

# Fridge (mis)Fortunes

## Cold chain breach enquiries – analysis of value

Sarah Evans, Medicines Information Ysbyty Gwynedd (West)

Presented in UKMI PDS 2018 by Charlotte Hay, Hannah John and Gwenllian Jones Medicines Information BCUHB

### Objectives

Retrospectively analyse cold chain breach enquiries which had been logged on MiDatabank Betsi Cadwaladr University Health Board (BCUHB) West over a 9 month period (1/7/16 to 1/4/17).

### Introduction

BCUHB is the largest health board in Wales, Medicines Information (MI) provide a evidence based enquiry answering service to three acute hospital sites and 152 GP surgeries, in addition to community pharmacies and hospitals. MI BCU provide a patient helpline service in addition to providing a support service to various healthcare professionals in the community e.g. midwives in patient's homes, dentists, palliative care nurses and more. BCU MI also have a dedicated email account to answer enquiries in a timely and effective manner when a phone conversation is not feasible;

[BCU.Medicinesinformation@wales.nhs.uk](mailto:BCU.Medicinesinformation@wales.nhs.uk).

Fridge enquiries are frequently found within the in-tray on MiDatabank in Medicines Information BCUHB. BCU MI process fridge enquiries in appreciation of the importance of safeguarding the NHS through effective reduction in wastage, cost savings and ensuring that items which are salvaged are still therapeutically effective and safe for the patient.

### Method

#### Identification of enquiries

- ❖ Retrospective analysis of cold chain breach enquiries logged on MI Databank BCUHB West.
- ❖ Enquiries were identified using the keyword "refrigeration".
  - ❖ 24 enquiries over a period of 9 months (1/7/16 to 1/4/17) were identified for analysis as a pilot.

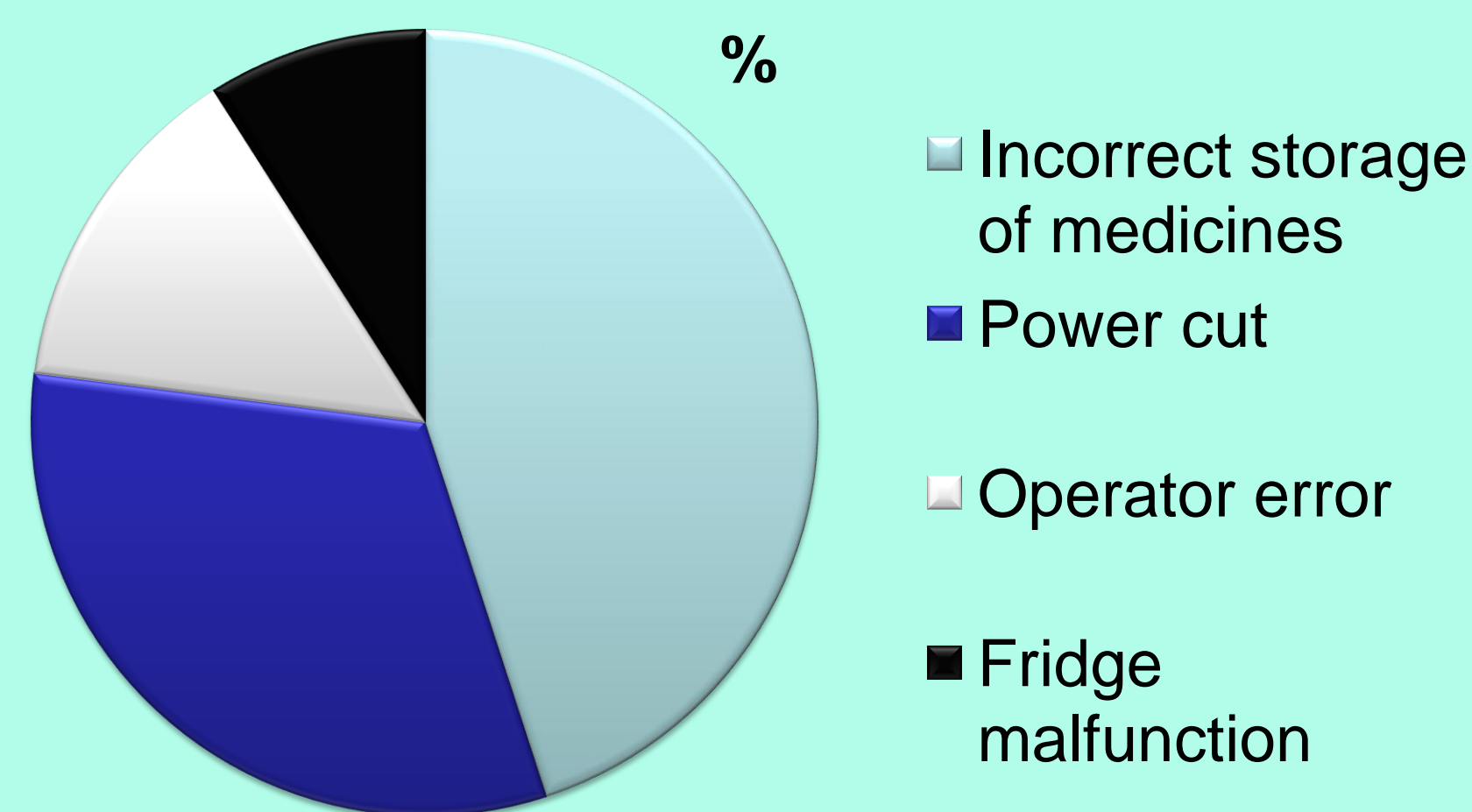
#### Inclusion criteria:

