Government of **Western Australia**
North Metropolitan Health Service
Mental Health, Public Health and Dental Services

Fridge Detectives

Susie Ridderhof CNS/RIC
Boorloo (Perth) Public Health Unit
November 2024

We are proud to be a smoke-free site. Thank you for not smoking or vaping.

One team, **many** dreams.
Care / Respect / Innovation / Teamwork / Integrity

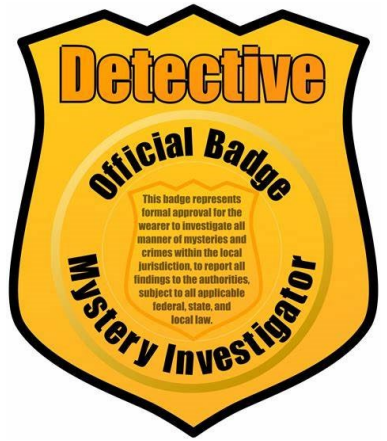
Acknowledgement of Country

We acknowledge the Noongar people as the traditional owners and custodians of the land on which we work, and pay respect to their elders both past and present.

North Metropolitan Health Service recognises, respects and values Aboriginal cultures as we walk a new path together.

Summary

- Boorloo (Perth) PHU follows up cold chain breaches and conducts an annual audit on behalf of the DOH in the metro area
- 2023/2024 audit: requested a fridge photo and recent DL report
- Cases from audit and other breaches
- Your mission
- Answering etiquette



Case number 1

DATE	TIME	˚C
4-Oct-23	01:25	2.3
4-Oct-23	01:30	3.8
4-Oct-23	01:35	3.5
4-Oct-23	01:40	1.5
4-Oct-23	01:45	1.3
4-Oct-23	01:50	2.6
4-Oct-23	01:55	4.1
4-Oct-23	02:00	3.2
4-Oct-23	02:05	1.1

DATE	TIME	˚C	
4-Oct-23	01:25	2.3	
4-Oct-23	01:30	3.8	
4-Oct-23	01:35	3.5	
4-Oct-23	01:40	1.5	←
4-Oct-23	01:45	1.3	←
4-Oct-23	01:50	2.6	
4-Oct-23	01:55	4.1	
4-Oct-23	02:00	3.2	
4-Oct-23	02:05	1.1	←

General practice: complex breach

- Breach found in audit in October 2023
- Extensive dips < 2 degrees including freeze events down to -5.9 degrees, dating back to June 2022
- On extensive investigation – fridge issue
- Staff stated, ‘the alarms didn’t go off’, ‘they didn’t know about reporting breaches < 2 degrees’, ‘taught that short breaches < 2 degrees for < 15 mins were OK’, ‘vaccines would be OK as short freezes’

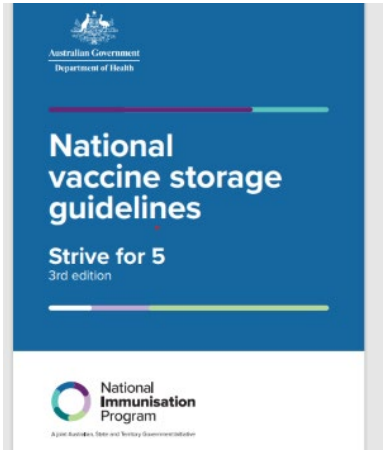
- 585 revaccination plans required

What should the practice have done?

The practice should have:

- Not relied on alarms

- Reviewed the data logger at least weekly
- Reported the first instance of temperature dips < 2 degrees
- Had awareness of baseline temperature on data logger
- Followed the National Guidelines



Case number 2


BROMIC
4.7
PFIZER ADULT XBB1.5
0.3ML
PFIZER KIDS XBB1.5
0.3ML
FLUCELVAX QUAD
FLUAD Quad
boostrix
arrtex


BROMIC
PFIZER ADULT XBB1.5
0.3ML
PFIZER KIDS XBB1.5
0.3ML
FLUCELVAX QUAD
boostrix
FLUAD Quad
Prevnar 20
arrotex

Pharmacy in well-known pharmacy chain

- Light exposure + dip < 2 degrees found on audit May 2024
- Multiple 0-2˚dating back to March (174 hrs) / one warm breach (6 hrs)
- DL set to record every 60 minutes; downloading once a day
- Checking min/max once a day
- Servicing fridge every 2 years
- Influenza (x 3 brands), dTpa and Shingrix vaccines compromised
- 89 vaccines discarded
- 12 individual revaccination plans for dTpa and Shingrix + generic letter for flu vaccines given between dates of breach

What should the pharmacy have done?

What should the pharmacy have done?

