

Measuring the efficiency and effectiveness of team based pharmacy technicians: A time and motion study

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Background

Timely supply of medication and transfer of patient information into clinical databases are essential functions of a pharmacy department. To free pharmacist time to perform evidence-based clinical activities, pharmacy technicians are essential members of each TPCH clinical team and provide support through medication supply, data transfer and general pharmacist support.

Aim

To identify where pharmacy technician time is invested to determine the efficiency and effectiveness of the pharmacy support team.

Methods

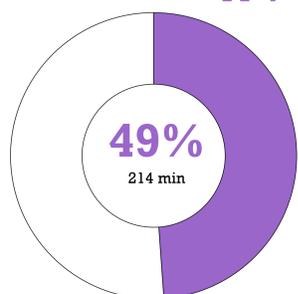
Pharmacy technicians were shadowed for nine days and the time taken to perform tasks was classified into 13 activity types. Timeliness of non-impresst supply was determined and compared with a state-wide time critical medicines list. Accuracy and timeliness of adverse drug reaction (ADR) management was also recorded.

Results

Pharmacy Technician Daily Activities

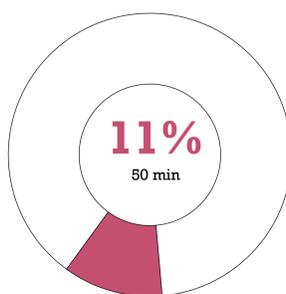
On average, pharmacy technicians are performing nearly four hours a day (each) of activities often performed by pharmacists. This includes individual patient supplies, dispensing, controlled drug management, preparation of patient ward lists, ADR management and administrative tasks. This is in addition to impresst management and stock maintenance. The study recorded 94% of possible time over the data collection period.

Medication Supply



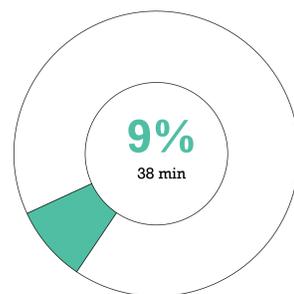
Example: impresst management, dispense scripts, controlled drug management, inpatient supplies

Stock Maintenance



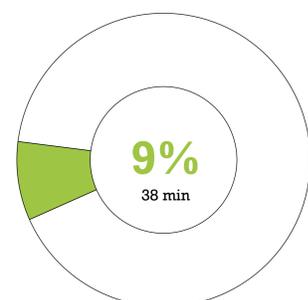
Example: unpacking stock orders, stocktake, checking expiry dates, tidying shelves

Ward List & Handover



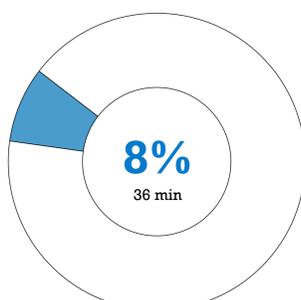
Example: print patient ward lists by clinical team, handover to pharmacist (supplies required, charting issues, etc)

Travel between activities



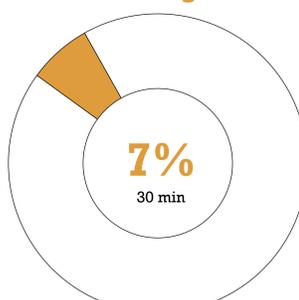
Example: time taken to walk between dispensary, ward, and patient rooms

Administrative tasks



Example: reading and sending emails, updating Medicare details, data entry

ADR Management



Example: check ADR history completed, update ADR documentation in electronic systems

Figure 1: Average daily time (minutes) and proportion of time pharmacy technicians spent on listed activities

Medication Supply – Non-impresst Medications

Technician Process:



Medicines are required to be dispensed to individual patients to support administration. Pharmacy technician support enabled excellent availability of time critical medications.



List A medicines, deliver with no delay: **100%** delivered on time (n=20)



List B medicines, deliver within 2 hours of scheduled dose: **92%** delivered on time (n=36)



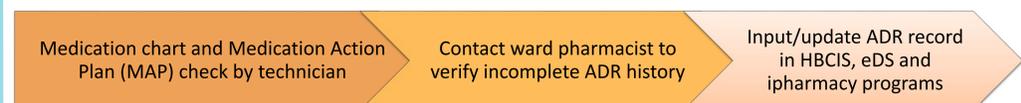
Unclassified medicines: **91%** delivered within 2 hours of scheduled dose (n=67)



Figure 2: State-wide 'On the Dot' time-critical medication list

ADR Management

Technician Process:



Pharmacy technicians input or updated 95% of pharmacist-confirmed ADR records into the relevant hospital clinical information systems within the first 24 hours of patient admission. A total of 321 ADRs were entered during the study period, and all were verified to be entered accurately.



95%

ADR records transcribed within 24 hours of patient admission

Conclusion

Team-based pharmacy assistants effectively and efficiently support the clinical pharmacy teams. This model of care supports timely supply of medications and accurate and timely input of ADRs into relevant hospital clinical information systems. These activities not only support quality patient care but also free up pharmacist time for provision of clinical activities.

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