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 Rate (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.¹

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.

Results
• Response times well below the 5-minute goal established in the literature.²
• 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.

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References

PARIHS Framework

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

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References