

October 10th, 2017

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Agenda

- Didactic: John Lynch, Influenza Update
- Case Discussion
- Open Discussion

Influenza Update

John Lynch, MD, MPH

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Harborview Medical Center &

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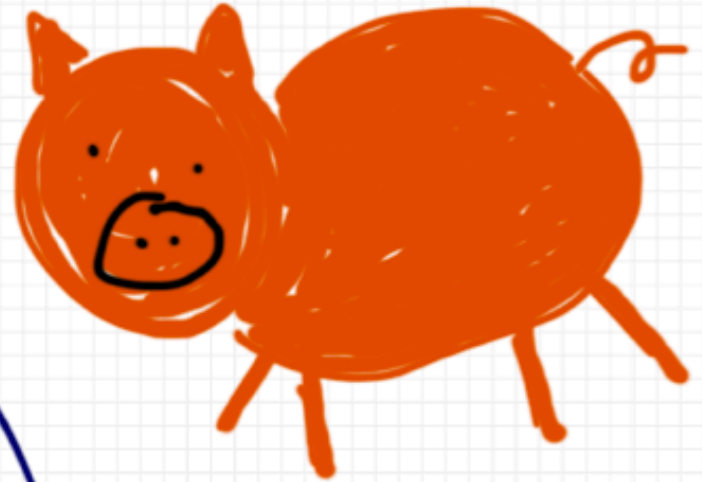
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Influenza

- Huge burden of disease globally, ~15% of the population infected annually
- High mortality, 250,000-500,000 /yr
- Lots of virus in secretions from 2 days before symptoms and can last weeks and persist on surfaces
- Many documented nosocomial outbreaks
- Outbreaks linked back to unvaccinated HCP
- Presenteeism continues to be a problem

