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The Impact of a Ward-Based Pharmacy Technician Service

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BACKGROUND

- Pharmacy technicians have been employed in hospital settings for many years, but only recently has their role been reviewed for potential expansion. Hospitals across Australia, the UK and many other countries have implemented a ward-based pharmacy technician service (WBPTS),[1,2] but this is yet to become common practice in Ireland.
- Limited research exists on the expanding clinical role of pharmacy technicians in Ireland. The only published study in the area was carried out in Tallaght hospital, Dublin, and results showed that the service offered the potential to alleviate nurse workload and improve the pharmacist clinical service [3].
- The aim of this study is to build on the limited existing research on the WBPTS in Ireland and to determine if the expanded role of the ward-based pharmacy technician role could have a positive impact on medicine management systems and staff workload within the wards of an Irish hospital.

METHODS

- This study was carried out over 8 weeks (June - September 2018) in an Irish hospital. All analyses were performed using Microsoft Excel and SPSS ®
- Sixteen wards were studied; four 'intervention wards' which have WBPTS in situ and 12 'control wards' which currently do not.
- The medication management systems were inspected by the research team for the presence of excess non-stock medication and expired medication. Analysis was performed to ascertain the value of the excess non-stock medication found on each ward.
- Nurses were observed by the research team to calculate the time taken to complete drug rounds.
- Patient drug charts were analysed to calculate the duration to pharmacist review of high-risk medications.
- Nursing staff were surveyed on their opinions of the service.

RESULTS

- Total cost value of the excess non-stock medication:
€97.51 on intervention wards (€24.38 per ward) vs
€13,767.76 for control wards (€1,147.31 per ward)
- Examples included:
12 x Caspofungin @ €767; 8 x Daptomycin @ €696; 4 x Ambisome @ €539; 10 x Actilyse Cathflo @ €518.



- Patient drug charts on both sets of wards were screened for high-risk medications.
- The date of initiation of each medication and the date of review by the pharmacist was noted.

- The median time taken for pharmacist review of high-risk medications was shorter on intervention wards (0.67 days) vs control wards (4.2 days).
- The difference in time was found to be statistically significant when a Mann-Whitney U test was performed on the data (**p value = 0.016**).

- The results of the survey showed that 100% of respondents agreed that the WBPTS should continue.



Eight expired medications were found on the control wards, whilst none were found on intervention wards.

Control	Intervention





- Average nursing time in minutes to complete drug rounds was recorded.



Control ward



Intervention ward

- This equates to a reduction of **28%.**
- This correlates with the results obtained from the questionnaire distributed to nurses; **91%** of participants agreed that the WBPTS reduced the time required to complete drug rounds.

CONCLUSIONS

- This study has demonstrated that the expanded role of the ward-based pharmacy technician has had a positive impact in several ways;
  - A reduction in the cost of non-stock medications present on the ward along with a reduction in expired stock present.
  - Time taken to complete drug rounds was less on the intervention wards compared to control wards, thus freeing up time for nurses to engage in other patient activities.
- Further studies should consider the full economic costing of the WBPTS.
- More widespread investment in the WBPTS has the potential to reduce healthcare expenditure due to excess medication, increase nursing time spent on direct care of patients, and reduce the potential for patient harm from high-risk medication.

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REFERENCES: Available upon request