- Kept the vaccines in their original packaging and ensured lids closed
  * most vaccines are sensitive to any form of UV light, including fluorescent light; MUST be stored in original packaging

- Ensured the data logger was set to record every 5 minutes
- Reviewed the data logger report when downloaded each day
- Checked the min/max temperature twice a day
- Reported the instance of the temperature dip < 2 degrees
- Positioned the data logger centrally
- Had the vaccine fridge serviced annually

Case number 3


Vaxelis
Diphtheria, tetanus, pertussis (acellular components), hepatitis B (rDNA), poliovirus (inactivated), and Haemophilus influenzae type b conjugate vaccine
Rotarix
Prevenar
Infanrix Hexa
PRESCRIPTION ONLY MEDICINE
KEEP OUT OF REACH OF CHILDREN
Vaxelis / INFANRIX HEXA
Diphtheria, tetanus, pertussis (acellular components), hepatitis B (rDNA), poliovirus (inactivated), and Haemophilus influenzae type b conjugate vaccine
Suspension for Intramuscular Injection
10 Single-dose 0.5 mL pre-filled syringes without needles
AUST R 363251
sanofi
MCM
Priorix-Tetra
DO NOT ACCEPT IF SEAL IS BROKEN
Nimenrix
PRESCRIPTION ONLY MEDICINE
KEEP OUT OF REACH OF CHILDREN
Vaxelis
Diphtheria, tetanus, pertussis (acellular components), hepatitis B (rDNA), poliovirus (inactivated), and Haemophilus influenzae type b conjugate vaccine
Suspension for Intramuscular Injection
10 Single-dose 0.5 mL pre-filled syringes without needles
AUST R 363251
sanofi
MCM
Proquad
Gardasil (Wart Virus)
Prevenar 13
Pneumococcal polysaccharide conjugate vaccine, 13-valent adsorbed
10 single-dose pre-filled syringes (each 0.5 mL)
PRESCRIPTION ONLY MEDICINE
FLUAD Quad
Rotarix
1 dose = 1.5 mL
Hep B Vax
Pneumovax23
Shingles (Adult Chicken Pox) 70-80 YO
Nesi Vac (Meningitis)
Varilrix/ Variax (Chicken


Vaxelis
Diphtheria, tetanus, pertussis (acellular components), hepatitis B (rDNA), poliovirus (inactivated)
Priorix-Tetra
DO NOT ACCEPT IF SEAL IS BROKEN
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General practice

- Breach due to power outage reported: warm breach 1 hr 30 min
- Also cold breach found: 10 mins at 1.5˚

- Practice manager and practice nurse had resigned
- Cold chain being managed by a receptionist who had received minimal training
- Most vaccines able to be retained
- State of fridge evident at site visit: overcrowded fridge, vaccine boxes pushed to back of fridge
- Education and support provided

What should the practice have done?

What should the practice have done?

- Been careful with ordering to ensure fridge is not overcrowded
- Provided training to the receptionist
- Ensured policies and procedures are recorded
- Ensured no vaccine boxes pushed to back of fridge
- Placed vaccines in open-weave plastic baskets to ensure good air flow
- Labelled baskets with vaccine name

Case number 4


LIEBHERR
CRITICAL INFORMATION
CRITICAL INFORMATION


CRITICAL INFORMATION
CRITICAL INFORMATION

Temperature sitting in SPOILAGE area

Residential care facility

- Electronic min/max display broken
- Ancient thermometer used
- No data logger
- Mixture of vaccines, medications and food!
- Staff had poor knowledge of National Guidelines

What should the facility have done?

What should the facility have done?

- Purchased a new vaccine fridge when the electronic fridge display broke
- Placed a data logger in the fridge and ensured monitoring as per National Guidelines
- Ensured twice-daily min/max temperature readings
- Only stocked vaccines in the fridge
- Ensured all staff trained in cold chain management
- Ensured policies and procedures developed

Why are these cold chain issues occurring?

- New practice staff/high turnover of practice staff
- Practice/facility staff not reviewing data logger reports
- Lack of awareness of CCB reporting
- Many breaches detected through audit