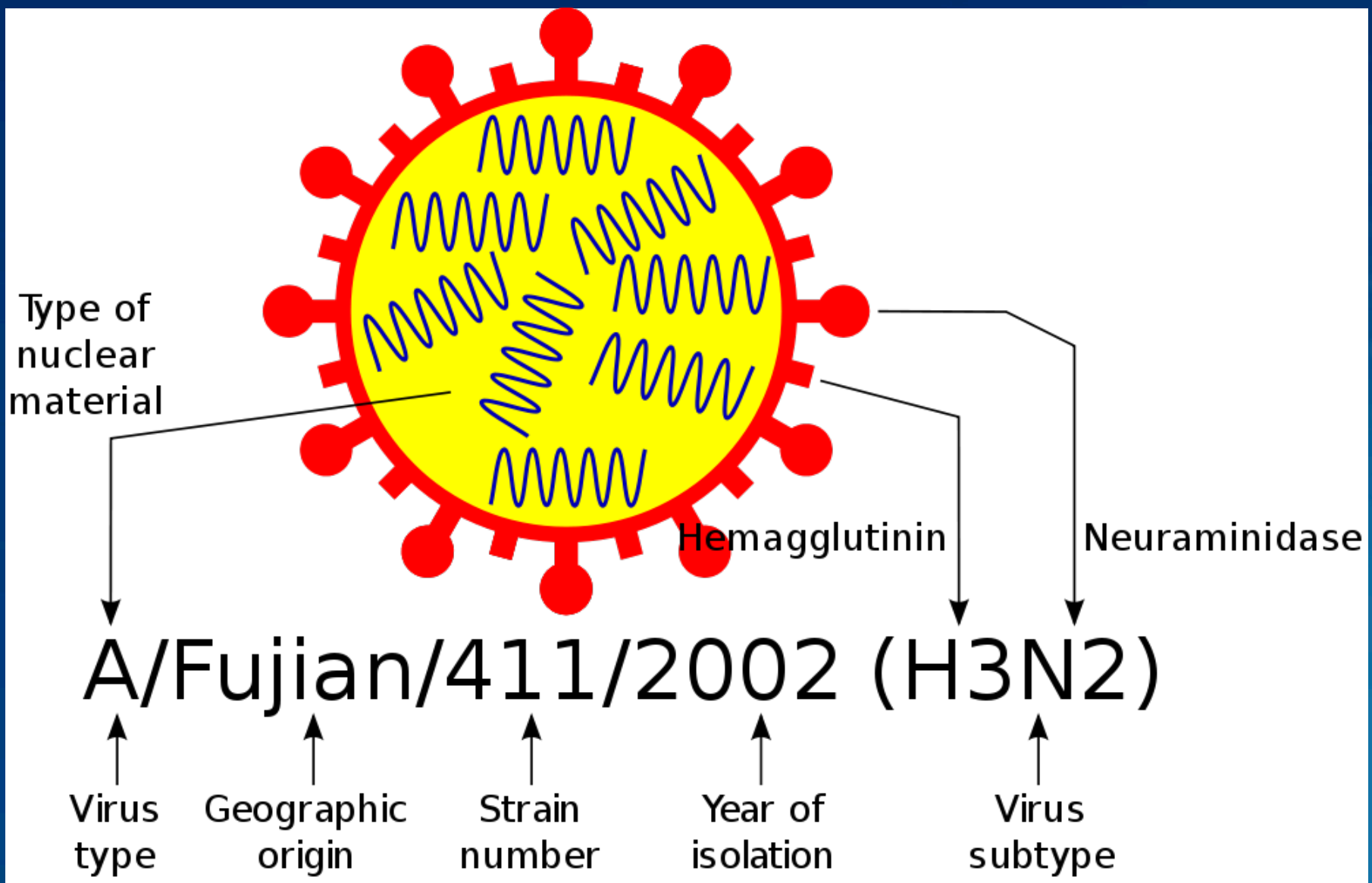
Pandemic Flu Impact in King County

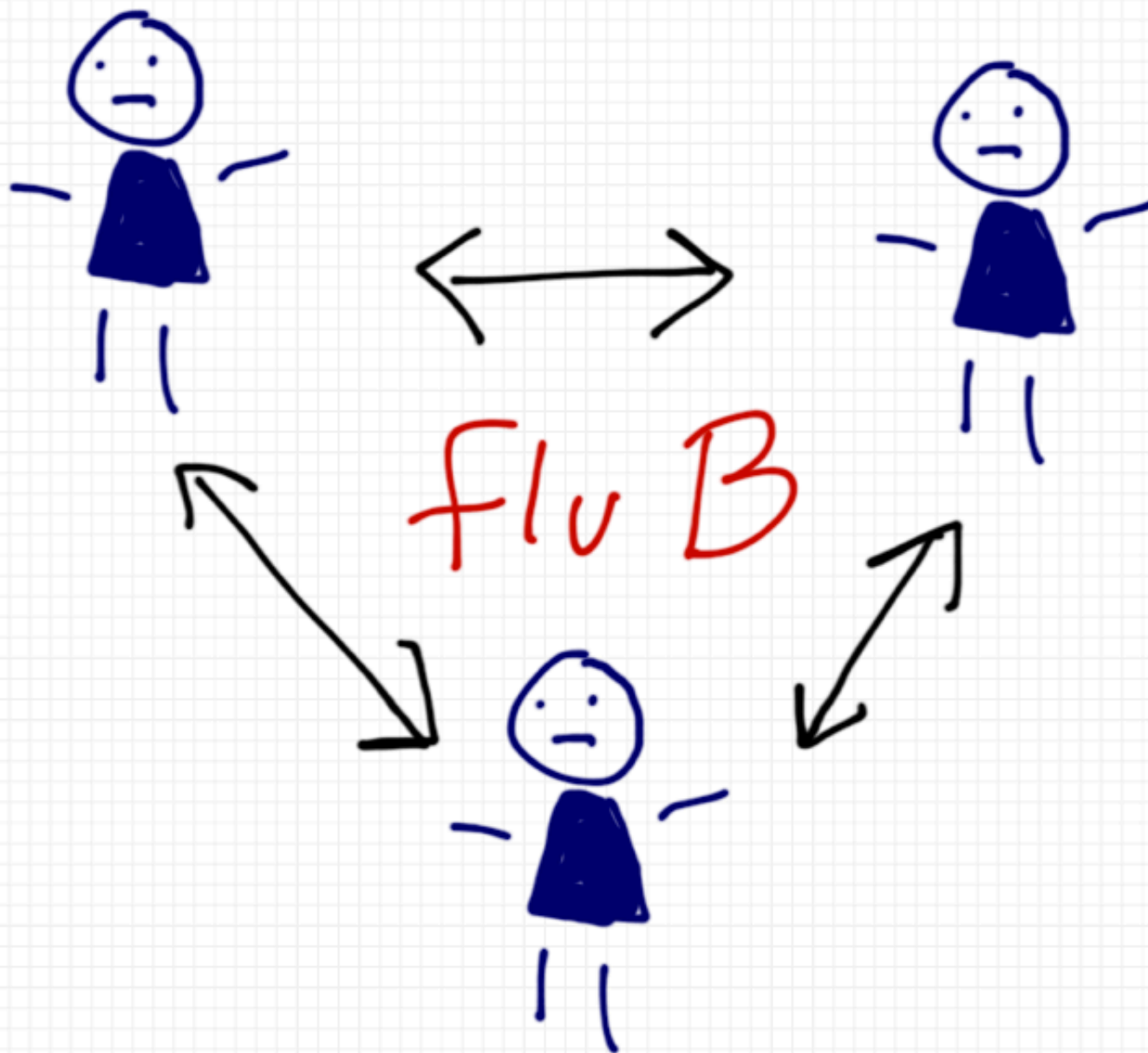
CHARACTERISTIC	MODERATE (1957/1968 -like)		SEVERE (1918 -like)	
	U.S.	King County	U.S.	King County
Illness	90 million	540,000	90 million	540,000
Outpatient care	45 million	270,000	45 million	270,000
Hospitalization	865,000	5,190	9,900,000	59,400
ICU care	128,750	773	1,485,000	8,910
Mechanical ventilation	64,875	389	742,500	4,455
Deaths	209,000	1,254	1,903,000	11,418



