

Improving Cold Chain management in General Outpatient Clinic, Hong Kong East Cluster

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Introduction:

Cold chain is a system to ensure refrigerated medicines are stored, handled and transported at the recommended temperature range of +2°C to +8°C. Standard cold chain management can ensure the quality of refrigerated medicines and the safety of patients.

From 2017-2021, in General Out-patient Clinics (GOPC), Hong Kong East Cluster (HKEC), there were 6 incidents related to cold chain failure, the temperature of pharmaceutical refrigerators in treatment rooms was out of the recommended range. 3 out of the 6 cases occurred during midnight or early morning. These cold chain failure incidents could only be followed up after clinic staff arrived.

Pharmaceutical refrigerators inside Pharmacy were connected to a 24-hour remote monitoring system. Designated pharmacy staff would take appropriate follow-up action when they received temperature outrange signals off-site. However, to minimize storing fridged medicines in the pharmaceutical fridge inside the clinic's treatment room after clinic closed, the storage capacity of refrigerators inside the Pharmacy should be increased.

Objective:

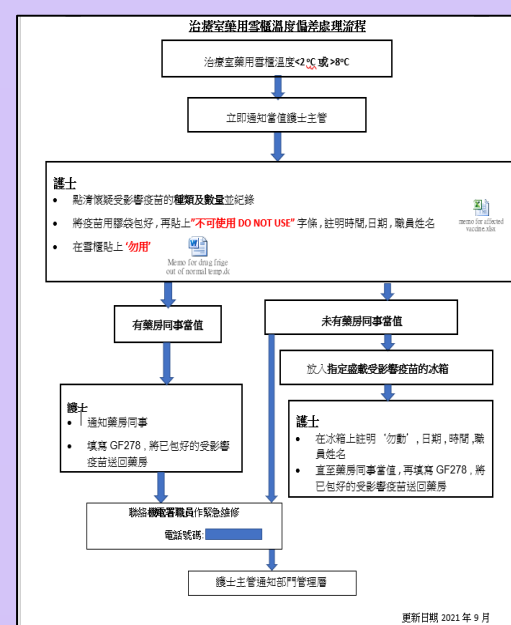
1. Review and standardize cold chain management in GOPCs, HKEC
2. Ensure refrigerated medicines can be stored and maintained according to the standard cold chain management

An example of cold chain related incident happened in Anne Black GOPC (July 2021). The incidents could only be followed up after clinic staff arrived.



Methodology:

1. Reviewed cold chain management with a contingency plan in clinics, standardized the workflow
2. In Nov 2021, conducted a site visit to clinics' pharmacies to reconstruct cabinets, redesign the shelving system; purchased and installed larger size pharmaceutical refrigerators in Pharmacies



Cold chain management workflow was standardized

Site visit was conducted for the improvement work



Site visit in Sai Wan Ho GOPC



Site visit in Chai Wan GOPC

Result:

Since Oct 2022, all pharmaceutical refrigerators in pharmacies of GOPCs, HKEC had sufficient capacity to store refrigerated medicines for clinics. This allowed minimum refrigerated medicines stored in treatment rooms at clinic sessions daily. The refrigerated medicines would return to pharmacies and be stored in the pharmaceutical refrigerators with a 24-hour remote monitoring system after the daily clinic session ended.

Enhancing Drug Fridge Capacity in Pharmacies, example in Anne Black GOPC



Pharmacy storage situation before improvement work



Removed the shelf and installed a smaller-size fridge to increase the fridge capacity



All refrigerated medicines in treatment room would return to pharmacy after daily session ended

Conclusion:

Proper cold chain management is important to ensure the quality of refrigerated medicines and patient safety.