Storage and Ordering of Vaccines

Catryn Dixon
Screening & Immunisation Coordinator
NHS England South (South Central)
Learning objectives

• Identify the key principles of ordering and storing vaccines

• Explain the procedures for maintaining the cold chain

• Discuss the steps to take when there is a break in the cold chain
Cold Chain

What is the cold chain?

Why is it important?
Cold Chain

Manufacturer ➔ Transport ➔ Surgery/pharmacy/clinic ➔ Vaccine session/appt ➔ Patient
Ordering/delivery/storage

- Order 2-4 weeks of vaccine at a time
- Check delivery for leaks/damage
- Store promptly (in original vaccine boxes)
- Don’t overstock fridges
- Rotate stock
- Maintain a stock information system to track orders, expiry dates and keep a running total of vaccines
- Ordering is done in time for clinics
At least two named, trained people need to be responsible for ordering, receipt and care of vaccines (one from the nursing team and one from management).

All members of the primary care team should be aware of the importance of good vaccine management.
Ordering Vaccines

Centrally Supplied through Immform

- For the national routine immunisation programmes, including universal and targeted programmes
- Catch-up vaccination of older children and adults to complete their immunisations as part of the routine immunisation programme, including people coming to live in the UK
- Via the Department of Health’s ImmForm website [www.immform.dh.gov.uk](http://www.immform.dh.gov.uk) (Movianto)
Vaccines Currently Available to order through Immform (Jan 2017)

- Fluenz
- Bexsero
- Paracetamol
- Menveo
- BCG
- Pediacel
- Infanrix IPV Hib
- Revaxis
- Rotarix
- Zostavax
- Infanrix IPV
- Boostrix
- Monitorix
- Gardasil
- NeisVac-C
- MMR Vaxpro
- MMR Priorix
- Prevenar 13
- PPD - 2TU
- PPD - 10 TU
- Nimenrix

NB: Vaccine ordering may occasionally be restricted in order to manage stock levels
Ordering Vaccines

Purchased from individual vaccine manufacturers
• other vaccines indicated by medical condition or lifestyle
• occupational health immunisations
• travel immunisations
• national outbreaks and health protection incidents

The cost of some of these vaccines can be claimed back.
Vaccine storage

- Dedicated vaccine fridge, no specimens, milk etc
- Temp between +2 and +8 °C
- Min, Actual & Max temp recorded daily
- Two min/max thermometers
- Has good air flow around vaccines
- Appropriate size for quantity of vaccines
- Locked or kept in a locked room
- Power supply secured
Validated cool boxes (carriers)

Do:
- use a validated medical grade cool box and cool packs
- monitor max/min temperature while the box is in use
- keep vaccines in their original packaging
- take only enough vaccine for a particular session and minimise exposure of the vaccines to room temperatures
- mark vaccines removed for an external session before returning to the fridge and then use at the earliest opportunity
- choose appropriate sizes of cool box for the amount of vaccine needed.
The vaccine fridge

Vaccines cost the NHS around £200 million a year. The loss of only one dose of Pediacel vaccine a month in each general practice is worth more than £2 million a year.

Validated vaccine fridges cost £600 – £1200
A validated carrier costs around £300

All practices should have a validated vaccine fridge – domestic fridges are not suitable for storing vaccines
No. vaccine wastage incidents: February 2012 - February 2014

- Fridge equipment failure NOT as a result of loss of power
- Fridge door left open in error
- Excess stock ordered in error
- Faulty stock – reported to manufacturer
- External power supply problem (i.e. power cut to the building)
- Fridge switched off in error
- Stock left out of fridge in error
- Vaccine (NOT Fluenz) expired before it could be used e.g. because it was not rotated
- Vaccine lost or mislaid
- Vaccine prepared but damaged before use
- Vaccine prepared but patient refused
- Other (not used after 06/11/13)
- Vaccine stolen or damaged during attempted theft
Audit

• Every day: temperatures
• Every week: fridge contents
• Every month: vaccine stock
• Every three months: audit stock and temp records
• Annually: Vaccine Storage Audit Tool

http://www.ovg.ox.ac.uk/sites/default/files/Cold%20chain%20Audit%20Dec10v2.pdf
Fridge temperature recording: the ‘Four Rs’

- **Read**: Daily reading of maximum, minimum and current temp at the same time every working day
- **Record**: Record the temperatures in a standard fashion on a standard form and sign each entry
- **Reset**: Reset the thermometer after each reading and once temperatures have stabilised after periods of high activity
- **React**: The person recording the temperature should take action if the temperature falls outside the +2°C to +8°C range.
1. What is a cold chain incident?

2. What actions should you take following an incident?
There’s been a break in the cold chain! What should I do?

- Label and quarantine all affected vaccines in a working vaccine fridge and notify relevant personnel

- Identify when the cold chain was last assured

- Identify and keep a log of any patients who have received an affected vaccine

- Order emergency vaccine supplies through Immform to minimise disruption to immunisation services

- Contact the relevant vaccine manufacturers to ascertain the stability of the quarantined vaccines
There’s been a break in the cold chain! What should I do?’

- Any vaccines considered safe for use by the manufacturer should be labelled and used in accordance with the manufacturer’s instructions.

  Please note that any such vaccines will become ‘off label’ and therefore will not be covered under your current PGD’s. If you decide to use ‘off label’ vaccines these will require a PSD. Patients should be notified that although clinically safe and effective the vaccine is ‘off label’. It remains the patient’s choice whether to accept an ‘off label’ vaccine.

- Dispose of those vaccines considered unsuitable for use, in accordance with local policy.

- Complete the ‘Stock Incident Capture Form’ on Immform and amend if necessary.

- Complete and return a ‘Significant Event and Serious Incident’ form. (available from: Catryn.dixon@nhs.net and england.qualitythamesvalley@nhs.net).
Next Steps…

• Reflect - how and why the cold chain incident occurred

• Take action – e.g. buy, repair or replace equipment; address training needs; refine processes

• Learn from the experience

• Share best practice - within and outside your organisation
Vaccine incident guidance

Actions to take in response to vaccine errors

http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1267551139589
Other cold chain resources

Vaccine ordering and storage poster

Cold chain audit tool
www.ovg.ox.ac.uk/Vaccsline

Protocol for ordering, storing and handling vaccines

Fridge failures helpsheet

VACCINE STORAGE AUDIT TOOL

Policy & Procedures

1. Does the policy state an explicit procedure for thawing and the thawing process that is in place? [
2. Are all staff trained on thawing techniques, and/or are they given a reference document to follow? [
3. Are all staff trained on how to handle the vaccine after thawing? [

Ordering and monitoring of stock

1. Is there a clear set of instructions for ordering and supplier selection? [
2. Are there any local protocols in place for ordering? [

ImmForm Helpsheet 18 – Fridge failures and stock incidents
This helpsheet tells you what to do in the event of a fridge failure, other breach in the cold chain, or any incident leading to wastage of vaccine stocks.

Contents
1. Storage of vaccines
2. Vaccine manufacturers’ contact details
3. Reporting wastages
4. Ordering replacement vaccines
5. Out of schedule delivery requests
Maintenance of the cold chain is vital to the delivery of successful immunisation programmes