

Cost and time impact of cancer centre patient screening model

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Background

Clinical screening of patients prior to chemotherapy administration is critical to ensuring safe therapy at a Chemotherapy Day unit (CDU). The workflow in compounding pharmacy allows chemotherapy to be ready and available when the patient is booked in, minimising delays to other patients.

When patients are screened the 'day prior' to chemotherapy administration, any cancellations are relayed to pharmacy and their treatment is not prepared, minimising wastage. However, when patients are seen the 'day of' their treatment, chemotherapy is already prepared and if cancellations occur it is already too late to save the costs. A recent chair audit at Fiona Stanley Hospital found that 30% of patients were reviewed on the 'day of' their treatment.

Aims

- Evaluate the cost and time impact of cancelled chemotherapy if 100% of patients are screened the 'day of' their treatment
- Understand reasons for cancellations
- Highlight importance of timely communication

Methods

- This retrospective study collected information on returned chemotherapy to pharmacy from 'day of' cancellations at Fiona Stanley Hospital over a 12 month period.
- A total of 836 cancelled items representing 353 patients were reviewed using online hospital medical records.
- 'Day prior' data was collected over a 12 month period. This included items that were cancelled or taken "off-hold" the day before a patient was scheduled for therapy.
- Communication to pharmacy was analysed using "Tracker"- the pharmacy database that tracks the movement of medicines in the hospital.
- Cancellations were grouped into four main reasons and costs associated with each group were analysed.

Results

Costs associated with 'day of' patients

There are currently 30% of patients that are seen on the 'day of' their treatment. The table below illustrates the cost and time wasted when treatment is cancelled, having already been prepared by pharmacy.

Table 1: Actual wastage over a 12 month period

Costs over 12 months	Total
Cost (\$)	\$109,390.98
Time-cost (minutes)	20,680 mins (1.3hours/working day)

Potential costs associated with 'day prior' patients

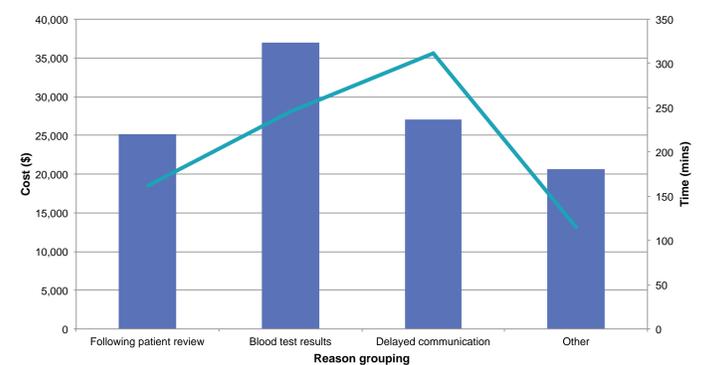
The table below illustrates the wastage that may have occurred if patients were seen the 'day of' therapy rather than the 'day prior'.

Table 2: Potential wastage over 12 month period

Potential costs over 12 month period	Total
Cost (\$)	\$70,012.95
Time-cost (minutes)	33,235 mins (2 hours/working day)

Cost of wasted chemotherapy by reason ('Day of' patients)

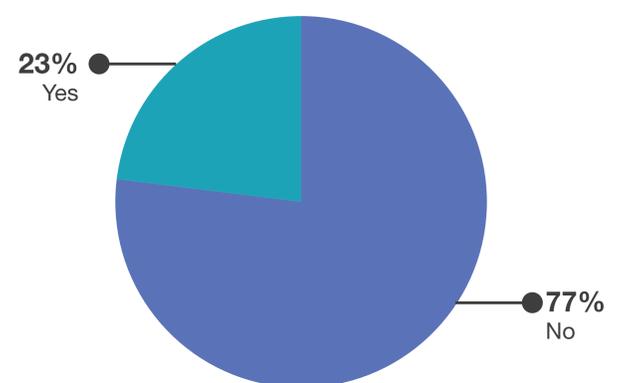
Figure 1: Wasted chemotherapy by reason



Communication

Communication to pharmacy could have prevented 23% of costs associated with 'day of' cancelled chemotherapy.

Figure 2: Could have been prevented with timely communication



Conclusion

- 'Day of' patient screening at a busy CDU results in considerable costs and workflow issues for hospital staff, resulting in a loss of \$109,390.98 and 1.3 hours/working day of wasted chemotherapy preparation time.
- 'Day prior' patient screening showed that \$70,012.95 and approx. 2 hours/working day would have been wasted had items been cancelled on the day of therapy.
- If there is a shift made to see 100% patients on the 'day of' their treatment there would be a total loss of \$179,403.93 and 3.3 hours/working day.
- Timely communication to pharmacy is critical to help minimise waste.

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