Taking the Pressure Off the Clinician: Pressure Injury Clinical Decision Support Tool

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Introduction

Hospital-acquired pressure injuries (HAPI) are costly to both patients and healthcare organizations. HAPI cost in the US exceeds $26.8 billion and affects more than 2.5 people annually. [1]

The complexity of healthcare structures and processes, the increasing acuity of patients, and the lack of standardization across electronic health records add to the challenge for nurses to quickly identify patients at risk for pressure injuries (PI) and to implement prevention strategies.

Technology may provide a solution to address the complexities of PI prevention and management. [2] Clinical decision support (CDS) tools/applications offer a technological advance by providing the clinician expert information based on the context provided by the clinician themselves and supporting their observations with evidence-based guidelines.

Purpose

To develop an effective, efficient, and feasible PI prevention clinical decision support (PIP CDS) tool.
Aim 1. Development of a diverse council of key stakeholders to inform study design, procedures, outcomes, and development of a PI prevention CDS tool.
Aim 2. Development and evaluation of the PI prevention CDS tool.

Methods

Design: a mixed-method, multi-phase approach based on participatory-action methodology

Sample/Setting: a diverse and interprofessional group of national and local adult key stakeholders- patients/caregivers, content experts (nurses/clinicians) from acute, long-term, and home health settings.

Study procedures:

Phase 1. Key stakeholders were recruited and engaged to create and develop a PIP CDS algorithm and prototype.

Phase 2. SDLC Prototyping Model Feedback with a User-Centered design approach was used. [3] Specific tasks in the CDS prototype were evaluated by the key stakeholders.

   Instruments Used-
   • Subjective Mental Effort Questionnaire (SMEQ) to identify potential problem areas with the design and usability of the tool and craft effective solutions.
   • Computer System Usability Questionnaire (CSUQ) to determine the prototype's usefulness, information quality, interface quality, and overall satisfaction.

Phase 3. The final CDS tool to be evaluated by the key stakeholders and researchers.
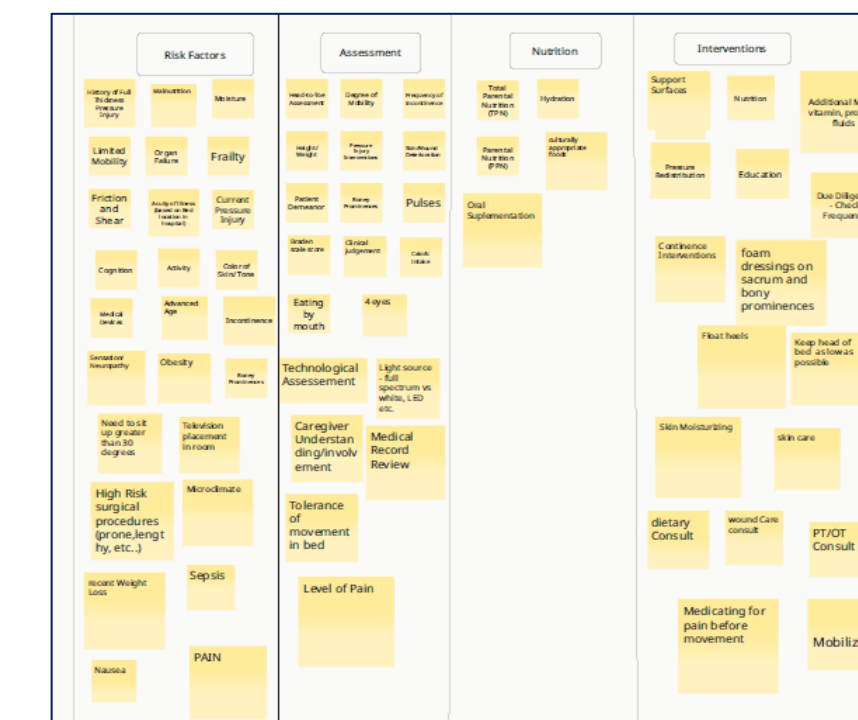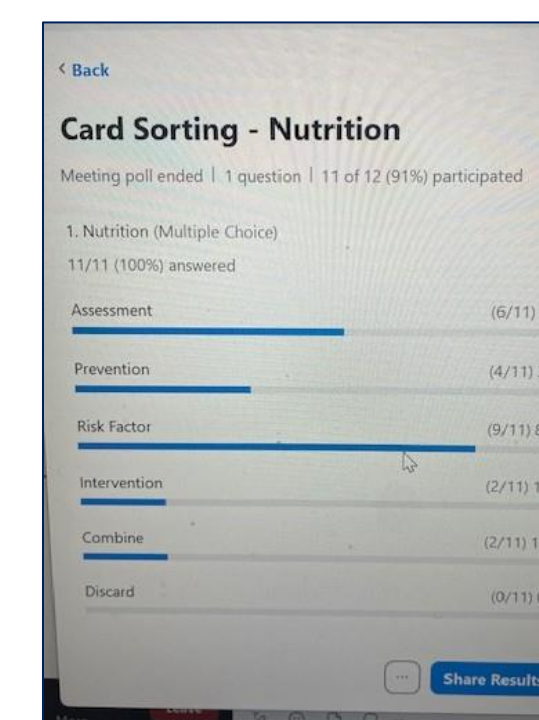
Results

