

# Using Implementation Science to Introduce a Wireless Monitoring System Integrated Within the Care Environment

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## Background

- The PARIHS (Promoting Action on Research Implementation in Health Services) framework guided the implementation of a research study of a wireless continuous monitoring system (CMS) capable of trending Respiratory (RR) and Heart Rate (HR) to identify patient deterioration.
- The framework helps to examine the interplay between evidence, context, and facilitation to translate research into practice.<sup>1</sup>

## Setting

- A 170-bed community teaching hospital within the largest healthcare system in Boston, MA.
- All inpatient Med-Surg units launched a wireless CMS integrated with the bed, nurse call system and communication badges.

## Purpose

- To utilize the PARIHS framework to develop a toolkit and guide for implementation of the CMS system.



## Methods

- The PARIHS framework concepts:
  - Evidence-
    - Focus groups and interviews:
      - To understand current practice, concerns, and barriers.
    - Assess user acceptance and concerns.
  - Context-
    - Creation of workflow diagram, a reference guide, QR code for quick reference at the bedside and targeted education.
    - Integration of alarms.
  - Facilitation-
    - A site primary investigator and facilitator addressed workflow issues and user concerns during weekly audits.

## PARIHS Framework



$SI=f(E,C,F)$  where SI=successful implementation is a function of E=evidence, C=context, F=facilitation

## Results

- Response times well below the 5-minute goal established in the literature.<sup>2</sup>
- Audits/feedback support
  - alarms are adjusted to reduce alarm burden.
  - Correction of inaccurate manual RR measurement.
- Movement between concepts in the framework guided change efforts in a fluid way.

## Implications

- The PARIHS framework provided structure and flexibility to modify the steps of implementation.

## Next Steps

- This study is expected to conclude in May 2023.
- Quantitative and qualitative analyses will provide comprehensive understanding of the results.
- The PARIHS framework is recommended to guide future studies.

## Contact Information

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## References

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