



Public Health
England

NHS
England

Storage and Ordering of Vaccines

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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

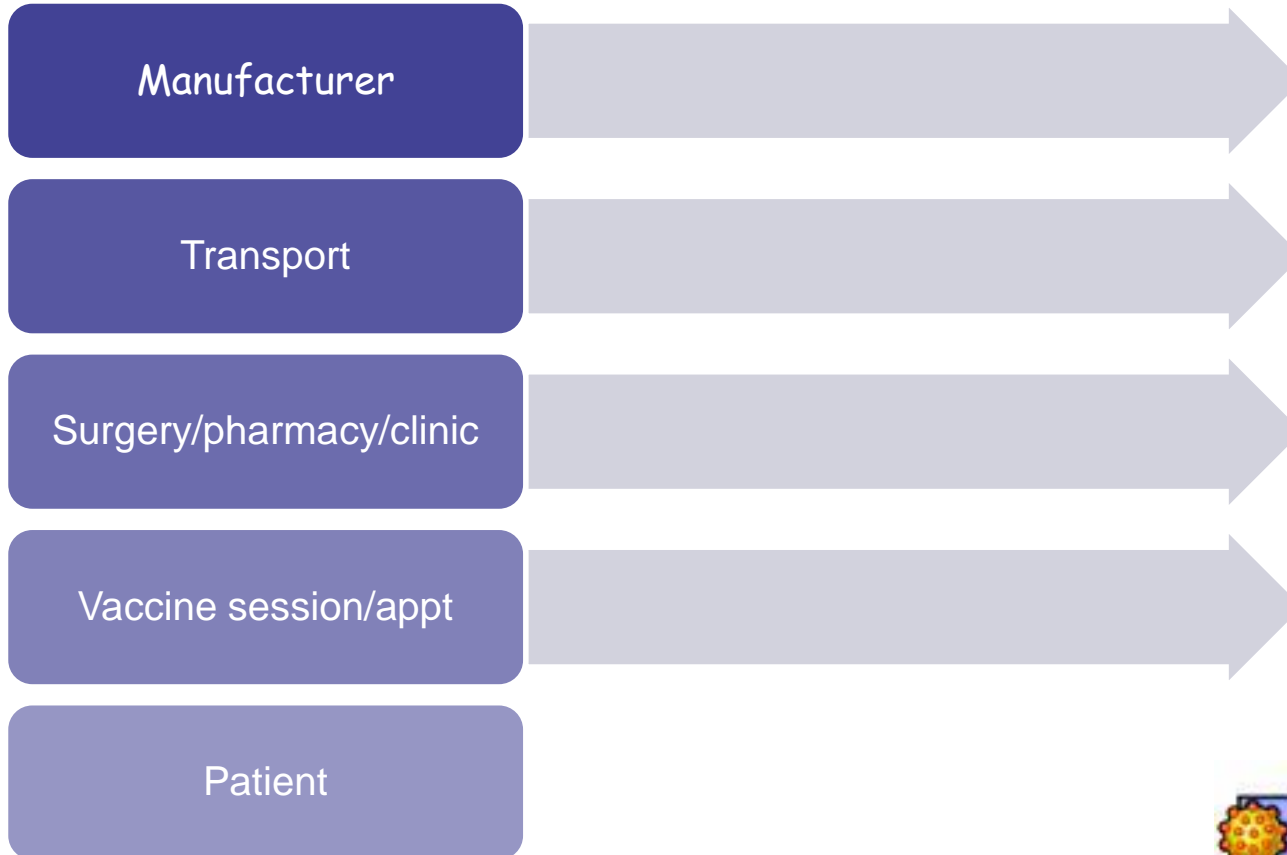
What is the cold chain?

Why is it important?





Cold Chain





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 (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**
- **Menitorix**
- **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.