Aim 1. A diverse key stakeholder council of 15 setting-specific national and local content experts (nurses/clinicians), patients, and caregivers was developed.

The council was comprised of 3 national experts, 1 long term care administrative expert, 2 patient caregivers, 2 patients, 1 technology expert, 1 ICU CNS leader, 3 direct-care nurses (ICU, ED, Burn unit), 2 home health experts, 2 WOC nurses.
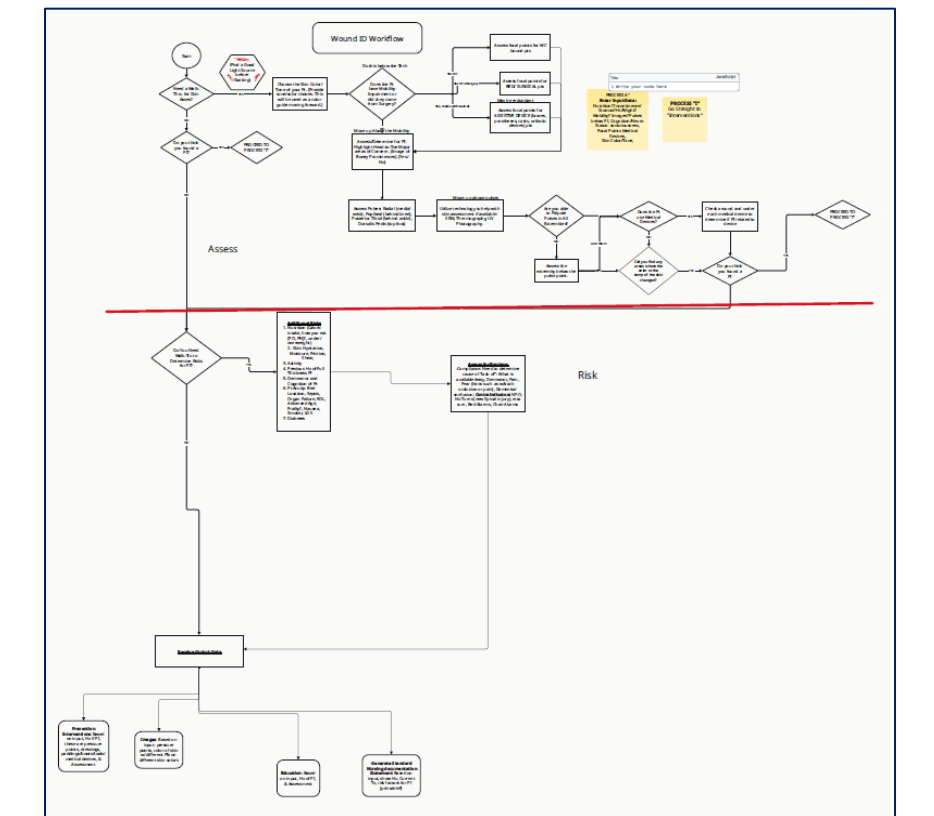

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Aim 2. Preliminary development of the PIP CDS tool was accomplished during monthly ZOOM meetings using breakout groups, whiteboards, and card sorting exercises, promoting a rich and varied discussion with a visual transcript of the process.

Results

Workflow

Conclusions

Reducing HAPIs in healthcare settings is a priority, yet nurses are often overwhelmed with patient care priorities and complexities, making it challenging to identify and implement evidence-based prevention strategies. Participatory action designed approaches have been shown to support sustainability of interventions, thus, an evidence-based PIP CDS tool, informed by a council of key stakeholders, can assist the nurse in implementing rapid and effective prevention strategies.

References
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