**EMPOWERMENT PATHWAY PREVENTING PRESSURE INJURY**

**MAIN OBJECTIVES:**

1. Enhance the data from the Highland Home Care Pilot (30 patients in 3 months, 2023) to establish evidence of efficacy of SEM scanner technology in enabling home carers to identify early warnings of skin damage, to prevent pressure injury.
2. Gather data to support the identification of risk of pressure injury on discharge from hospital through use of SEM scanner technology to support development of standard operating procedures for allocation of scanners and frequency of use, for cost effective implementation in care pathways.
3. Determine the critical factors for successful patient-led prevention actions (patient characteristics, home characteristics, care resources, prevention method preferences, compliance rates, failure characteristics)
4. Determine the timeliness of prophylactic resource allocation, where indicated by risk factors, via primary care systems (mattresses, heel covers etc).
5. Determine the impact of SEM scanner implementation on resource allocation via primary care systems (primary care professional awareness, digitized communication of SEM scanner data)
6. Identify potential healthcare system modifications in multi-agency use of SEM scanner readings, response and resource allocation pathways.

**STUDY POPULATION: patients discharged to home care services**

* Total hospital discharges to home care pathway: 240 per year
* Bedsores: 6% already evident on discharge
* Planned study population:
  + 100 patients discharged from hospital: assessment to develop risk criteria and ongoing scanning frequency prototcol
    - All high risk patients – resource allocation and pathway analysis
    - All medium risk patients – enhanced care procedures and patient-empowered prevention strategies
    - All low risk patients – patient empowered prevention strategies
* Recruitment by patient and carer informed consent on acceptance into HHC care pathway during admission procedure.
* *NOTE Additional Patient Experience Research study (NSS) with 30 patients. Recruitment by invitation to all patients and selection by representative sample for age, gender, risk, care package, socio-economic variables impacting on care, co-morbidity.*

**INCLUSION CRITERIA:**

* Discharge from hospital with no existing visibility of pressure injury risk

**STUDY DESIGN:**

* Prospective observational study
* 15 months + 3 months for data analysis
* Dissemination milestones at month 9, 12, 15 and 18 to inform and influence stakeholders (professional groups, policy makers, professional training bodies, practitioner alliances)
* Standard Scotland cost data for staff time, prophylactic resources, scanner and consumables, patient empowerment resources (printed and digitized information)

**INTERVENTION:**

* Risk stratification based on SEM scanner reading vs recorded risk in discharge plans based on visual assessment at time before discharge

**PHASE ONE – "Baseline" (3 months):**

* Analysis of discharge plans and patient risk factors on entry to care pathway
* Establish care procedures for high, medium and low risk
* Engage resource allocation gatekeeper professionals – training in SEM risk score assessment; data on time allocation to gatekeeping roll;
* Duration: January - March 2025 (3 months)

**PHASE TWO (4 months):**

* Period WITH SEM scanner in the discharge assessment pathway. New hospital discharges assessed with SEM scanner, risk assessment compared with pre-discharge visual assessment. Assess the impact of SEM on risk stratification and allocation to high, medium and low risk groups for ongoing scanning protocol. Assess the impact of scanning frequency protocol for economic model on cost of intervention vs prevention (device allocation, practitioner time, prophylactic resource allocation, patient outcomes).
* Duration: April - July 2025 (4 months with scanner).

**PHASE THREE (8 months):**

* Duration: August 25 – March 26 (8 months with scanner).
* Collect data on patient characteristics (patient care record), pathway characteristics (timeliness of resource allocation, compliance with enhanced care and self-care strategies, patient outcomes).
* SEM score frequency efficacy (based on proposed stratification) compared with baseline 20% patients across all risk groups assessed by SEM scanner score at monthly intervals.
* Professional data on time allocation to (prophylactic resource) gatekeeping role.

**Data Collection on all phases:**

* Characteristics of the patient group (identifier, age, gender, body weight, height, comorbidities, continence, nutritional status assessment, NRS, procedures/treatment applied)
* Characteristics of professional group (primary care, role in pathway)
* Anonymized data available for health economic analysis

**Data Analysis:**

* Patient comfort assessment (patient care plan)
* assessment of the device’s ease of use and its impact on the time required for existing procedures (staff record)
* Assessment of equipment usage and working time (staff record)
* Total cost of patient care during the period of the study (from discharge assessment to 2 successive no-risk scanner readings)
* Primary care professional assessment of scanner efficacy and influence on resource allocation, professional time (staff record, interview)
* Primary care mapping of prescription and resource allocation systems
* With Patient Experience Research and economic data – overall evaluation of the usefulness of SEM scanner assessment to manage resource allocation and patient empowerment.

**STATISTICS**

Based on an analysis of the data distribution (e.g. t-student, Mann Whittney, Friedman test/Conover's post hoc analysis, logistic regression, Kaplan Meier estimator, Propensity)

**QUALITATIVE DATA**

* Patient experience
* Staff experience, staff records
* Patient care plans/records

**STUDY SUPPORT AND ACADEMIC LINKS**

Three Scottish Universities have professional programmes in nursing, physiotherapy and occupational health of particular relevance to this study. We are actively exploring collaborations with the Centre for Health, Activity and Rehabilitation Research (Queen Margaret University) and Robert Gordons University (School of Healthcare Science; Professor of Allied Health Professions) and the Research Centre for Health (Glasgow Caledonian University) with a view to engaging PhD students and sponsorships.

Through NSS, study collaborators will have access to data science professionals via our Chief Data Officer, an internal active research network with post-doctoral researchers in healthcare science, user research, data and analytics; academic links with Universities of Glasgow and Edinburgh.

These academic links will be used to establish a Research Advisory Group for EPPPI.