

Recording the Time of Administration of Gentamicin Doses by Nursing Staff

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Background

Gentamicin, an aminoglycoside antibiotic, is used for many infections (1), however there is increasing resistance to some of the organisms covered by gentamicin including Klebsiella and Pseudomonas (2). National guidance such as the 'Start Smart and Focus' Toolkit (3) eludes to ways of ensuring responsible usage, one of which is following local guidance. The current gentamicin policy within the GHNHSFT recommends gentamicin trough levels should be done 12-18 hours post-dose (4) due to its narrow-therapeutic index properties. If levels are elevated, patients are at risk of serious adverse effects including ototoxicity and nephrotoxicity (5).

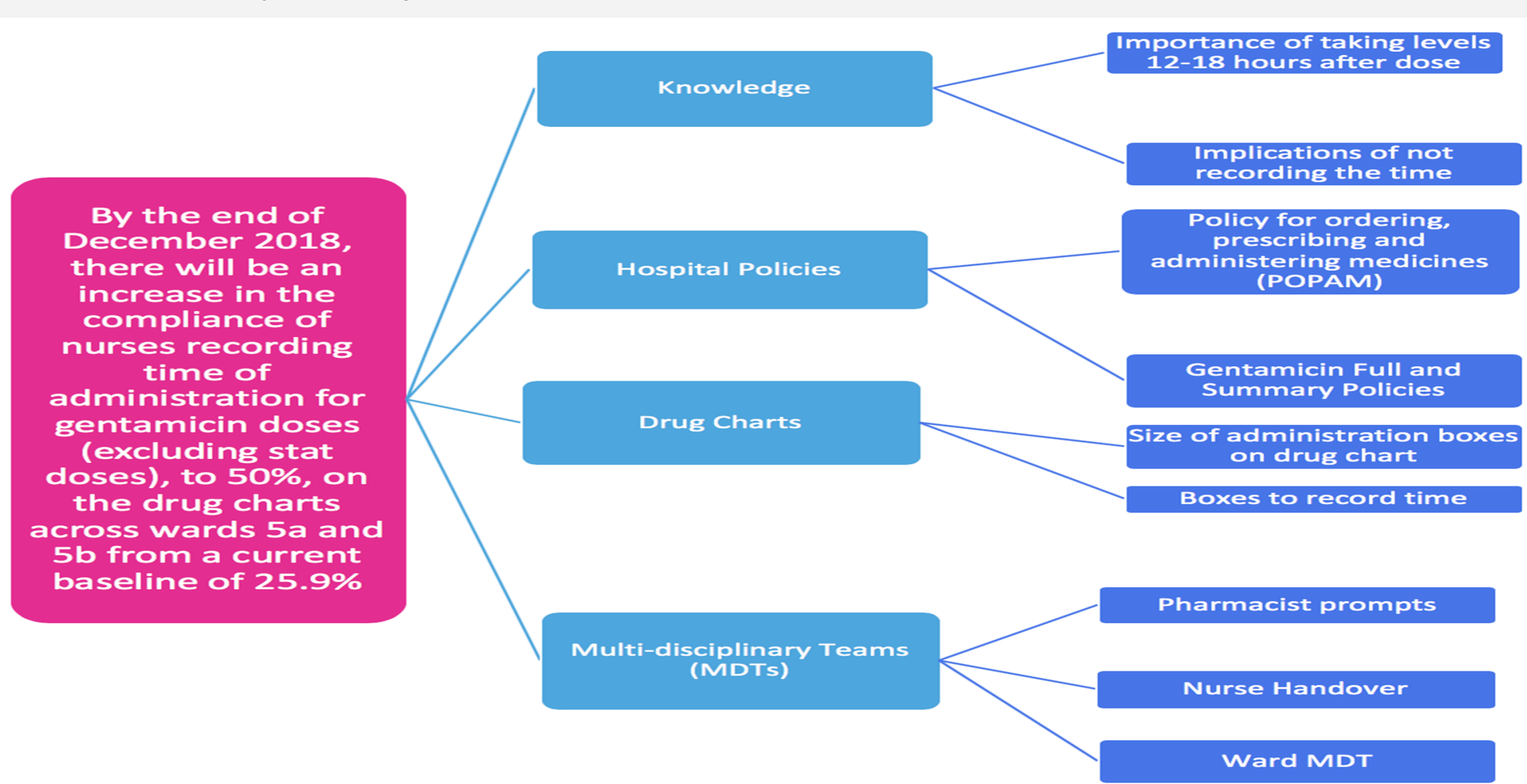
THE CHALLENGE: Gentamicin time of administration is not always recorded by nurses on the drug charts, meaning levels cannot be accurately interpreted post-dose; complications of this include: - inappropriate repeat levels, - unnecessary dose adjustments, - inappropriate antibiotic switches

