

Evaluating the Impact of Gentamicin Surgical Prophylaxis Workflow Updates on Operational Outcomes

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Problem

- Patients undergoing surgery that require Gentamicin have 3 dose options based on a weight range (240mg, 300mg, and 360mg), which is challenging to prepare and stock
- Reports of Omnicell stock outs for Gentamicin results in case start delays
- Pharmacy IV room currently batches the Gentamicin bags on a weekly basis
- An opportunity was identified to improve efficiency for both the perioperative and pharmacy areas

Goal

- Reduce overall batching workload for the Comer IV room
- Reduce in Omnicell stock outs
- Improve efficiency for both the perioperative area and IV room

Intervention Design

- Retrospective, quasi-experimental study design
- Simplified preoperative gentamicin dosing recommendations, in Collaboration with ASP/ID, Surgery, and Pharmacy

Table 1. Gentamicin dose recommendations pre- versus post-intervention

	Pre-intervention	Post-intervention
Gentamicin excluding hysterectomy, D&C, C-section, other gynecologic procedures	240mg if <=65kg 300mg if 65-90kg 360mg if 91-120kg 4mg/kg (adjusted BW) if >120kg	240mg if <65kg 360mg if >=65kg
Gentamicin for hysterectomy, D&C, C-section, other gynecologic procedures	240mg if <=65kg 300mg if 65-90kg 360mg if 91-120kg 4mg/kg (adjusted BW) if >120kg	240mg if <65kg 360mg if 65-89kg 480mg if >=90kg

- Timeframe
 - Pre-intervention: February 1, 2022 – July 31, 2022 (6 months)
 - Post-intervention: February 1, 2023 – July 31, 2023 (6 months)
- Outcomes
 - Batching data for the IV room
 - Omnicell stock out data