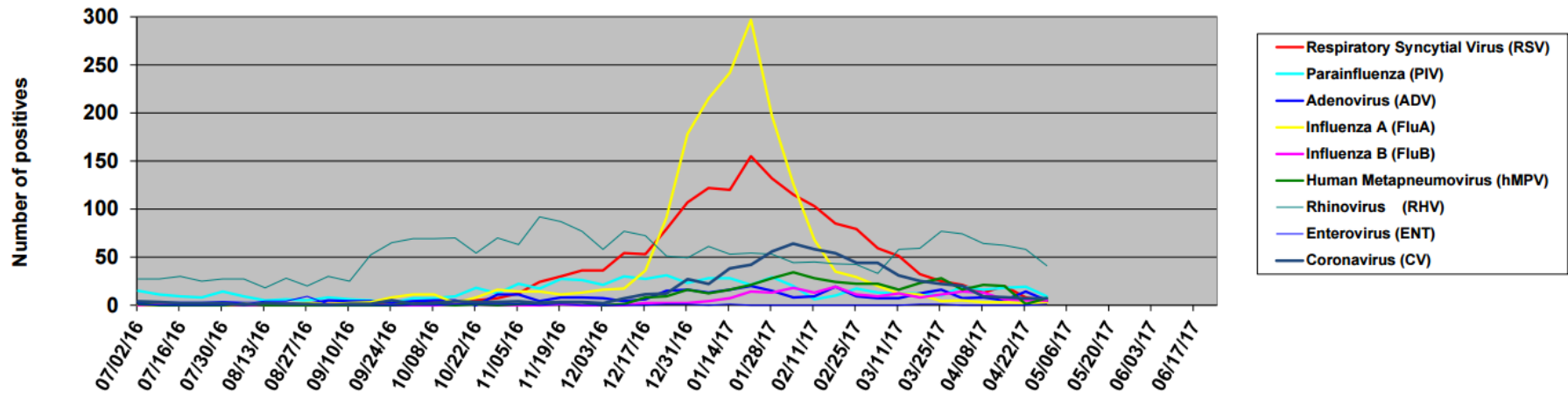
Flu A



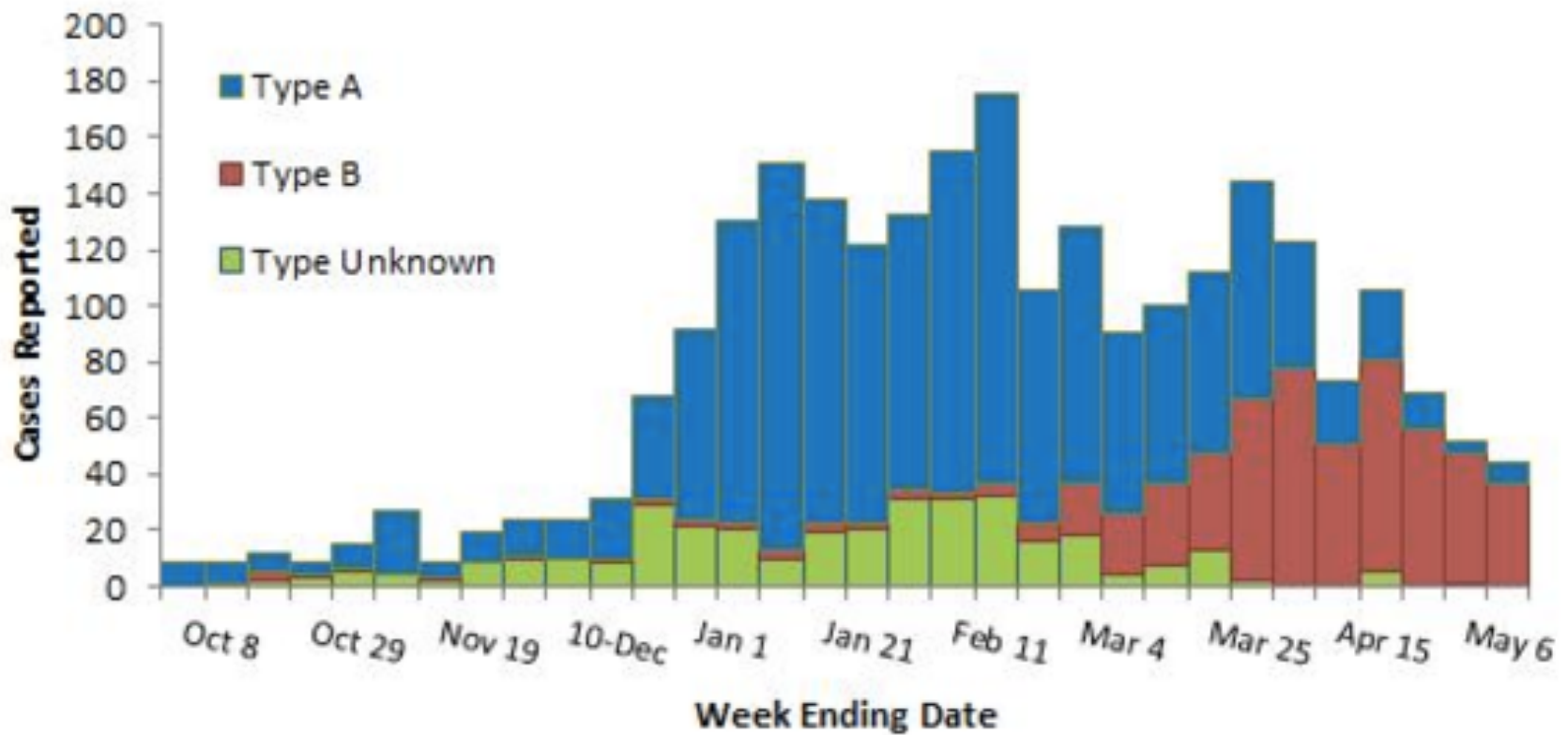




2016 - 2017 Respiratory & Enteric Viruses Seattle, Washington



Flu reaches 'epidemic' level in Washington, record cases reported





Australian Government
Department of Health

27 September 2017

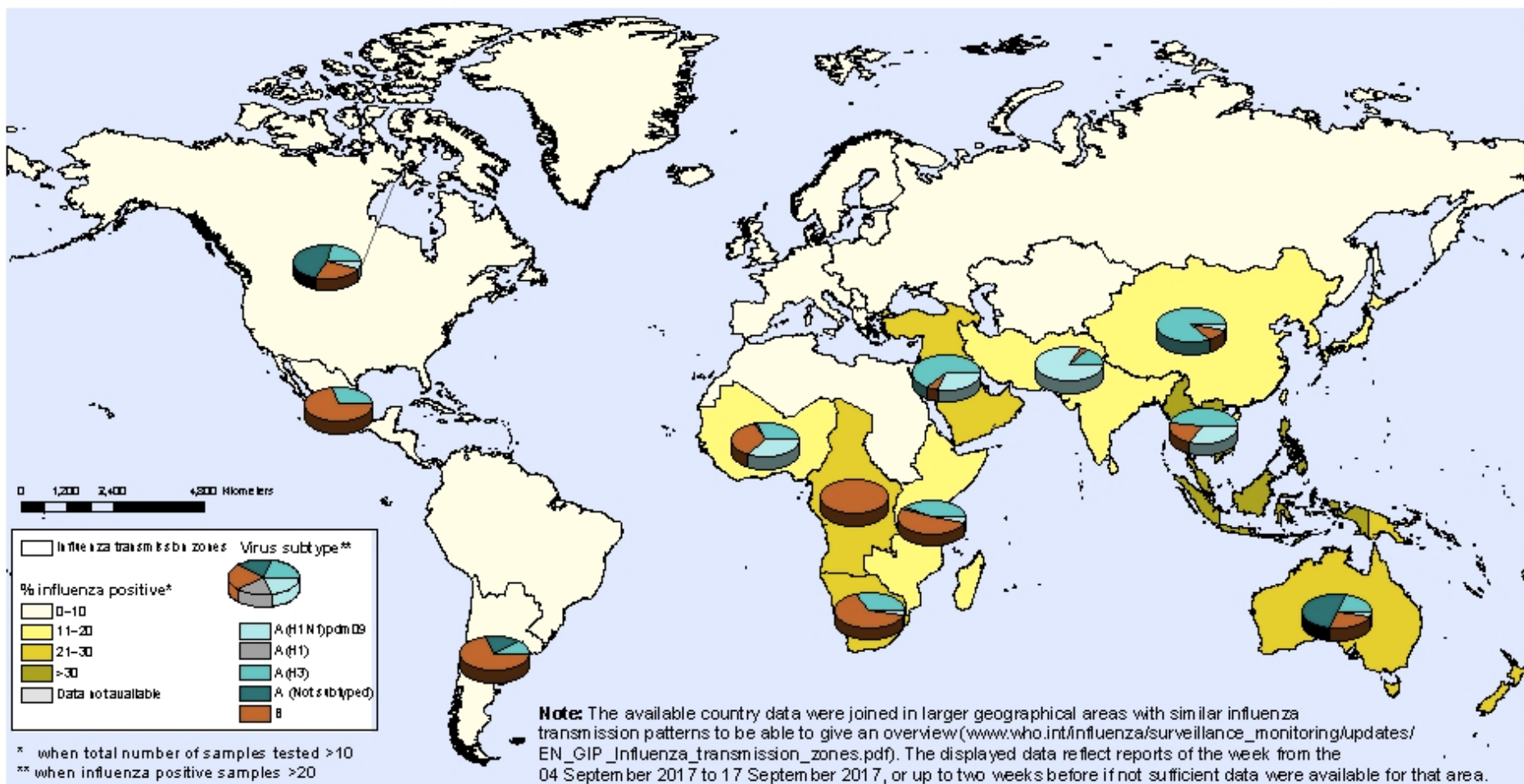
Statement from the Chief Medical Officer on seasonal influenza vaccines



2017 has been characterised by high levels of influenza A (H3N2) which disproportionately affects the elderly. We have seen reports of high numbers of deaths in nursing homes this year and also amongst healthy adults. These are tragic events which underscore the message that influenza is a serious disease and that vaccination is absolutely critical for protecting individuals and the community.