- ❖ A "Cold chain breach" was defined as a medicine licensed for storage between 2°C and 8°C, which was inadvertently stored above 8°C.
- ❖ Products licensed to be stored in a freezer were excluded.
- ❖ Products affected by the fridge temperature falling below 2°C were excluded.
- ❖ Following excluded enquiries, this left 22 enquiries for inclusion in the pilot.

### Analysis

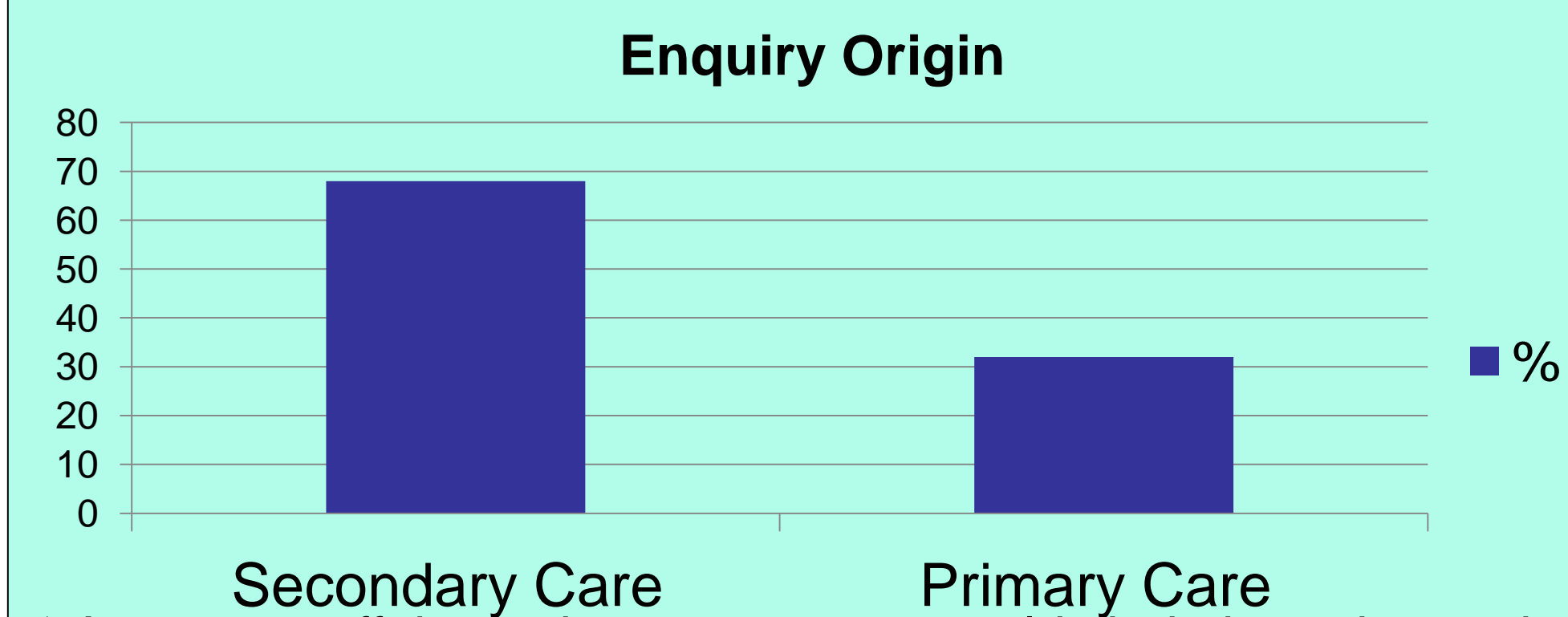
- ❖ If the quantity of the items affected was not listed in the enquiry, the quantity was taken as 1.
- ❖ The cost of each affected product was taken from the primary care services waste calculator (<http://prescribing.wales.nhs.uk/CommonLogin/CommonLogin.cfm>)
- ❖ Where the item was not included in the primary care waste calculator (e.g. hospital-only medication such as atracurium), the hospital's pharmacy computer system was used to identify the average cost for that item.
- ❖ The time taken to process the query was taken into account. This was calculated by multiplying the hourly pay rate (using the top point of the relevant A4C banding) with the number of hours taken to process the enquiry.

### Results



❖ Total cost SAVING £49,402.34

❖ Average cost saving per enquiry £2,245.56



❖ Average staff time taken to process a cold chain breach enquiry was 1.7 hours.

### Results continued

- ❖ Four enquiries in the pilot returned a loss once the cost of staff time to undertake the enquiry had been factored-in. However, in comparison to the majority of enquiries, these losses were small (£1.18 - £17.65), and the total amount lost (£26.80) accounted for just 0.05% of the total costs calculated.
- ❖ The cost savings identified from the pilot indicate that on average, savings in the region of £66,000 per annum are expected from the Medicines Information service at BCUHB West alone processing cold chain breach enquiries.

### Limitations

Enquiries were identified using the keyword "refrigeration". This keyword may not have been included in all cold chain breach enquiries processed during the 9 month pilot. A more extensive search using alternative keywords e.g. "drug stability", "drug storage" or "temperature" is likely to have yielded further enquiries which, if included, would potentially further increase the savings. It is likely there have been other fridge breaches which have not been reported to Medicines Information. For example, some breaches may have been resolved at ward level by pharmacy staff. Where medicines were given a shortened shelf life, these may not have been used in time before having to be discarded. Only fridge enquiries in MI BCUHB West were reviewed.

### Discussion and Recommendations

The fridge costing exercise should be replicated across the Health Board, to include all three Medicines Information departments (West/Central/East). Given the cost savings identified by the pilot, cold chain enquiries processed pan-BCU have the potential to save up to £200,000 per annum. An All-Wales fridge costing exercise could be considered. Incorrect storage of medication accounted for almost half of the enquiries – more training and education is required for all healthcare professionals and increased awareness of safety and cost implications of incorrect storage of medication.