

Physiology students can use a quality improvement approach to support a safe and efficient medication pathway in geriatric rehabilitation

Quality improvement (QI) science enhances patient care and safety by using a structured experimental approach to learning and tests of change. We piloted the involvement of physiology honours students in such activities (in partnership with clinical staff) as part of their research project. We aimed to establish a comprehensive process map of medication pathways and identify areas for improvement in documentation standards. We also aimed to enhance the QI culture in a geriatric rehabilitation facility. We report how physiology students can apply QI principles to enhance medication usage and contribute to improving patient safety as part of a multidisciplinary team.

Background: In a geriatric rehabilitation ward located in a small district hospital, this study focused on improving medication safety for the patient population. Multi-morbidities and polypharmacy are complex but common issues in geriatric patients, therefore continuity of care is necessary inter-departmentally and during care transitions. This can be achieved through ensuring standardised documentation in a medical file to simplify medicines reconciliation (Med Rec). Medicines reconciliation is the process of accurately recording a person's medicines and should be completed as soon as possible upon admission to a hospital environment.

Aims: (a) To accurately establish the medication pathway of Ward X. (b) To improve documentation for sources and accountability in prescriber identification in the Med Rec Forms to 95% by 31st July 2020. (c) To improve ward staff experience with the medical files to 95% by 31st July 2020.

Methods

Established QI methodology was utilised. This included process mapping, Pareto charts, questionnaires for quantitative and qualitative data, and 3 sequential Plan-Do-Study-Act cycles for the final intervention. Presentations were held weekly during multidisciplinary team and supervisory meetings to update ward staff on progress.

Results

A detailed process map of the medication pathway of the ward was established.

The final intervention was a Table of Contents in patient notes, creating a standardised organisation system for the medical files to simplify completion of the Med Rec Form. Completion of the "Medication history taken by" section of the Med Rec Form increased from 46% to 80% for "Name", "Role", "Date"; scores for the medical file for nurses (n=3), doctors (n=2), and AHPs (n=4) increased significantly for efficiency, ease of use, and overall experience ($p=0.03$ for each parameter). These positive results occurred despite the ward undergoing drastic changes during this project due to the onset of the global pandemic.

Conclusion: This intervention provided a clear, standardised organisational system which positively affected medicines reconciliation completion and user experience with the medical files. It also demonstrates that physiology undergraduate students can use a quality improvement approach to support a safe and efficient medication pathway in geriatric

rehabilitation. Due to the success of this pilot, we aim to expand the involvement of medical science honours students to help our local healthcare facilities increase their quality improvement work.