Optimizing Medication Therapy Outcomes for High Risk Patients Transitioning From Acute to Primary Care

Objective

To assess whether a pharmacist-provided medication therapy management (MTM) assessment, designed to manage the complex medication needs of patients transferring from acute to primary care, will improve health outcomes, measured by hospital utilization and mortality rates, compared to usual care.

Practice Points

1. In Canada's health care system, different sectors operate largely in silos with little integration, hindering communication, coordination, and information sharing.

2. A lack of coordinated care is particularly problematic for "medically complex patients" (i.e. those managing multiple chronic conditions and/or medications) who may interact with a number of health care providers and face significant challenges in the transition from acute to primary care.

3. Approximately 20% of patients discharged from hospital experience an adverse event, nearly two-thirds being medication-related. Such preventable medication-related hospitalizations cost the Canadian health care system approximately $2.6 billion annually.

Methods (Dr. D. Kelly)

4. Patients admitted to general medicine services at the Health Sciences Centre or St. Clare's Hospital were screened for eligibility and enrolled while still in hospital. Immediately following discharge, participants were randomized to either the intervention (MTM assessment at the Medication Therapy Service Clinic) or control group (usual care).

5. During the MTM assessment, the pharmacist conducted a comprehensive medical and medication history, assessed barriers to medication adherence, defined individualized clinical targets (e.g. blood pressure or blood glucose), and determined participant expectations for disease management. Education regarding medications, with a focus on changes made in hospital, was provided as appropriate.

6. Following the assessment, medication-related issues were identified and the pharmacist developed a care plan to address these issues, which was shared with the primary care provider, relevant specialists and the participant's community pharmacy.

7. Participants were encouraged to see their primary care provider within two weeks to review the care plan. The pharmacist followed up with the participant as required.

8. Health outcome data including re-hospitalizations, ER visits and number of deaths was obtained through MEDITECH and HEALTHeNL. Number, type, and severity of medication related issues as well as implementation of pharmacist recommendations were determined through MTS Clinic chart review.

Results

- 90 participants were enrolled in the study with an additional 92 participants enrolled using a modified "referral-based" recruitment strategy. A total of 27 participants received the intervention.

- Median age and sex distribution were similar in the group receiving MTM services and the control group (69 years in both groups; 59% and 55% male, respectively).

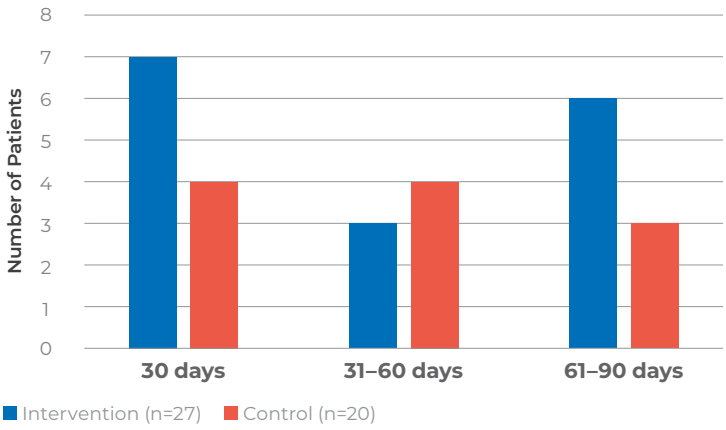

Figure 1. Composite Health Care Utilization (Hybrid of ER Visit and Hospital Admission)

- Participants who received MTM services had a median of 7 comorbidities, were taking a median of 11 unique medications at baseline and had an average of 3.8 drug therapy problems identified per person.
- No significant difference was seen in hospital utilization rates for participants who received MTM services and controls (25.9% and 20.0% at 30 days; 11.1% vs. 20.0% at 31-60 days; 22.2% vs. 15.8% at 61-90 days, respectively).
- At 90 days, 1 intervention participant (3.7%) and 2 control participants (10%) had died.
- MTM consultations were heavily focused on education and deprescribing with 77.8% of participants having at least one deprescribing recommendation.
- All respondents reported they were satisfied with their MTM assessment, and a majority indicated they felt their health improved as result of the service. All participants indicated they would recommend the service to others.

Conclusions

1. Significant recruitment barriers limited the power of this study to demonstrate the impact of MTM assessments compared to usual care.
    - ◇ Hospital staff priorities and workload limited their ability to support the study by identifying eligible patients who might benefit from MTM assessments.
    - ◇ Study design changed from randomized controlled trial to referral-based enrollment; however, only half of the referral forms were faxed to the MTS Clinic on patient discharge from hospital.
    - ◇ Many patients withdrew from the study after discharge or could not be reached. Major reasons for withdrawal included being burdened with too many other appointments, feeling too unwell for an appointment and lack of family/friend availability to support in scheduling an appointment.
2. Systemic barriers must be overcome to support patients throughout their transitions of care and encourage them to avail of post-discharge support services, like MTM assessments.
3. Despite barriers, the experience of the intervention group suggests that MTM assessments can improve patient understanding about their medications and identify opportunities to improve medication use and safety.