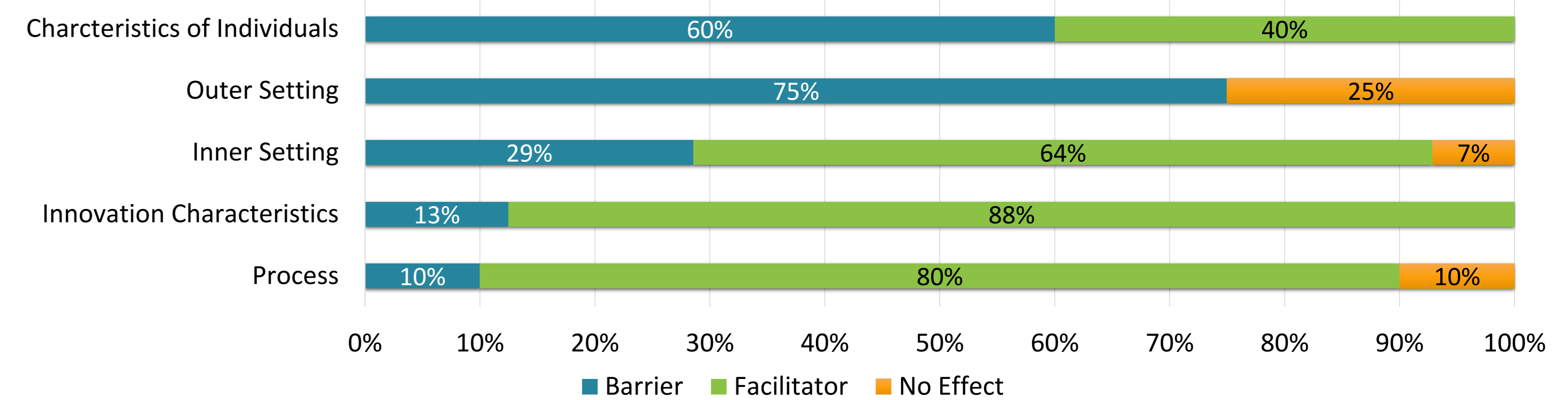
## RESULTS

- Analysis of factors influencing implementation using CFIR revealed domains of process and innovation characteristics as overwhelming facilitators for success.
- Constructs within the outer setting, inner setting, and characteristics of individuals (external pressures, baseline culture, and personal attributes) were perceived to act as early barriers.
- Constructs such as communication culture and learning climate shifted in terms of their influence over time.

Facilitators of Implementation of L&D Workflow



CFIR Domains Influencing Implementation of L&D Workflow



## DISCUSSION

- Process implementation and innovation characteristics were overwhelming facilitators of implementation. We believe that transparency in the development and implementation plan along with the design and content of the tool were significant influencers.
- Constructs within the inner setting like implementation climate and readiness for implementation likely acted to support the time pressure. We believe that clarity in the prioritization and readiness of senior leadership to support this innovation facilitated its rapid change implementation.
- Factors initially assessed as barriers such as communication, culture and learning climate, transitioned into facilitators once a perceived benefit was experienced by healthcare teams.
- These key factors provide important information for the implementation of rapid change during a time of crisis.