Improving the Safety of Potassium

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Background

Potassium is a high-risk medicine and can cause catastrophic harm when administered in error. Potassium ampoules were available in areas outside critical care within the Tasmanian Health Service (THS).

Objective

To reduce the use of potassium ampoules and remove the requirement for potassium ampoules to be utilised outside critical care areas.

Action

Stock Management: Stakeholder consultation revealed that use of potassium ampoules in non-critical areas stemmed from lack of suitable alternatives. Overcome by formulary changes and procurement of new premix bags:

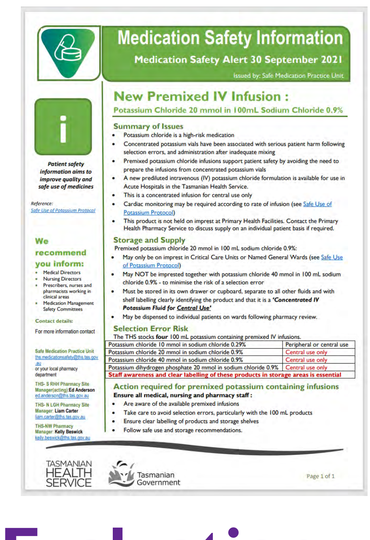
- potassium dihydrogen phosphate 20 mmol in 100 mL and 10 mmol in 250 mL
- potassium chloride 20 mmol in 100 mL

Potassium ampoules were removed from all non-authorised areas. To reduce the risk of selection error, new premix strengths were allocated to specific clinical areas. Potassium chloride 20 mmol in 100 mL (new) and potassium chloride 40 mmol in 100 mL (existing) were not allowed to be on imprest together in the same ward. Development of a statewide protocol provided governance for the changes and supported the rationalisation of standard potassium dilutions.

Resources: Alerts, newsletters, lanyard and wall charts regarding the correct administration and storage of IV potassium products were distributed and showcased on the THS medication safety webpage.

Education: Education was offered at ward level and within THS pharmacies. Training modules were developed for all clinical staff. Mandatory for THS pharmacy staff including stores staff and pharmacy technicians.

Audit: Use of potassium vials reported to Medication Safety Committees every 6 months.



Resource Development
- Posters
- Lanyard cards with available premix IV products

Awareness
- Safety alerts
- Newsletters
- Medication Safety Intranet page links to resources & education

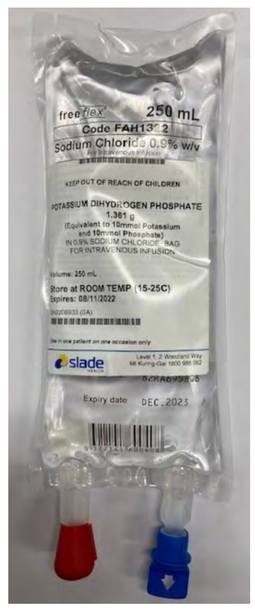
Governance
- Consolidation of regional protocols into single statewide protocol
- Define ongoing auditing & reporting

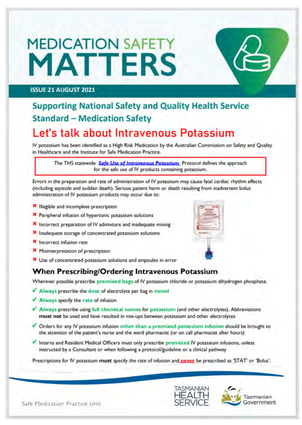
Safer use of IV Potassium

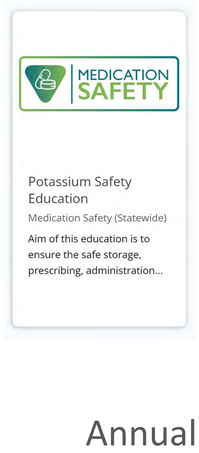
Stakeholder Consultation
- New premix products
- Rationalise emergency packs

Imprest and Storage Review
- Remove ampoules
- Add premix products

Ongoing Education
- Online for Clinical staff
- **Mandatory** training for pharmacists, pharmacy technicians, stores
- Inservices, Grand Rounds, Forums

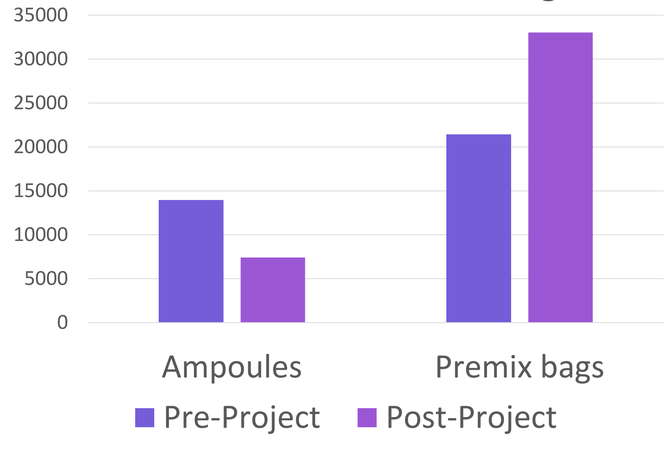






Evaluation

Audit has shown significant reduction 47% in the use of potassium ampoules 12 months post implementation. There has been a corresponding increase in the use of the equivalent premix bag alternatives.



Discussion

Establishment of the statewide Safe Medication Practice Unit (SMPU) provided resources for a multipronged approach to remove potassium ampoules from all clinical areas outside critical care. Providing suitable alternatives was key to the success.

Acknowledgement

The SMPU collaborated with the statewide pharmacy service in South Australia to standardise the formulation, labelling and packaging of the pre-mix potassium dihydrogen phosphate bags.

Contact Information

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