Percentage of respiratory specimens that tested positive for influenza By influenza transmission zone

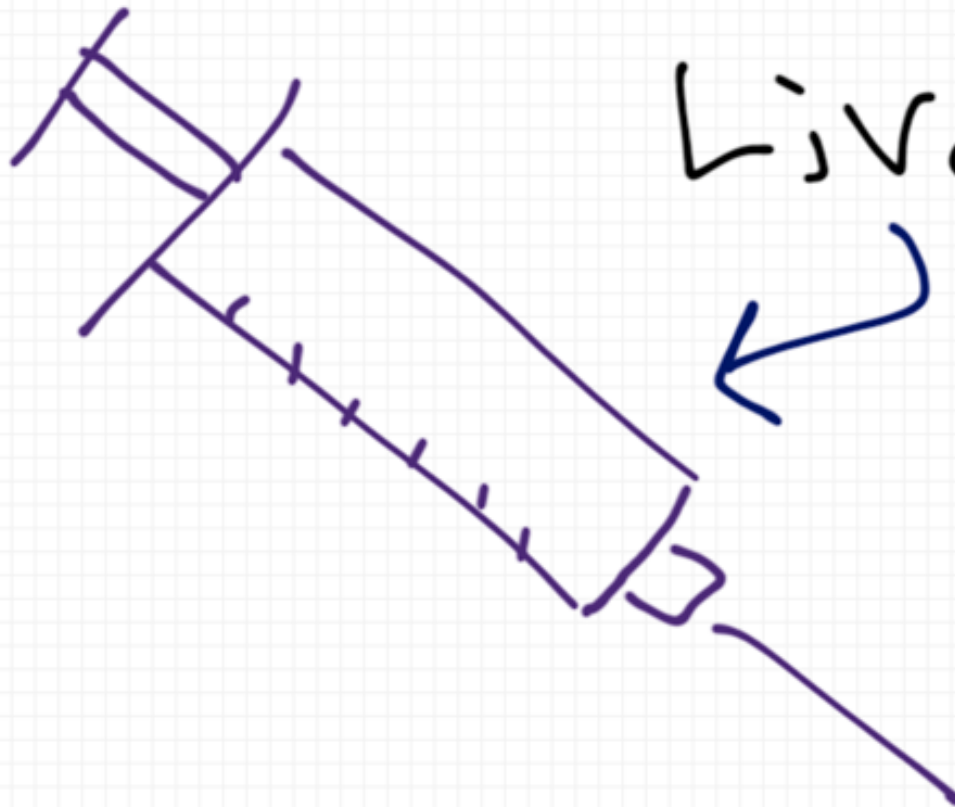
Status as of 29 September 2017



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: Global Influenza Surveillance and Response System (GISRS), FluNet (www.who.int/flu-net).

