

Why Monitor?

- The World Health Organisation (WHO) recommendations on the storage of vaccines and maintenance of the 'cold chain', stipulate that vaccines should be transported and stored according to the manufacturers' recommended temperature range of +2 to +8°C until the point of administration.
- Heat speeds up the decline in potency of most vaccines and freezing may cause increased reactogenicity and loss of potency.
- Pharmaceutical distributors and manufacturers will not accept any vaccine for return once it has left their control, so vaccines may be wasted.



What is a Data Logger?

A data logger is a small, battery powered device that can record temperature. Data loggers are typically started (often using a computer), placed in an application and then retrieved at a later date and downloaded to obtain a graph showing the temperature of the storage conditions.

Why use a Data Logger?

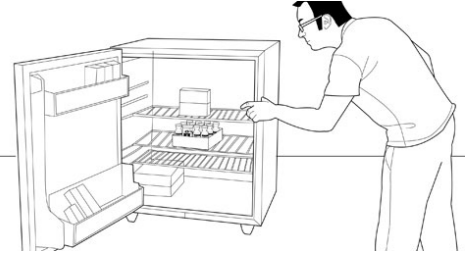
- The WHO recommendation is for the temperature of vaccine refrigerators to be continually monitored and for a record to be taken at least once per day and documented on a chart. Historically, a min/max thermometer would be used for this purpose. However, this is laborious and prone to human error, so a small data logger that sits next to the vaccines is an easier, more effective solution.



- Data loggers can provide a comprehensive record of a fridge's temperature history in a clear and simple graph.
- Many data loggers feature indicators to show when the temperature reaches unacceptable levels.
- Data loggers are equally at home in cool boxes or anywhere else in the cold chain.
- The presence of data loggers helps to highlight the importance of best practice in vaccine management.

Useful Tips

- Data loggers should be positioned alongside the vaccines, preferably in the middle of a fridge where the temperature is most stable.
- Ice build-up should be avoided because this reduces the effectiveness of the refrigerator.
- During defrosting, an alternative refrigerator or an approved cool box (also monitored with a data logger) should be used to temporarily store the vaccines.
- When packaging and transporting vaccines to outlying clinics, validated cool boxes and ice packs from a recognised medical company should be used.
- Vaccines must be kept in the original packaging, wrapped in bubble wrap or other insulation material and placed in a cool box with cool packs as recommended by the manufacturers' instructions.



Calibration to Maintain Accuracy

- The WHO recommends annual calibration checks.
- Data logger suppliers, such as Gemini Data Loggers (UK) Ltd, offer a calibration service where data loggers can be returned for a new battery and a UKAS traceable certificate of calibration.

References

World Health Organisation (2006) Temperature Sensitivity of Vaccines

http://whqlibdoc.who.int/hq/2006/WHO_IVB_06.10_eng.pdf

Further Information

To find out more about data loggers and how they are used, or to discuss your application, please contact:

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