

# Introducing the Patient Flow Pharmacist

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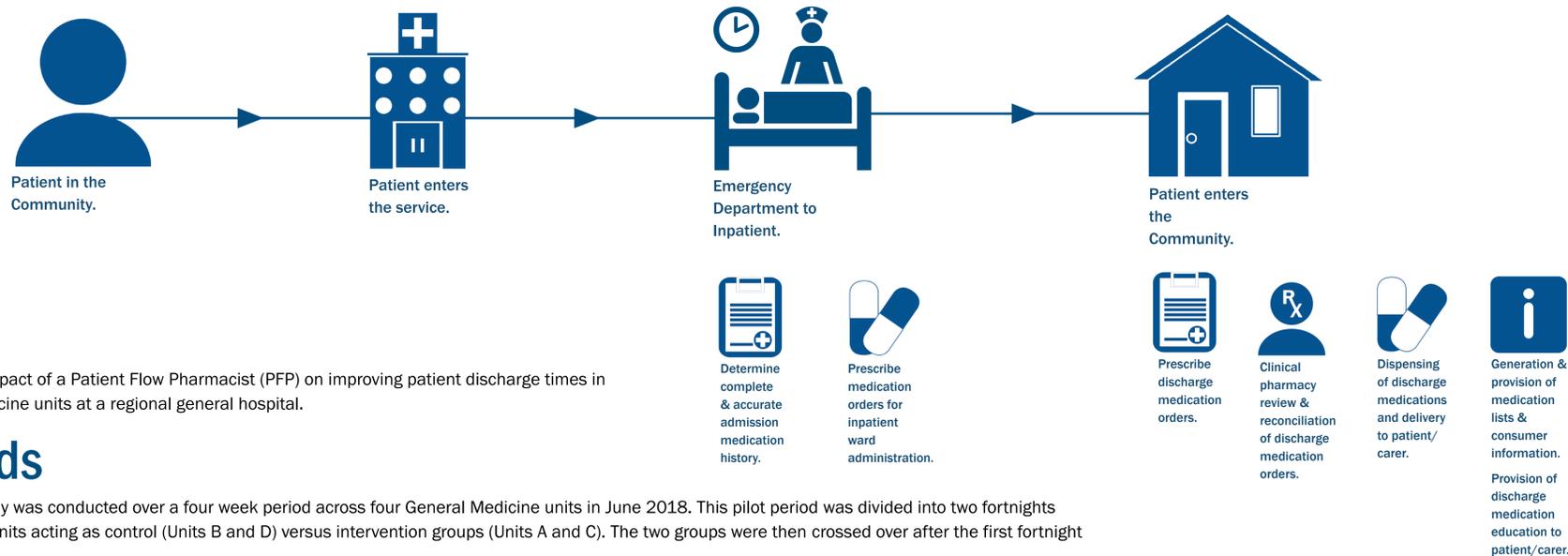
## Background

Patient flow is an important concept for all public health services. Emergency Department overcrowding due to lack of patient flow is associated with poorer health outcomes for patients.<sup>1</sup> Hospital overcrowding can result from numerous factors including discharge delays at ward level. Short delays for multiple patients can quickly add up to whole days of delay and inefficiencies in hospital throughput translate into loss of revenue.<sup>2</sup> Reducing discharge delays is therefore beneficial for both the organisation as well as the patient.

In hospital settings, several medication related processes can impact adversely on effective patient flow (refer **Figure 1**). At present, patient flow roles are predominantly appointed to nursing staff who have little ability to impact effectively on medication related flow issues. As a result, the Patient Flow Pharmacist (PFP) was introduced as an innovative role designed to maximise efficiencies and prepare proactively for discharge by intervening to reduce anticipated delays.

Figure 1

### MEDICATION RELATED PROCESSES THAT CAN IMPACT PATIENT FLOW



## Aim

To evaluate the impact of a Patient Flow Pharmacist (PFP) on improving patient discharge times in four General Medicine units at a regional general hospital.

## Methods

The PFP pilot study was conducted over a four week period across four General Medicine units in June 2018. This pilot period was divided into two fortnights with designated units acting as control (Units B and D) versus intervention groups (Units A and C). The two groups were then crossed over after the first fortnight for comparison.

The PFP did not have an allocated daily patient load to ensure they were able to predict and respond to the patient flow needs of the allocated units and organisation on a daily basis. Each General Medicine unit was allocated a clinical pharmacy service, as per normal operations. **Table 1** outlines the key accountabilities of the PFP, including the requirement for multidisciplinary collaboration with medical, nursing and pharmacy staff plus the Access and Operations Team including Patient Flow Co-ordinators.

Primary outcome measures included median discharge times plus the proportion of patients discharged prior to 10 a.m. and 12 p.m. (midday) for both control and intervention groups.

In addition, improvement in 'Pharmacy Discharge Time' (time in which all pharmacy related discharge processes are completed) was analysed. Medical and pharmacist staff satisfaction was evaluated via survey.