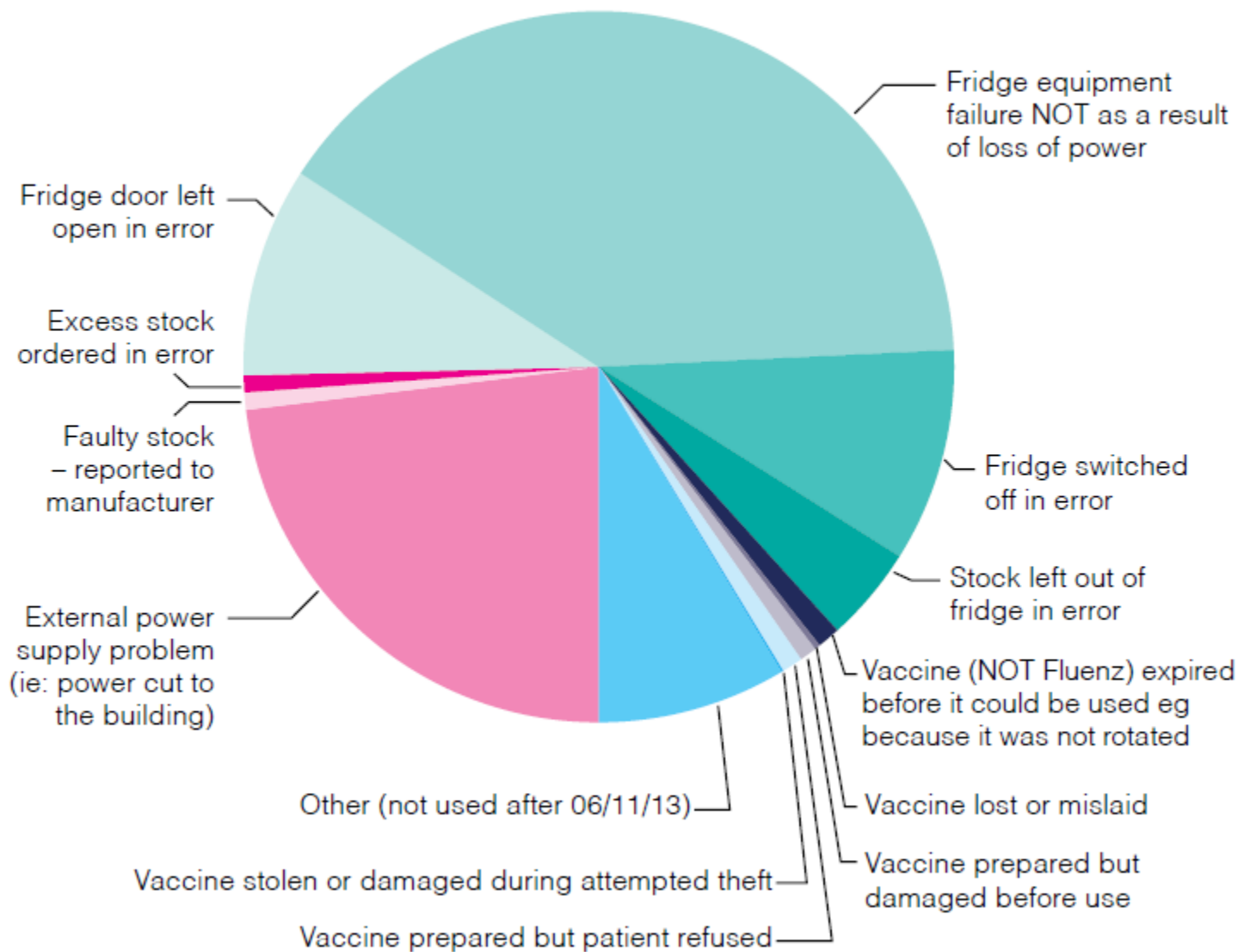
Validated vaccine fridges cost £600 – £1200

A validated carrier costs around £300

All practices should have a validated vaccine fridge – domestic fridges are not suitable for storing vaccines



