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Introduction

Betsi Cadwaladr University (BCU) Health Board is the largest health board in Wales. The Medicines Information (MI) and Advice Service provide an evidence based enquiry answering service to three acute hospital sites and 152 GP surgeries, in addition to community pharmacies and hospitals.

MI teams across the UK are asked to respond to queries regarding refrigerators which have gone out of the 2-8°C temperature range set for medicines storage. The MI team are asked to ascertain whether medicinal products would be suitable for use despite not being stored within the manufacturers' recommendations for a time period.

An analysis of 'fridge enquiries' from BCU West Area showed that processing these queries avoided an average cost of £2,245.56 per enquiry. Up to £200,000 of medicines could avoid wastage each year across the Health Board. Overall that the time and resource of the MI team answering these queries is justified due to the value of the drugs that may still be used rather than wasted.

Aim

- To reduce the number of avoidable refrigerator enquiries received by MI in BCUHB by 50% over a 12 month period.

Objectives

- To identify reasons for avoidable incidents.
- To determine preventative measures.
- To implement preventative measures.

Method

A review of MI enquiries recorded on MiDatabank since 1st April 2018 with the keyword 'REFRIGERATION', incidents reported via Datix relating to refrigerated medicines and Immform data relating to vaccine wastage in primary care was undertaken. All incidents were assigned as being avoidable or unavoidable.

Avoidable refrigerator incidents fell into five categories:

- Medicinal products requiring refrigeration left out of a refrigerator.
- Refrigerator equipment 'failure'.
- Refrigerator door left open causing a rise in refrigerator temperature.
- Refrigerator switched off in error.
- External power supply problem.

Figure 1 displays the Medicines Information call numbers as a Pareto chart.

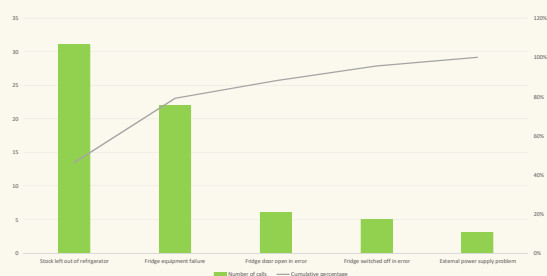


Figure 1: Pareto Chart of Medicines Information 'Fridge' calls

The narrative of the enquiries recorded on MiDatabank and Datix incidents has been used in conjunction with Improving Quality tools - such as driver diagrams, the five why's and fishbone diagrams - to identify potential interventions which are within the pharmacy department's circle of influence. Figure 2 shows a five why's to the question of drugs being left out of the refrigerator.