Table 1 : Key Accountabilities of the Patient Flow Pharmacist

TASKS
<ul style="list-style-type: none"> <li>Attend daily bed meeting (Tier 1) to determine current organisational capacity and demand</li> </ul>
<ul style="list-style-type: none"> <li>Huddle with General Medicine unit clinical pharmacists to provide updates re: hospital capacity, demand and discharge priorities</li> </ul>
<ul style="list-style-type: none"> <li>Huddle with medical officers (interns and registrars) to confirm patients for discharge</li> </ul>
<ul style="list-style-type: none"> <li>Prepopulate electronic discharge prescriptions for medical review and sign off for target patients</li> </ul>
<ul style="list-style-type: none"> <li>Based on daily priorities and area of highest demand determined by patient flow blockages, provide assistance to:                             <ul style="list-style-type: none"> <li>Medical Team Clinical Pharmacists – assisting with discharge reconciliation, discharge counselling/education and completing admission history interviews</li> <li>ED Pharmacist - assisting with completion of admission history interviews to facilitate efficient transfer of patients to wards with accurate inpatient orders</li> <li>Dispensary - to assist with timely dispense checking of discharge medications if dispensary not able to meet discharge time requested by the clinical pharmacist</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Tier 0 rounding with Access and Operations Manager and acute ward in charge nurses to identify patients for next day discharge</li> </ul>
<ul style="list-style-type: none"> <li>Prepopulate electronic discharge prescriptions for medical review and sign off for next day discharges</li> </ul>
<ul style="list-style-type: none"> <li>Attend Patient Flow project meetings, project data collection and analysis</li> </ul>

## Results

The impact of the PFP was most strongly demonstrated through the change in proportion of patients discharged prior to 12 p.m. (midday) and the median discharge times as demonstrated in **Figure 2** and **Figure 3** below.

Figure 2 - Effect of Patient Flow Pharmacist on the Percentage of Discharges Prior to 12 p.m.

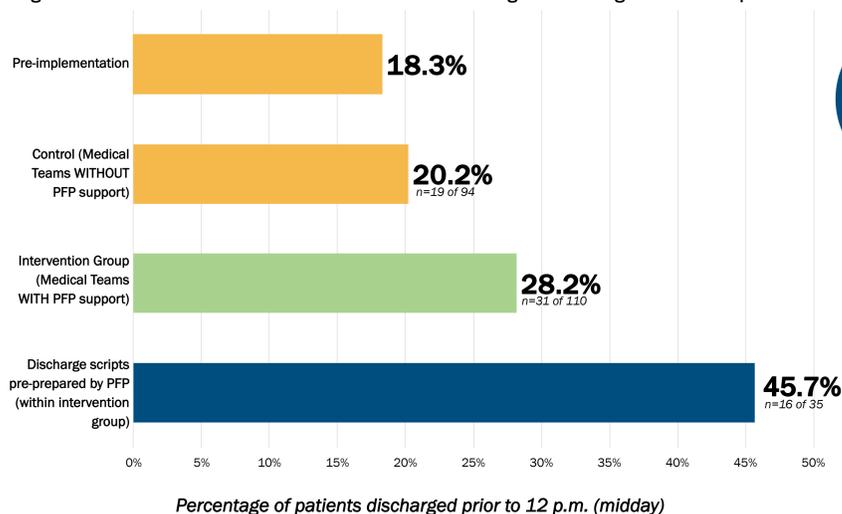


Figure 3 : Change in Median Discharge Time



Figure 4: Pharmacy Discharge Time



Baseline data (3 months prior to implementation; March to May 2018) across the four General Medical units showed that 4.3% of discharges occurred prior to 10 a.m. and 18.3% prior to 12 p.m. The median discharge time was 2.30 p.m. During the pilot month (June) the number of 10 a.m. and 12 p.m. discharges for the intervention group increased to 5.45% and 28.2% respectively and the median discharge time was reduced by **39 minutes** to 1.51 p.m. For patients whose discharge prescription was initiated by the PFP, 45.7% were discharged prior to 12 p.m. In addition, for patients who had their discharge prescriptions prepared by the PFP for medical review and sign off (Figure 4). This is likely attributed to the generation of more complete and clinically accurate prescriptions requiring fewer clinical pharmacy interventions and medical officer corrections.

### FEEDBACK FROM PILOT STUDY

'PFP was very helpful – mainly to identify discharge script issues prior to discharge so everything is ready at the time patients are cleared to go home' – Medical Intern 1

'Excellent help to get scripts done on time when anticipating discharge and to anticipate issues that may delay discharge' – Medical Intern 2

'The PFP was very effective in assisting the medical team to facilitate and expedite the journey of patients from admission to discharge' – Clinical Pharmacist 1

'PFP service is a valuable addition to the services provided by the BHS Pharmacy Department. In the short trial its impact on patient care and its effectiveness was not only appreciated by pharmacists but also doctors, nurses, ANUMs, NUMs and other health professionals' – Clinical Pharmacist 2

'When dispensary was busy the PFP could assist with discharge prescription checking to get patients discharged, therefore new patients could be moved from ED to receive specific care sooner' – Dispensary Pharmacist

## Conclusion

The innovative PFP service has demonstrated positive change in discharge times, as well as unanimous acceptance of the service. An extended trial across multiple institutions will assist in fully assessing the impact of the service.

### References

- Handel DA, Hilton JA, Ward MJ, Rabin E, Zwemer FL, Pines JM. Emergency Department Throughput, Crowding, and Financial Outcomes for Hospitals. *Acad Emerg Med*. 2010; 17:840-847
- Holland DE, Pacyna JE, Gillard KL, Carter LC. Tracking Discharge Delays Critical First Step Toward Mitigating Process Breakdowns and Inefficiencies. *J Nurs Care Quality*. 2016; 31:17-23

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