

Digital surveillance to improve clozapine management in non-psychiatric wards

Chloe Minns, Karl Winckel and Lesley Smith
Pharmacy Dept, Princess Alexandra Hospital, Brisbane, Queensland

Aim

To investigate whether digital surveillance of the Clinical Pharmacist Worklist (CPW) in Cerner integrated electronic medical record (iEMR) electronic medicines management application by an intern pharmacist can improve clozapine management in patients admitted to non-psychiatric wards in a tertiary level hospital.

Background

The Clinical Pharmacist Worklist is a functionality on the Cerner integrated electronic medical record (iEMR) that enables the creation of a patient list for patients prescribed certain high risk drugs (see figure 1) This allows for whole hospital surveillance of high risk drug prescribing. Clozapine is a high risk antipsychotic medication that requires careful and regular therapeutic drug monitoring. Clinical issues arise when patients who take clozapine are admitted to non-psychiatric hospital wards. Clinical issues that require pharmacist review include:

- Ensuring continuation of clozapine prescription and supply to prevent interruption to treatment
- Ensuring appropriate blood tests are done, including FBC and clozapine levels, and potentially inflammatory markers.
- Ensuring consultation liaison psychiatry and clozapine coordinators are notified to allow communication with monitoring programs (Clopine Central and CPMS)
- Managing medical complications from clozapine which can impact on other aspects of the patient's care

Figure 1: CPW creation

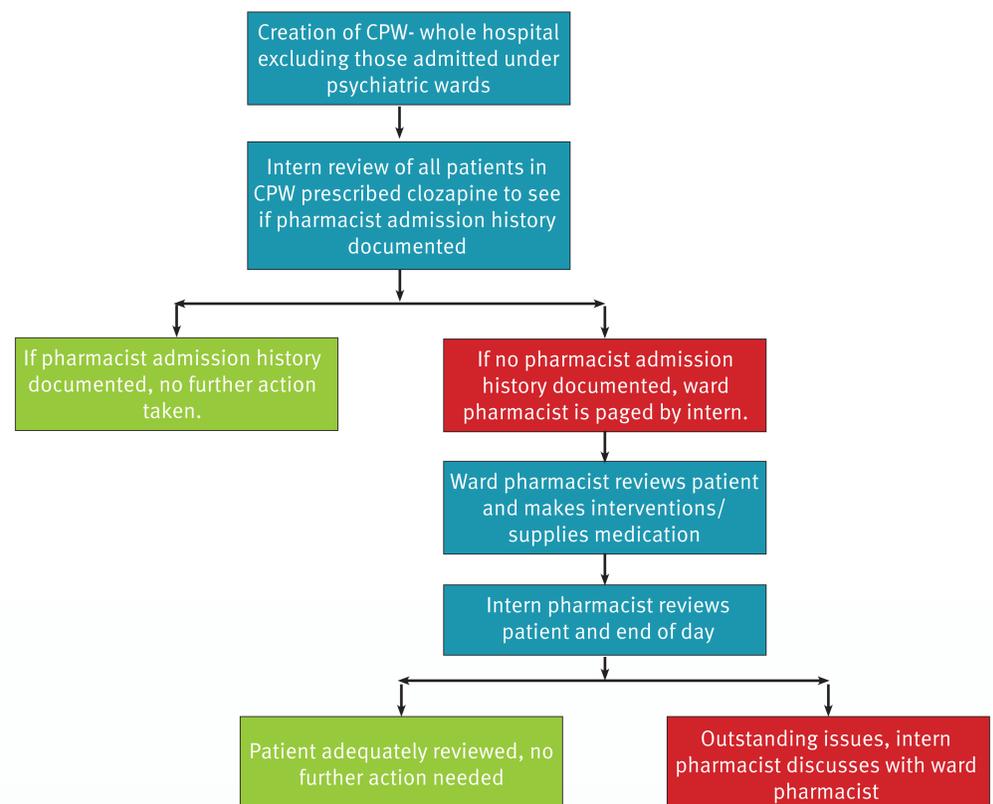
Method

The CPW was modified to include all current inpatients prescribed clozapine, excluding those admitted under psychiatric inpatient units (see figure 2). Newly admitted patients prescribed clozapine were identified. If they had not been reviewed by a pharmacist, an intern pharmacist would contact the ward pharmacist alerting them to the patient to ensure timely clinical review and supply of clozapine. At end of working day the intern pharmacist revisited patients' charts to ensure they had been reviewed by the ward pharmacist.

Table 1: Interventions identified through use of CPW

Intervention identified:	Total number of patients n=25
Unintentional missed dose of clozapine	5
Mismatch of clozapine dose or brand on pharmacist history and inpatient chart	6
Patients requiring re-titration of clozapine	3

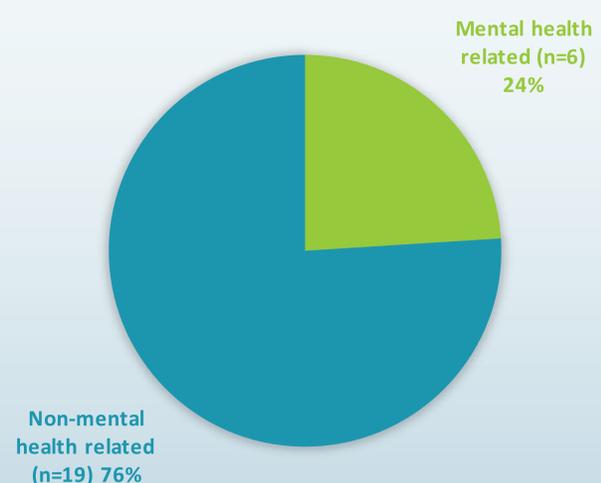
Figure 2: Method for creation and use of CPW



Results

Over a three month period, 25 patients prescribed clozapine were identified through the CPW. 15/25 patients had not been reviewed by the ward pharmacist at the time of intern review of CPW. Upon investigation 3 patients required hospitalised re-titration of clozapine, and the intern pharmacist review helped to expediate this. 19/25 patients were admitted to hospital for non-mental health related (medical or surgical) reasons (see figure 3). The remaining 6/25 had presented to the emergency department for psychiatric assessment.

Figure 3: Reason for admission in patients identified from CPW (n=25)



Conclusion

Patients admitted to hospital who are prescribed clozapine are at high risk of medication misadventure. The CPW enables the early identification of patients prescribed clozapine in a non-psychiatric setting and facilitates early pharmacist review. This may prevent clinically inappropriate administration of clozapine, including those requiring dose adjustment due to concurrent illness or re-titration due to non-compliance. Early intervention may prevent prolonged omission of doses which may result in the need for re-titration or lead to relapse and increased monitoring requirements. Experienced mental health pharmacists using CPW's to offer clinical advice, could further improve clozapine use in non-psychiatric settings and facilitate safe transitions of care.