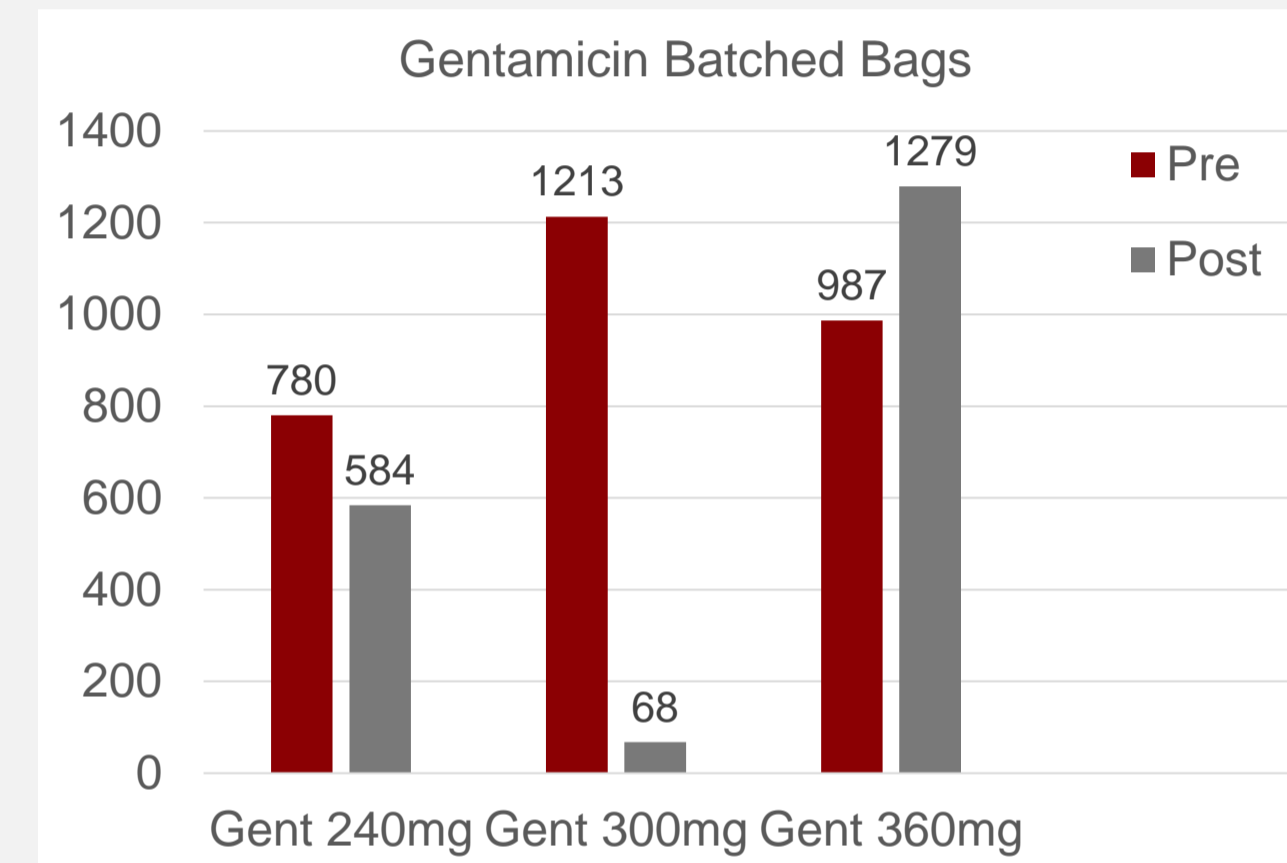
Impact

Pre-Intervention

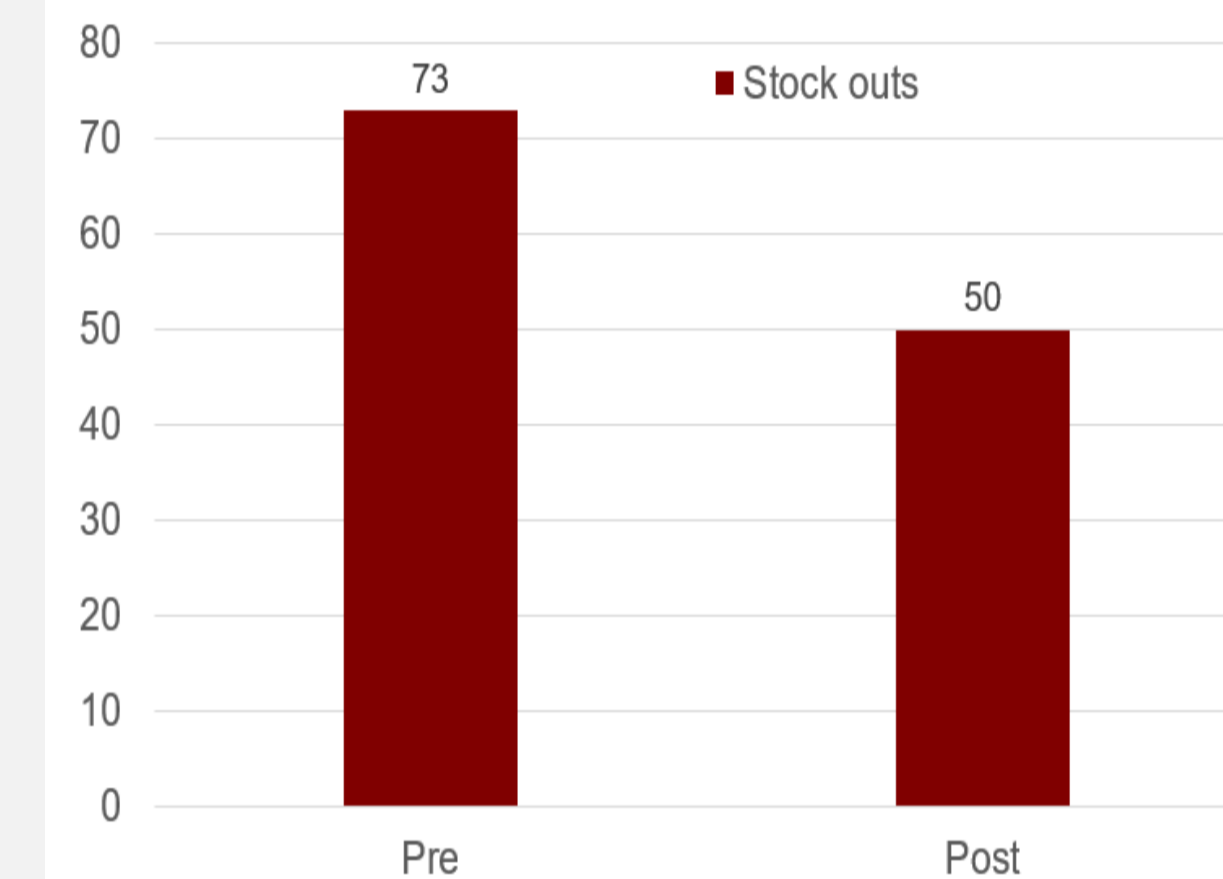
- Total # dispensed: 897
 - Gent 240mg: 153
 - Gent 300mg: 432
 - Gent 360mg: 312

Post-Intervention

- Total # dispensed: 796
 - Gent 240mg: 152
 - Gent 300mg: 0
 - Gent 360mg: 644



35% decrease in IV room batching



Stock outs: 2% (Pre) vs 3% (Post)

Substantial product waste avoided in post-intervention period from decreased batching (1049 bags) and expirations (214 bags)

Lessons Learned

- Achieved reduction in overall batching workload for Comer IV room with minimal Omnicell stock out change
- Did not achieve goal to reduce incidence of Omnicell stock outs
- Future assessments and/or interventions should prioritize decreased stock outs, leverage lean principles, evaluate postoperative clinical implications, and review adherence with protocol recommendations

Acknowledgements

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