Saves
Lives

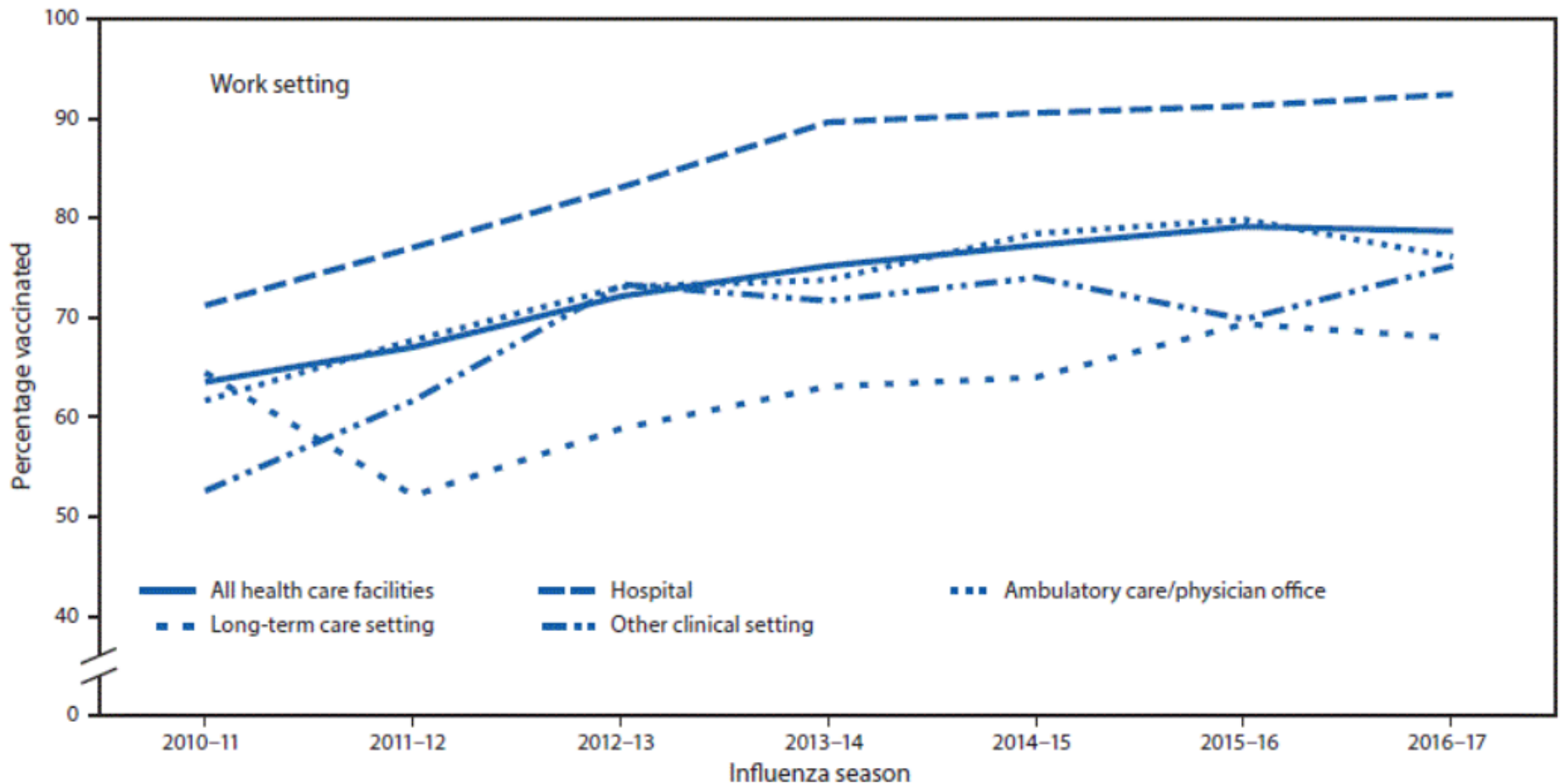


Effectiveness of the Flu Vaccine

Age group (yrs)	Averted hospitalizations		Averted, medically attended cases		Averted cases		Fraction prevented	
	No.	(95% CI)	No.	(95% CI)	No.	(95% CI)	%	(95% CI)
0-4	10,216	(5,994-16,502)	981,851	(575,222-1,591,166)	1,465,450	(859,735-2,367,044)	29.6	(28.0-30.2)
5-19	4,770	(2,869-7,722)	887,256	(529,333-1,437,481)	1,739,717	(1,046,532-2,816,363)	17.3	(16.8-17.8)
20-64	19,813	(12,887-30,107)	1,086,409	(698,241-1,666,804)	2,936,241	(1,909,887-4,461,808)	14.3	(14.0-14.5)
≥65	44,460	(17,779-82,413)	273,876	(108,797-511,422)	489,065	(195,570-906,541)	17.1	(10.5-21.3)
All ages	79,260	(39,530-136,744)	3,229,393	(1,911,592-5,206,874)	6,630,473	(4,011,725-10,551,756)	17.3	(16.2-18.0)

- **6.6 million fewer illnesses**
- **3.2 million fewer medically attended illnesses**
- **80,000 fewer hospitalizations**

Bresee MMWR Dec 2013



Influenza Vaccination

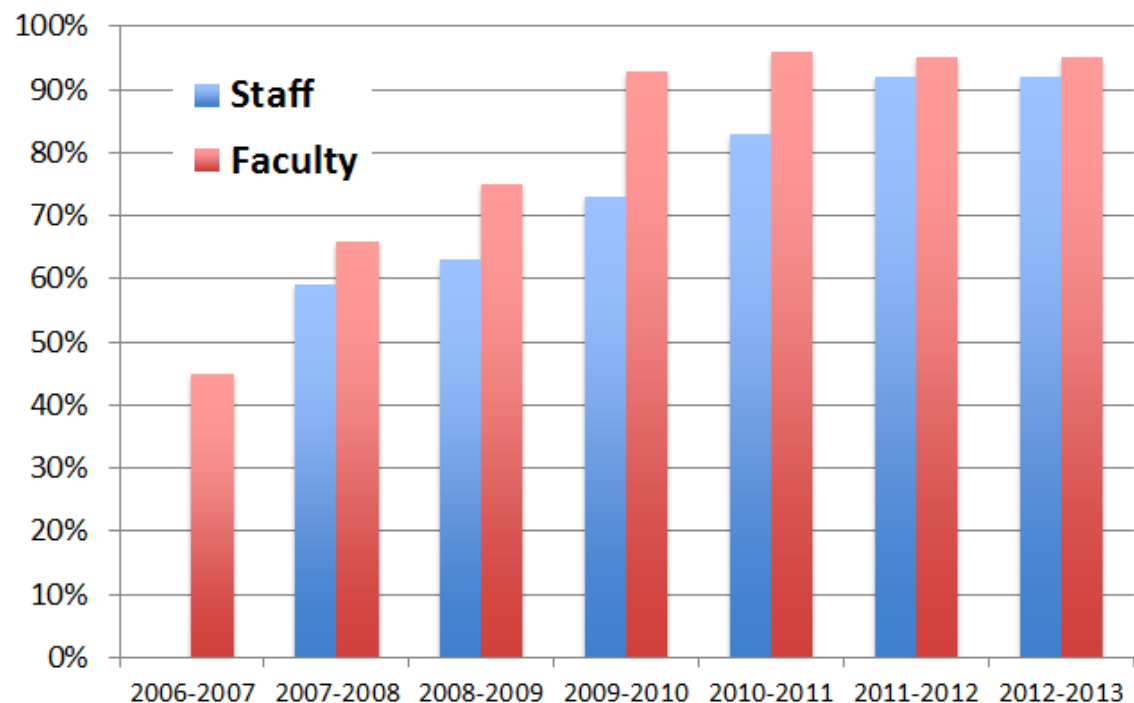
- an A/Michigan/45/2015 (H1N1)pdm09–like virus,
- an A/Hong Kong/4801/2014 (H3N2)–like virus, and
- a B/Brisbane/60/2008–like virus (Victoria lineage).
- a B/Phuket/3073/2013–like virus (Yamagata lineage)