Aim

By the end of December 2018, there will be an increase in the compliance of nurses recording time of administration for gentamicin doses (excluding stat doses), to 50%, on the drug charts across wards 5a and 5b from a current baseline of 25.9%.

Measures

- Outcome: - Number of charts with administration time
- Process: - Number of charts with pharmacist prompts
- Number of charts utilising the pilot chart
- Balancing: - Unfamiliar bank/agency nursing staff
- Additional time spent by pharmacists & nurses
- Medical outliers
- Wards shut due to transmissible infections



PDSA 1 Pharmacist prompts	PDSA 2 Reminder poster for nurses	PDSA 3 Pilot gentamicin policy + chart insert + nursing education
Existing stickers in pharmacy department were utilised but emphasised with red pen	Poster designed to further prompt nurses to record the administration time	Gentamicin pilot policy and chart (which had a box for time of administration to be recorded) introduced; nurses educated on use of them in addition to gentamicin refresher

Discussion

Baseline data highlighted the project need; less than a third of all gentamicin doses across the selected wards did NOT have a time of administration. PDSA cycle 1 worked well; the aim was reached but was not consistent. PDSA cycle 2 was less effective, hence no further modifications made. PDSA cycle 3 with the new chart insert, demonstrated there is a need for a chart/insert where time of gentamicin administration can be recorded, coupled with nursing education. Future work will largely be based around this.

Results

There was a general upward trend from baseline of nurses writing the time of administration. By the third PDSA cycle, the mean had increased from 25.90% to 100%, when the pilot chart was in use.

Conclusion

Overall, this project demonstrated that there are viable options which can increase the compliance of nurses writing the time of administration for gentamicin doses. However, further resources and time are needed for these actions to be sustained.

References:

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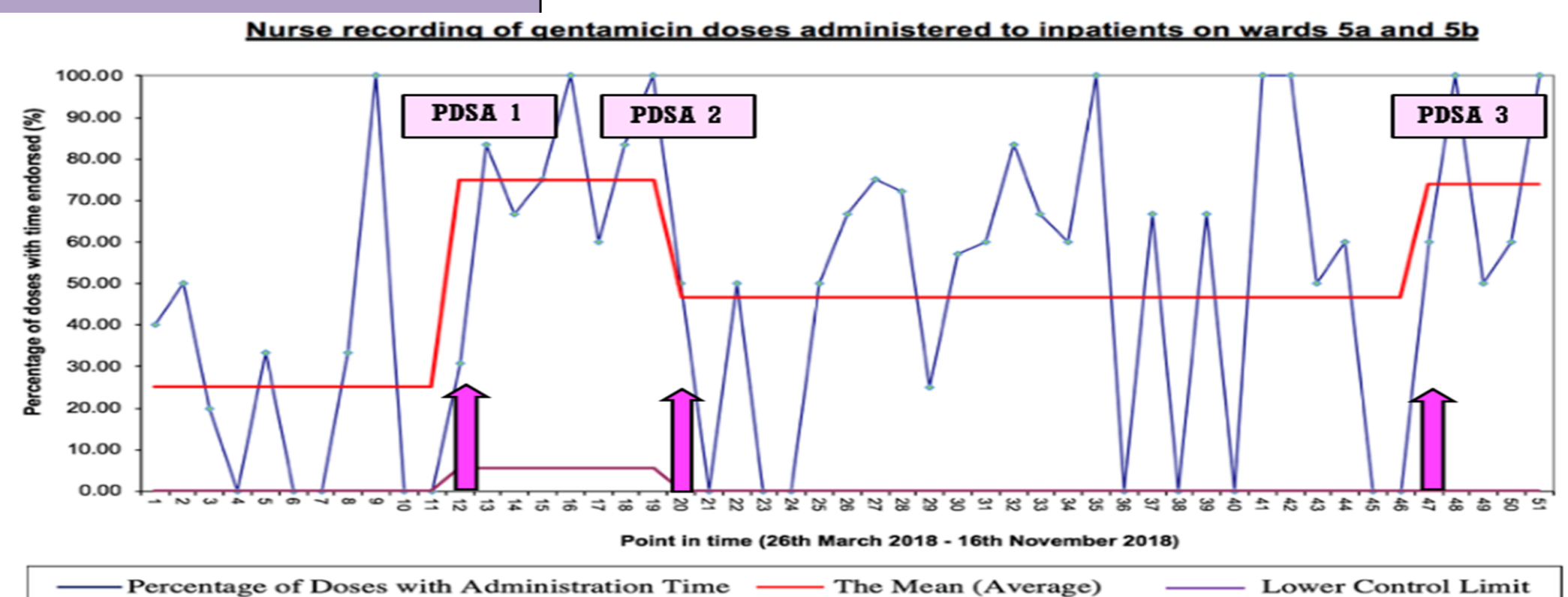