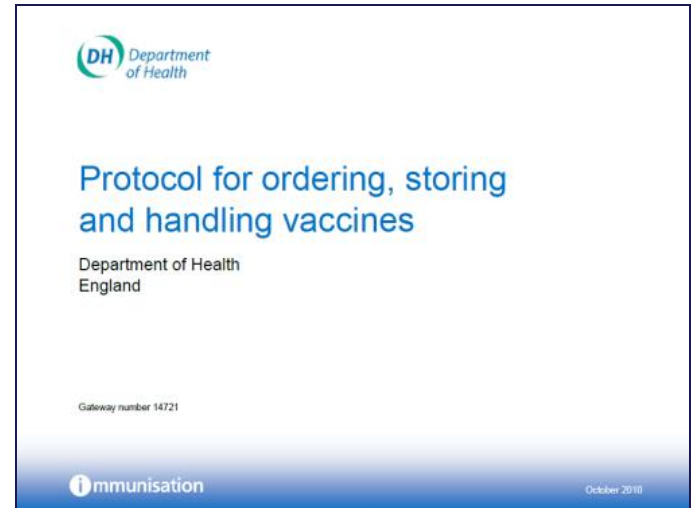
No. vaccine wastage incidents: February 2012 - February 2014





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






Other cold chain resources



Keep your vaccines healthy NHS



When ordering please remember...

- Order when you have two to four weeks' worth of stock left
- You can make weekly orders, so it's best to order smaller amounts regularly
- Some vaccines come in multi-dose packs - check you order the correct number of doses
- Check Vaccine Update newsletter for latest information

When receiving your order please remember...

- Check your order thoroughly when it arrives, it can't be taken back afterwards
- Refrigerate the stock as soon as you have checked it off against the order
- Place the new stock towards the back of the fridge so the shortest-dated stock is used first
- Do not over fill the fridge as this restricts airflow

When stocking your fridge please remember...

- Check expiry dates regularly - never use out of date vaccine
- Keep vaccines in their original packaging in the main part of the fridge, not in drawers
- Keep your fridge door locked at all times
- Keep the opening of the fridge door to a minimum
- Use a maximum minimum thermometer and keep a daily record of the temperature
- Have back-up storage for your vaccines in case of power failure
- Position the fridge plug away from heat sources and mark or tape the fridge plug to avoid it from being turned off accidentally
- See Chapter 3 of the Green Book for more information

Keep a record of your account details

Our NHS Movements account number is
We need to place orders before 11:55 am on a
for a delivery on: _____

in event of fridge failure contact ImmunForm Helpdesk 08443 76040 immediately
www.immunform.org.uk
email: helpdesk@immunform.org.uk
For delivery queries call Movements directly on 01234 248632

immunisation
the NHS way to protect your health

Vaccine ordering and storage poster

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/184748/vaccine-safety-poster-Aug2012-web-ready.pdf

Cold chain audit tool

www.ovg.ox.ac.uk/Vaccline

VACCINE STORAGE AUDIT TOOL

- Audit procedure**
- Work through each of the questions below and tick box, yes or no as appropriate
 - If you have ticked all white boxes then the audit is complete and no further action is needed.
 - If you have ticked any boxes that are shaded grey it means that you are not following national cold chain guidance and action must be taken in order to be compliant. See below as where to locate guidance.
 - Set a time scale to address the action and then perform the audit again
 - This tool should be used in conjunction with Immunisation Against Infectious Diseases, (The Green Book 2009), chapter 3, Storage, distribution and disposal of vaccines and the DH Protocol for ordering, storing and handling vaccines (published 30/09/2010) available at: <http://www.dh.gov.uk/about/immunisation/immunisation/StorageDistributionandHandlingofVaccines.pdf>
 - A record of the audit should be kept. Audits should be completed annually unless issues identified require earlier repeat visits

Policy & Procedures	YES	NO
1. Does the practice have an up to date cold chain policy (revised within the last two years) that is accessible to all staff?		
2. Have all staff handling vaccines, from receipt to administration, been trained to follow policies to ensure cold chain compliance?		
3. Are there at least two trained people responsible for the ordering, receipt and care of vaccines?		
Ordering and monitoring of stock	YES	NO
4. Are vaccine stocks monitored prior to ordering?		
5. Is there more than four weeks supply of vaccine in the refrigerator? (excluding influenza vaccines)		

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216177/dh_130276.pdf



Protocol for ordering, storing and handling vaccines

Department of Health England

Gateway number: 14721



October 2010

Fridge failures helpsheet

<https://www.gov.uk/government/organisations/public-health-england/series/immunisation>



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.

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Maintenance of the cold chain is vital to the delivery of successful immunisation programmes