Influenza Vaccines

- Intramuscular
 - Quadrivalent
 - Trivalent (with and without adjuvant)
 - Trivalent high-dose
 - Recombinant, egg-free (Flublok®)
- Intradermal

Influenza Vaccination of HCW: Impact of a non-mandatory approach @ UW

- Support from board of trustees and leadership
- Visible campaign emphasizing patient safety
- Accessibility
- Online educational module
- One-on-one educational session prior to declining



Ethics of HCP Influenza Vaccination

First, every code of ethics adopted by physicians, nurses, nurses aides, social workers, pharmacists, and other health-care professionals states very clearly, succinctly, and loftily that the interests of patients must come ahead of anyone else's. Since it is clear that newborn babies, the elderly, and the immunocompromised have a powerful interest in not being killed by those caring for them and in having a healthy workforce available to treat them, these self-proclaimed professional ethical codes that extol patients' interests fully support requiring vaccination as a condition of employment. Whatever one's views about personal rights to choose, unless a valid medical reason exists to not vaccinate, the best interests of the patient trumps personal choice in the hierarchy of self-imposed professional values.

Second, all health-care workers are obligated to honour the core medical ethics requirement of "First Do No Harm". Given the evidence that vaccination prevents disease transmission to the vulnerable and maintains the health of health-care providers which allows them to work, the most fundamental moral requirement in all of health care demands that those in care-giving roles treat influenza vaccination as obligatory. It also requires that those who run health-care institutions and programmes act on and implement that principle in the form of making vaccination against influenza a mandatory condition of employment or volunteering.

Lastly, health-care workers have a special duty towards the vulnerable who cannot protect themselves. This is a duty that is widely acknowledged in professional codes of ethics. Newborn babies, infants, and the seriously immunocompromised can do little to protect themselves against acquiring diseases in hospitals, nursing homes, and home-care settings. Few people pick their health-care providers or even know to ask if they have been vaccinated. Health-care providers have an absolute duty to do what can be done to ensure they do not transmit diseases to those at grave risk who cannot protect themselves. Vaccination against influenza and other communicable diseases is an important step in fulfilling this duty to protect the vulnerable. It takes obvious moral priority over one's personal choice not to be vaccinated or individual delusions about why vaccination is not necessary in dealing with patients who are of necessity highly vulnerable to influenza.

أرسلت هذه الرسالة إلى جميع وزراء الصحة والإقليم.

سلام عليكم ورحمة الله وبركاته، وبعد، فقد تراسلنا في أثناء هذه بعض استفسارات حول الحكم الشرعي في استعمال بعض المواد المأخوذة من حيوان البحر كالأعشاب، أو مشتقة من مثل هذا الحيوان، بعد تم بعضها إلى نوع من الاستحالة الكيميائية، ولا سيما الجيلاتين الذي يُستعمل في صناعة الكبسولات الدوائية، والذي قد يكون مشتقا من بعض أعضاء السمك أو أوصاله، بعد تبرئها إلى سلسلة من تفاعلات الكيميائية التي تؤدي إلى استحالتها إلى بروتين.

