

Government of **Western Australia** Department of **Health** 

# Influenza – Challenges & Issues for Healthcare workers





# Outline

- 1. Basics of influenza
- 2. Surveillance
- 3. Vaccines
- 4. HCW program challenges

# Influenza

- Orthomyxovirus
  - Glycoproteins: Haemagglutinin, Neuraminidase
  - Classified antigenically into A and B
    - Subtypes A(H1N1) and A(H3N2)
    - B lineages Yamagata & Victoria
- Clinical symptoms:
  - Fever, nasal congestion, cough, sore throat, myalgia, headache, fatigue
- Transmission:
  - Aerosol spread
  - Seasonally in the winter months of the southern and northern hemispheres
- High risk groups:
  - Older adults, young children, pregnant women, indigenous persons, and individuals with atrisk medical conditions



# A, B, what's the difference?

• CDC study shows no difference in severity between A & B



SOURCE: Su et al., 2014





# Keep up to date with Virus WAtch



- Weekly update of influenza flu activity in WA
- <u>VirusWAtch@health.wa.gov.au</u> to subscribe

### Influenza in Western Australia



# Influenza vaccines

- Recommended for at-risk groups:
  - Pregnant women
  - Adults ≥65 years
  - Those with chronic medical conditions
  - Aboriginal individuals
  - Children <5 years (WA only)
- Live attenuated vaccines (nasal spray)
  - Cold-adapted, attenuated virus
  - Widely used in UK and US
- Chemically split inactivated virus
  - Candidate influenza virus is grown in eggs and chemically split (inactivated)
  - Typically intramuscular administration
- Quadrivalent and trivalent vaccines



Season	A/H1N1	A/H3N2	B-Yamagata	B-Victoria
South 2014	A/California/7/2 009 (H1N1) pdm09-like	A/Texas/50/201 2 (H3N2)-like	B/Massachusett s/2/2012-like	B/Brisbane/60/2 008-like
North 2014/15	A/California/7/2 009 (H1N1) pdm09-like	A/Texas/50/201 2 (H3N2)-like	B/Massachusett s/2/2012-like	B/Brisbane/60/2 008-like
South 2015	A/California/7/2 009 (H1N1) pdm09-like	A/Switzerland/ 9715293/2013- like	B/Phuket/3073/ 2013-like	B/Brisbane/60/2 008-like
North 2015/16	A/California/7/2 009 (H1N1) pdm09-like	A/Switzerland/9 715293/2013- like	B/Phuket/3073/ 2013-like	B/Brisbane/60/2 008-like
South 2016	A/California/7/2 009 (H1N1) pdm09-like	A/Hong Kong/4801/201 4 (H3N2)-like	B/Phuket/3073/ 2013-like	B/Brisbane/60/2 008-like

# TIV vs QIV

- Trivalent influenza vaccine (TIV) protects against 3 strains, Quadrivalent influenza vaccine (QIV) protects against 4 strains
- There are no studies to show the protection by QIV is clinically superior to TIV



- QIV produces superior antibody titres for additional B strain
- Hypothetical advantage to having extra B-lineage in vaccine is dependent on how widely B-lineage virus circulates during season

# Safety Surveillance



- Annual, routine surveillance of reactions to influenza vaccine
  - 1) Passive Surveillance WAVSS
    - Initiated in 2011
    - Relies on passive reporting of healthcare providers and the public
    - Reports submitted by fax, telephone, or online

#### 2) Active Surveillance:

- Actively monitor potential AEFI by enrolling participants and following them up for a pre-defined period
- Provides the most timely information
- · Provide safety information for specific populations









### How many people get immunised?

• Routinely collected data show....





#### Number of Employees immunised, by Professional Group

# Barriers to influenza vaccination

- International studies in HCWs
- Motivators:
  - Self-protection (90%)
  - To protect patients (55%)
- Barriers:
  - Not at risk for influenza (43%)
  - Fear of adverse effects (33%)



### Plan to receive flu vaccine in 2016

- Surveyed WA Health employees via Healthpoint
- 122 unimmunised healthcare workers provided responses
- 32% said they were planning to be immunised in 2016



# Barriers to influenza vaccination

Reason	Number (%)
Never get it / no reason to	55 (42%)
Accessibility	36 (28%)
Sick from flu vaccine	21 (16%)
Personal choice	9 (7%)
Contraindicated	5 (4%)
Fear of needles	2 (1%)
Does not protect you	1 (<1%)
Other	1 (<1%)

Work part time Not here on days it was offered

> Was flat out at work when the vaccine was available, so missed out

because i didn't want to get sick from it. i very infrequently get the flu or even a common cold.

> I had a bad reaction to a flu vaccine many years ago.

# Inaccurate beliefs

Belief	Number (%)
I have good immunity and don't need it	29 (24%)
Flu vaccine makes you sick	15 (12%)
Not a high risk group and don't need it	11 (9%)
Flu vaccine doesn't work	8 (7%)
Same vaccine as last year	1 (1%)
Flu is the same thing as a cold	5 (4%)

Because I dont get the flu and I'm not in a 'high risk' cohort.

I have never had a flu vaccine. I'm not a member of a high risk group, don't work in a high risk profession, and am generally very healthy...

I have good immunity.

Conscious decision not to get vaccinated as strains included in vaccine are a bit hit and miss/speculative.

# **Reasons for vaccination**

 Protect yourself – influenza can be a serious disease



- 2. Protect your family can spread to others even if not feeling sick
- 3. Protect your patients high risk groups frequent hospitals and healthcare settings and are more vulnerable to serious disease

# Summary

- Influenza is a serious disease that has severe impacts on many vulnerable populations
- Surveillance of influenza seasons allows us to determine the vaccine composition
- Quadrivalent vaccine is relatively new, and affords protection against an additional B strain
- Annual vaccine safety and effectiveness programs all WA Health to monitor the vaccine each year
- This information may encourage more healthcare workers to get immunised each year

# Questions?

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