Pharmacy Practice Case Summary

Dispensing Incident: Oral Phosphate

March 2026

This case summary presents an overview of a significant community pharmacy dispensing error and provides key learning points to support pharmacy operators in their public safety and quality improvement activities.

Overview

A dispensing incident occurred in a community pharmacy in July 2025 resulting in the incorrect dose of phosphate being dispensed to an eight-week-old child.

As a result of the error the child received phosphate at a dose approximately thirteen times higher than that prescribed by the medical practitioner. The child became unwell, required hospital admission, and subsequently died.

A number of health system responses are underway, including activities being undertaken by Medsafe, Health New Zealand and the Pharmacy Council. Medsafe's activities are focused on the pharmacy practice activities conducted by the community pharmacy.

Medsafe acknowledges the profound tragedy of this event and extends its deepest condolences to the child's family.

Dispensing incident

The key activities in the dispensing of the prescription in this case were as follows:

- The patient was prescribed Phosphate Phebra 1.936 g effervescent tablets at a dose of 1.2 mmol twice daily. Each tablet contains 500 mg of elemental phosphorus, equivalent to 16.1 mmol phosphate.
- The hospital prescription was forwarded to a community pharmacy for dispensing. The prescription form included the child's date of birth and age in weeks.
- When processing the prescription, an intern pharmacist generated a dispensing label with incorrect dosage instructions. The dispensing label directed: "*Take one tablet twice daily. Dissolve in a large glass of water*".
- The processed prescription was dispensed by a trainee technician.
- The pharmacy was able to demonstrate that a 'final check' of the prescription was conducted by a pharmacist; however, the accuracy and clinical appropriateness checks by the pharmacist were insufficient to identify and respond to the error.
- Counselling was not provided to the patient's caregiver when the prescription was collected.

Commentary

Root cause and contributory factors

Medsafe considers the primary root cause of the dispensing error to be that the checking activities conducted by the pharmacist, including checking for clinical appropriateness and dispensing accuracy. This was particularly significant given the age of the patient.

A number of contributory factors relating to the pharmacy practice activities were identified, including:

- Failure to identify that the prescribed dose required dilution. Available information and guidance[1,2] indicates that, to achieve the prescribed dose of 1.2 mmol, one tablet should be dissolved in 16 mL of water, with 1.2 mL of the resulting solution drawn up and administered, and the remainder discarded. These instructions were not included on the dispensing label.
- Counselling was not provided to the patient's caregiver when the prescription was collected.
- A busy pharmacy environment.

Medsafe considers there were several potential opportunities during the dispensing process for interventions to have been made that may have identified the dispensing error.

Applicable Pharmacy Services Standard

A pharmacy operator is required, as a condition of their licence, to ensure that pharmacy practice activities are conducted in accordance with the Medicines Act 1981 and the Pharmacy Services Standard.[3] The following standard is applicable to this case:

Standard 5.2	**A disciplined dispensing procedure shall ensure that the appropriate product is selected and dispensed accurately and efficiently.**
Criterion 5.2.4	Prescriptions are interpreted and evaluated for correctness, appropriateness and completeness, their authenticity verified and their priority for dispensing determined. *Guidance: In determining the appropriateness of the prescription, the pharmacist should undertake a clinical check which includes, but is not limited to, assessment of the prescription for:* *(a) Appropriate dosage form and route of administration;* *(b) Dosage within therapeutic range:* *(c) Appropriateness according to consumer's parameters (such as age, weight, renal function) and previous medication. This is particularly important for treatments with a narrow therapeutic index, oncology preparations, or for babies and young children;* *(d) Compatibility with other medication;* *(e) Possible side effects;* *(f) Risk of adverse drug reactions;* *(g) Potential for non-concordance, inappropriate use and misuse by consumer;* *(h) Contra-indications.*
Criterion 5.2.5	The dispensed medicine is correctly selected, packaged and stored by qualified staff and that sufficient information is given to the consumer to ensure its appropriate use.

[1] New Zealand Formulary for Children, phosphate (oral) (https://nzfchildren.org.nz/nzfc_70292)
[2] Starship guidance protocol (https://staging.starship.org.nz/guidelines/phosphate-oral-for-neonates/)
[3] NZS 8134.7:2010 Health and Disability Services Pharmacy Services Standard (https://www.standards.govt.nz/shop/nzs-8134-72010)

Key learning points

The following key learning points are provided to support pharmacy operators in their public safety and quality improvement activities:

1. **Exercise extra vigilance when dispensing hospital prescriptions and higher-risk medicines**, particularly those for paediatric patients and medicines that are less frequently prescribed. Where there is uncertainty, appropriate actions may include consulting available resources, contacting the prescriber, and seeking advice.
2. **Undertake clinical and accuracy checks with care, particularly for higher risk patient groups**, such as children. Checking and confirming the age of the patient in these cases is strongly recommended. The Pharmacy Services Standard[3] sets out key requirements for good dispensing practice, including the need for checks that assesses clinical appropriateness by considering the dose, formulation, route of administration and suitability for the individual patient.
3. **Ensure clear and effective communication with patients and caregivers**. As the final point of contact between the pharmacist and the patient (or their caregiver), counselling provides an important opportunity to identify and prevent dispensing errors. Pharmacists are encouraged to review a patient's dispensed prescription at the time of collection, as this is an opportunity to detect errors before the patient receives their medicines.

   Pharmacists should ensure that instructions are clearly explained and understood, particularly in paediatric cases. This may include providing written information, alongside verbal counselling, to confirm caregivers understand the dosing instructions, how these align with any other advice provided, and how to accurately measure and administer the required volume.
4. **Support a culture of continuous quality improvement**. Pharmacy operators are encouraged to ensure pharmacy procedures, including risk management processes, are implemented, regularly reviewed and understood by the pharmacy team, in order to support patient safety outcomes.

Resources

Resources available to support pharmacy teams include:

- Pharmacy practice resources:
  - Pharmacy Services Standard
  - Medsafe Pharmacy Equipment reference resources[4]
  - Workplace pressures in pharmacy: Practical advice for New Zealand pharmacists, pharmacy staff and employers
- Continuing professional development resources, for example:
  - Clinical Checking Workbook : Pharmaceutical Society of NZ
  - Consultation in Pharmacy - On Demand : Pharmaceutical Society of NZ
  - Improving Accuracy in Your Dispensary - Education Course : Pharmaceutical Society of NZ

[4] Medsafe Pharmacy Equipment Requirements, accessible to pharmacy operators through the Medicines Control Online System (https://medicinescontrol.health.govt.nz/mcols)