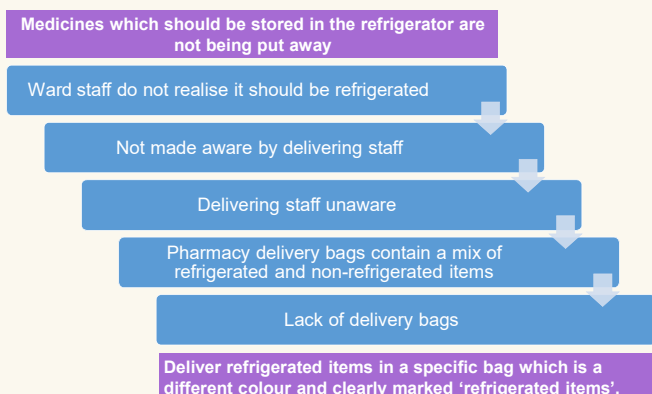


Figure 2: Five why's of medicines being left out of the refrigerator

1. Evans S, Hay C, Jones G. Fridge (mis)fortunes. Poster presented to UKMI Practice Development Seminar, 2018.

Results

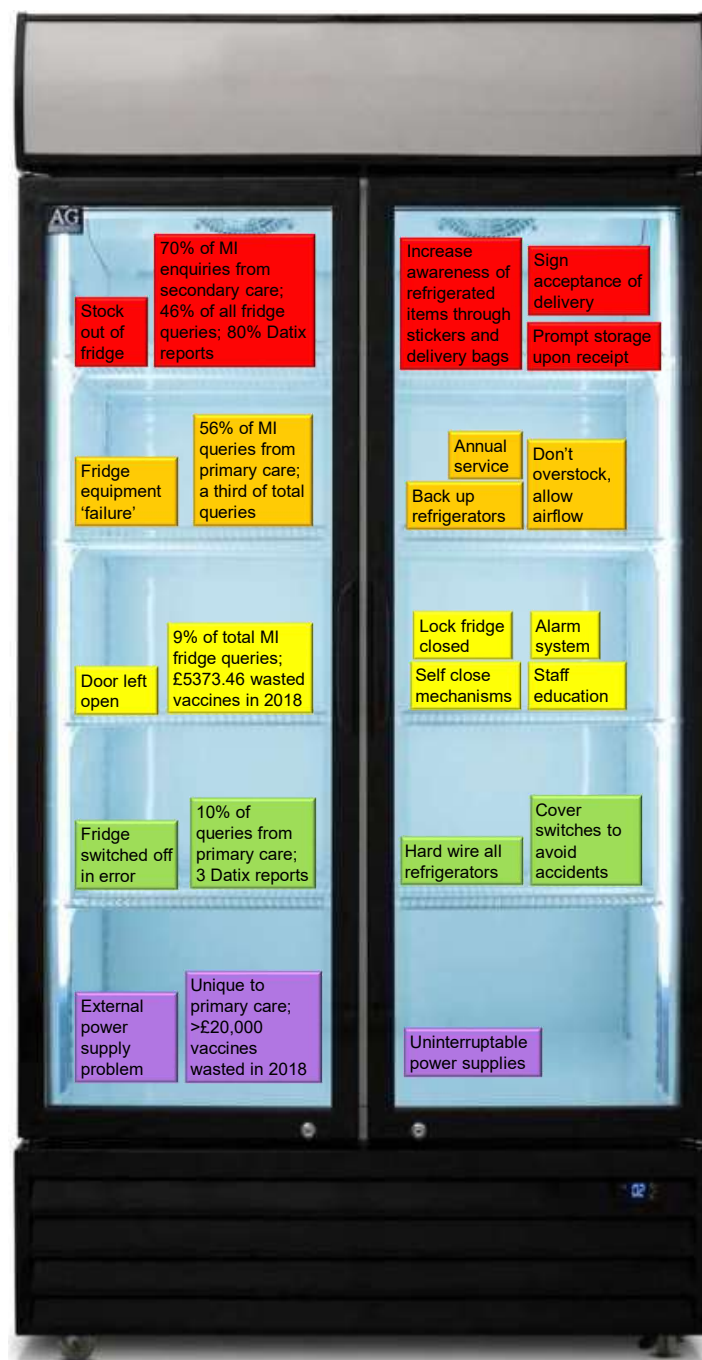


Figure 3: Ideas for change

Conclusions

As seen in the Pareto chart in figure 1, the prime target for reducing incidents and resulting call volume to the MI service is ensuring medicines are put away in refrigerators in a timely manner following delivery. This is also the reason for the majority of Datix incident reports concerning avoidable breaks in the cold chain.

Future Work

Ideas for change are shown in figure 3. The Medicines Information Team will work with Pharmacy colleagues to develop interventions and influence changes which aim to reduce medicines wastage due to a break in the cold chain.

Interventions will be piloted in one clinical area, staff in that area and involved in the delivery of refrigerated items to that area will be asked to give feedback on the intervention. Necessary changes will be adapted and then trialled in additional areas. Successful interventions will undergo further role out across each hospital site within the organisation.

It is anticipated that the number of MI queries will have reduced 12 months after full implementation.

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