

Application of a Human Factors and Systems Engineering Approach to Explore the Hospital to Home transition for patients with multiple long-term conditions.

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Patients with multiple long-term conditions (MLTCs) encounter difficulties in medication management after hospital discharge. This challenge is exacerbated by the inadequate communication between healthcare sectors. Our study investigated how hospital discharge impacted medication management for patients with MLTCs transitioning from hospital home. We employed a human factors and systems engineering approach and integrated the perspectives of patients, general practitioners (GPs) and homecare nurses (HCNs) to identify barriers and facilitators in the work processes involved.

Semi-structured interviews with 21 patients and focus group interviews involving additional 14 GPs and 10 HCNs were conducted. Home-dwelling patients with MLTCs ≥ 18 years using a minimum of 4 medications for a minimum of 2 separate conditions were included from two geriatric wards and one internal medicine ward at a hospital in Oslo, Norway. GPs and HCNs were included from various primary care units in Oslo, Norway. Utilizing the Systems Engineering Initiative for Patient Safety (SEIPS) framework we examined how individuals, tasks, tools, environment, and organizational context interact within work processes.

We identified 5 individual key work processes which were shaped by the interaction of the 5 work system elements: individuals, tools, tasks, environments, and organization. Person and technological factors were the most prominent in shaping performance. Patient empowerment was described as a facilitator. However, some GPs described the patients' medical knowledge as an important barrier affecting the patients' ability of understanding medication regimens. Organizational factors such as time limitation often affect the HCPs priorities when addressing patient needs. Additionally, the complexity of medication lists for one patient was a key task barrier that hindered optimal information flow between the patient, hospital, and primary care units resulting in outcomes such as increased workload for the HCP and potential medication errors for patients.

This study investigated the intricate hospital to home transition from the patient and HCP perspectives respectively. We discovered facilitators and barriers that could guide the implementation of strategies for a secure hospital to home transition and patient centered medication management for individuals with MLTCs.