Essentials of Cold Chain Management

Vaccine fridge

Out of direct sun

Airconditioning

Locked room

Not against an outside wall

Do not overstock

Vaccines kept in original packaging

Open weave baskets

Allow air flow in and around fridge

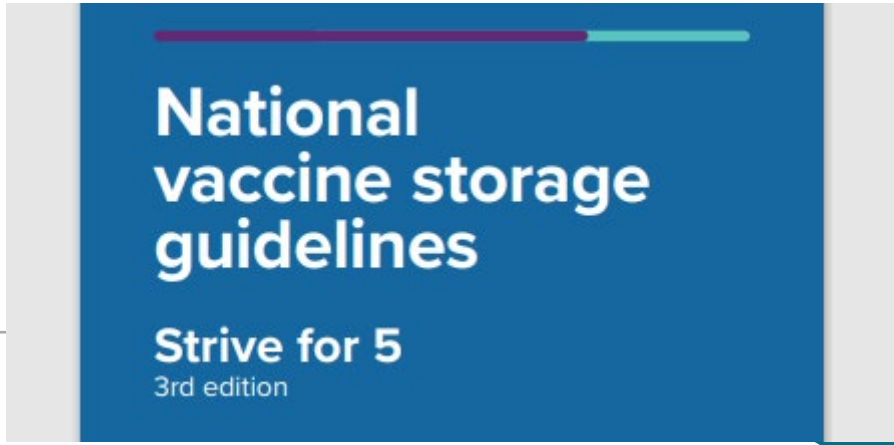
Labelling of baskets

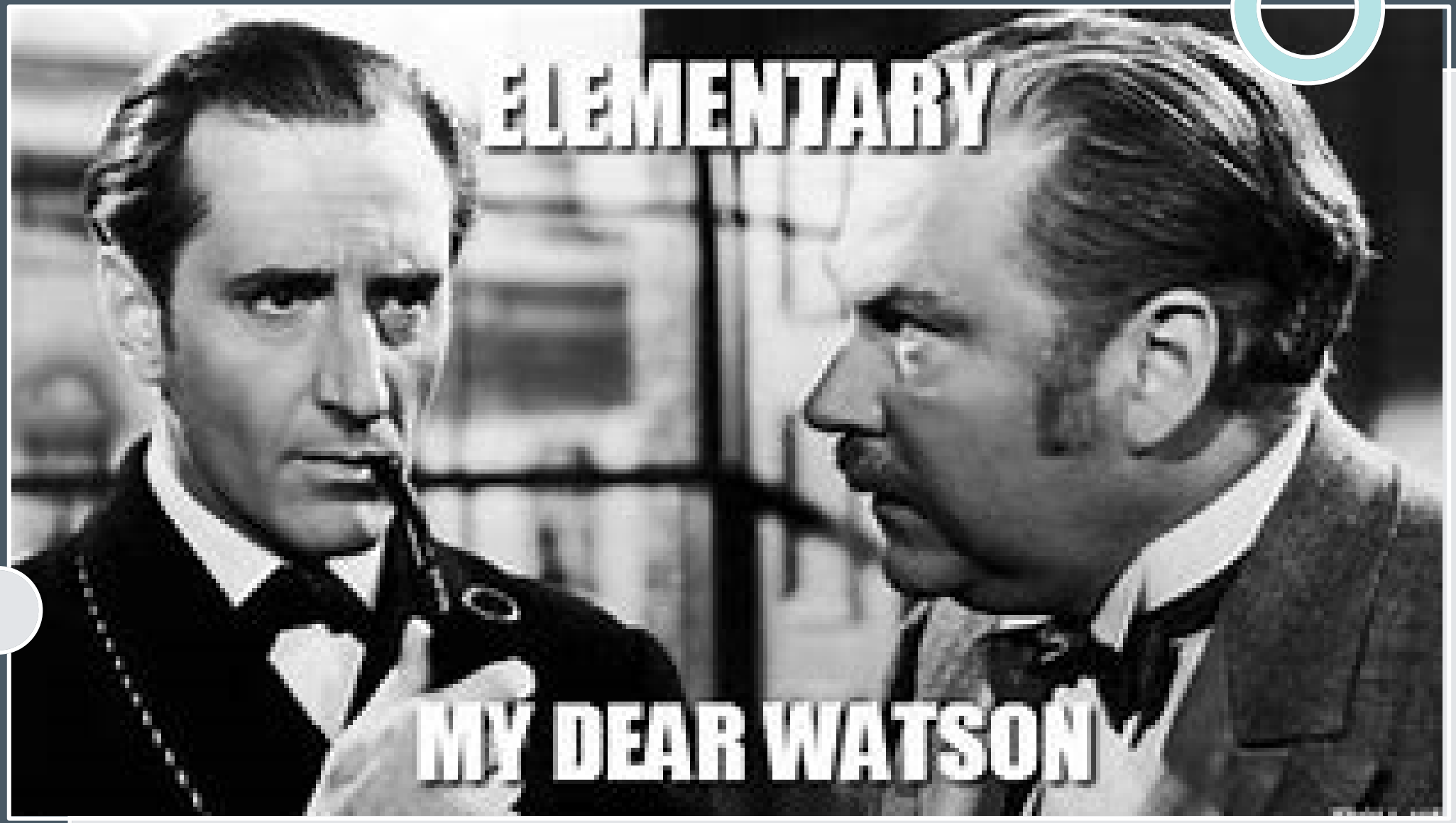
If the fridge has a solid door, have a guide of where to locate vaccines

Rotate stock so that the boxes with the shortest expiry date are at the front

Other Essentials of CC Management

- Comply with National Guidelines
- Data logger in situ - set to record every 5 minutes
- Download and **REVIEW** at least once a week
- Review and record current/min/max temperature twice a day
- Appropriate emergency storage
- Report CCBs
- Annual audit




ELEMENTARY
MY DEAR WATSON

Thank you!

Any questions?