وَلَوْ أَنَّهُمْ إِذَا نَسُوا عَنِّي كُتُوبَ عِلْمِيكُمْ إِذَا كَانَ الْكُتُبُ الْإِظْمِيرُ لِشَرْقِ التَّوَسُّطِ مُنْظَمَةُ الصَّفْحَةِ الْعَالِيَةِ قَدْ سَوَّاهُ فِي عَامِ 1995 أَنَّهُمْ هَامَ فِي النَّدْوَةِ الَّتِي عَقَدْتُهَا مُنْظَمَةُ الْإِسْلَامِيَّةِ الْمَدَامُ فَلَمَّ بِهِ فِي الْكُوَيْتِ، حَوْلَ "الْمَوْلِدِ الْحَرَمِيِّ وَالتَّجَسُّدِ فِي الْعَذَاءِ وَالنُّوَاءِ"، وَشَارَكَ فِيهَا مِائَةً وَثَلَاثِينَ مَسَارِكًا مِنْ الْمُتَقَدِّمِينَ وَالْمُخَوَّاتِ، وَفِي طَلِيقَتِهِمْ أَصْحَابُ الْفَضِيلَةِ: (د. رَجَّحُ الْبُكُورِ عَمَّا م. د. طَلِيقَاوِي (مَعْنَى عَمْرٍ أَمَّا ذَلِكَ وَشَيْخُ الْأَرْزَمِ حَالِيًا)؛ وَأَمَّا بَعْضُ عَمَدِ الْمُشَوِّعِ السَّلَامِيِّ (مَعْنَى تُونِسِ أَمَّا ذَلِكَ)؛ وَشَيْخُ عَمَدِ بَنِ حَمْدِ الْحَلِيلِي (مَعْنَى سَعِيدَةُ عَمَدًا)؛ وَالشَّيْخُ الْبُكُورُ عَمَدُ الْحَسْبِيِّ بِنِ الْحَوْثِ (الْمُسَوِّدِ الْعَامِ عَمَّعَ الْفَقْهُ الْإِسْلَامِيَّ بِمَدَّاهُ)؛ وَالشَّيْخُ الْبُكُورُ يَوْسُفُ، (مَدِيرُ مَرَاكِزِ جَدِيدَةِ الْفَسْفَةِ وَالْمَدِينَةِ الْبُيُوتِيَّةِ فِي قَطَرْ)؛ وَالشَّيْخُ عَمَدُ رَسَدِ قِبَانِي (مَعْنَى الْجُمْهُورِيَّةِ الْبِلَالِيَّةِ)؛ وَأَمَّا اللَّهُ الْفَيْحُ عَمَدُ مَعْدِي حَسَنُ الدِّينِ رَحِمَهُ اللَّهُ، (رَئِيسُ مَجْلِسِ الْإِسْلَامِيِّ حُسْبِي الْأَمْسِي فِي لُتْنِ أَمَّا ذَلِكَ)؛ وَأَمَّا حُسْنُ الْفَيْحِ عَمَدُ نَقْصِي بَغْسَالِي (رَئِيسُ مَجْلِسِ التَّحْقِيقِ بَاكْمَسْتَانِ)؛ وَالشَّيْخُ الْبُكُورُ حَامِدُ جَامِعِ (رَئِيسُ الْكُوَيْتِ الْأَرْزَمِ مَسَامُحًا)؛ وَشَيْخُ بَكْمُكُورِ خَالِدُ الْبُكُورِ (رَئِيسُ جَامِعَةِ طَلِيقِ الشَّرِيعَةِ الْكُوَيْتِ)؛ وَالشَّيْخُ حَلِيلُ لَيْسِ زَيْسِ أَرْزَمِ لُتْنِ وَهَبِي الْعَامِ)؛ وَشَيْخُ الْبُكُورِ عَجِيلِ حَاسِمِ الشَّيْخِي (مَدِيرُ كَلْبِ الشَّرِيعَةِ بَاكْمُكُورِ)؛ أَمَّا ذَلِكَ)؛ وَالْبُكُورُ عَمَدُ بَدِ مَغْفَلُ الشَّرِيفِ (مَدِيرُ كَلْبِ الشَّرِيعَةِ الْغَالِي بَاكْمُكُورِ)؛ وَأَمَّا ذَلِكَ)؛ وَهَبِي الْبُكُورِ (رَئِيسُ كَلْبِ الشَّرِيعَةِ بَغْمَسِي أَمَّا ذَلِكَ)؛ وَالشَّيْخُ مَسَامُحُ مَدَارِكِ الشَّيْخِ (مَدِيرُ بَدَارَةِ الْإِقْدَامِ فِي الْكُوَيْتِ)؛ وَغَيْرُهُمْ.

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HMC Reasons for Declining Flu Vaccination

- no animal products
- when I turn 65 she will get it
- prefers natural immunity
- has never been sick
- doesn't work with patients
- reiki practitioner
- prefers natural immunity
- does not want
- collective decision with family
- does not think is effective
- does not believe in flu shots
- never had flu shot
- last year's flu vaccine won't help me
- does not believe in flu vaccine
- fairly healthy
- had flu shot once 3 years ago, no side effects
- does not get sick that often
- has not taken vaccine in several years
- takes care of body
- don't believe in vaccine
- don't believe in vaccine
- inconsistency of vaccine
- vegan
- no proof that flu vaccine protects from flu
- my own research found that efficacy of vaccine lacking
- believes that the evidence is not there for vaccine efficacy
- questions long term use of vaccination as being potentially harmful
- concerned about safety
- fear of side effects
- just don't believe
- mid wife recommended not to get






Nurses fighting mandatory flu vaccinations sue Brigham and Women's

 OPEN ACCESS  PEER-REVIEWED

RESEARCH ARTICLE



Influenza Vaccination of Healthcare Workers: Critical Analysis of the Evidence for Patient Benefit Underpinning Policies of Enforcement

Gaston De Serres  , Danuta M. Skowronski , Brian J. Ward, Michael Gardam, Camille Lemieux, Annalee Yassi, David M. Patrick, Mel Krajden, Mark Loeb, Peter Collignon, Fabrice Carrat

Published: January 27, 2017 • <https://doi.org/10.1371/journal.pone.0163586>

Influenza Testing and Treatment

- Multiple tests available
 - Antigen-based tests, lower sensitivity, accessible
 - PCR tests, high sensitivity, requires a lab
- Who gets tested?
 - Extremes of age
 - Pregnant women
 - Co-morbidities
 - Very ill/inpatient
- Who gets treated with oseltamivir? **EVERYONE** who gets a test!

Influenza Season Preparedness

- Maximize HCP vaccination
- Provide easy access for patient vaccination
- Coordinate with LTCs and SNFs in your network to get residents vaccinated
- Plan now for big flu season – admin, patient placement, ED, hospitalists, elective cases, local EMS and public health
- Communication plan