Figure 1: PDSA cycles without pilot chart

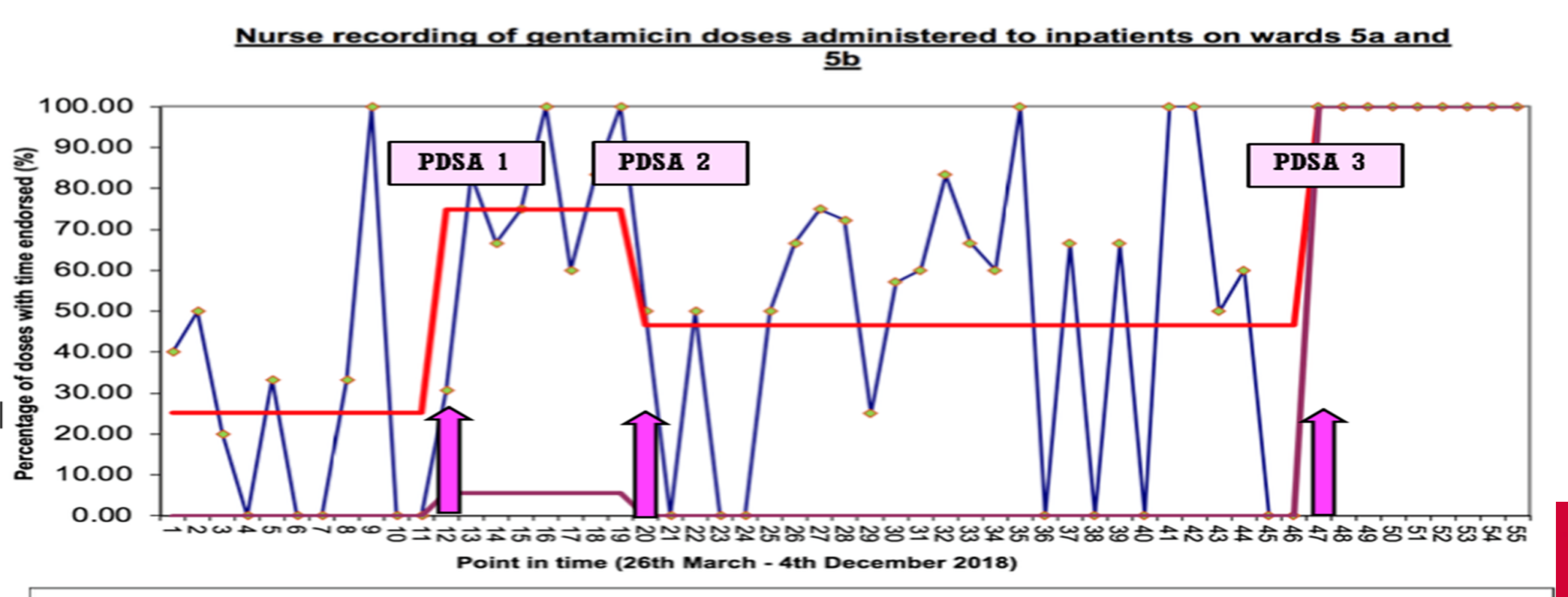


Figure 2: PDSA cycles with pilot chart

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