Impact of Pharmacist Discharge Counselling Service on Hospital Readmission Rate

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Introduction
Adverse drug events are not uncommon after hospitalization and result in hospital readmissions. Multiple changes to medication regimen, lack of patient understanding of drug treatment and use of home stock medications after hospital discharge are factors commonly leading to poor adherence and adverse drug events. Studies have demonstrated that pharmacist interventions at discharge reduce adverse drug events, reduce medication discrepancies and improve medication adherence. Pharmacist discharge counselling service was started in Pamela Youde Nethersole Eastern Hospital since November 2014. A dedicated pharmacist is responsible to: -reconcile discharge medication regimen -assess patient's ability to manage their medications -provide discharge medication list or Pharmacist Memo and emphasize changes in drug regimen -give appropriate tools and drug leaflets to improve drug compliance

Objectives
1. To investigate the impact of pharmacist discharge counselling on 30-day hospital readmission rate
2. To identify factors that are associated with increased 30-day hospital readmission rate

Methodology
This is a prospective controlled quasi-experimental study conducted from November to December 2014 and included patients discharged from Department of Medicine of Pamela Youde Nethersole Eastern Hospital with discharge prescriptions dispensed by outpatient pharmacy. Patients who lived in elderly home were excluded from the study. Patients in intervention group receiving pharmacist discharge counselling were compared to patients receiving usual care in a matched historical control subjects in 2013. Primary outcome is the 30-day hospital readmission rate from emergency department. Secondary outcome is the relationship of readmission rate with selected
patient characteristics, including age, sex, polypharmacy with more than five chronic medications and use of high risk medications (including antihypertensives, hypoglycemic agents, anticoagulants and narcotics).

**Result**
308 and 290 patients were included in the interventional group and control group respectively. The 30-day hospital readmission rate after discharge in interventional group was 19%, which was significantly lower than 26% from the control group ($p=0.014$). For secondary outcome, age older than 65 years old, polypharmacy, use of antihypertensives and anticoagulants were associated with increased 30-day readmission rate. Pharmacist discharge counselling service significantly reduced 30-day readmission rate after discharge. Through identification of risk factors of readmission, pharmacist discharge counselling service may be prioritized to the above patients with high risk characteristics in the future for better resource allocation.