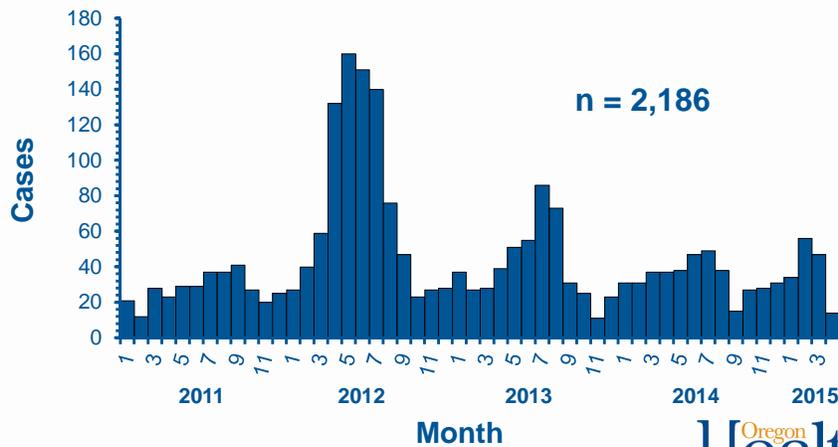


2015 Immunizations Update

Paul R. Cieslak, MD
Oregon Public Health Division
April 28, 2015

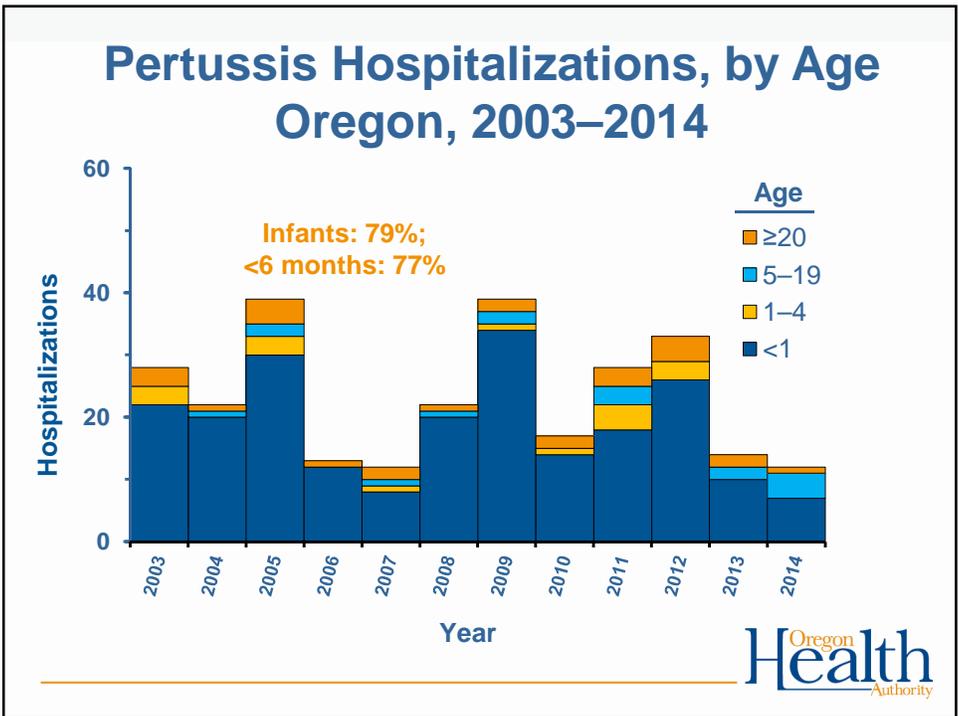
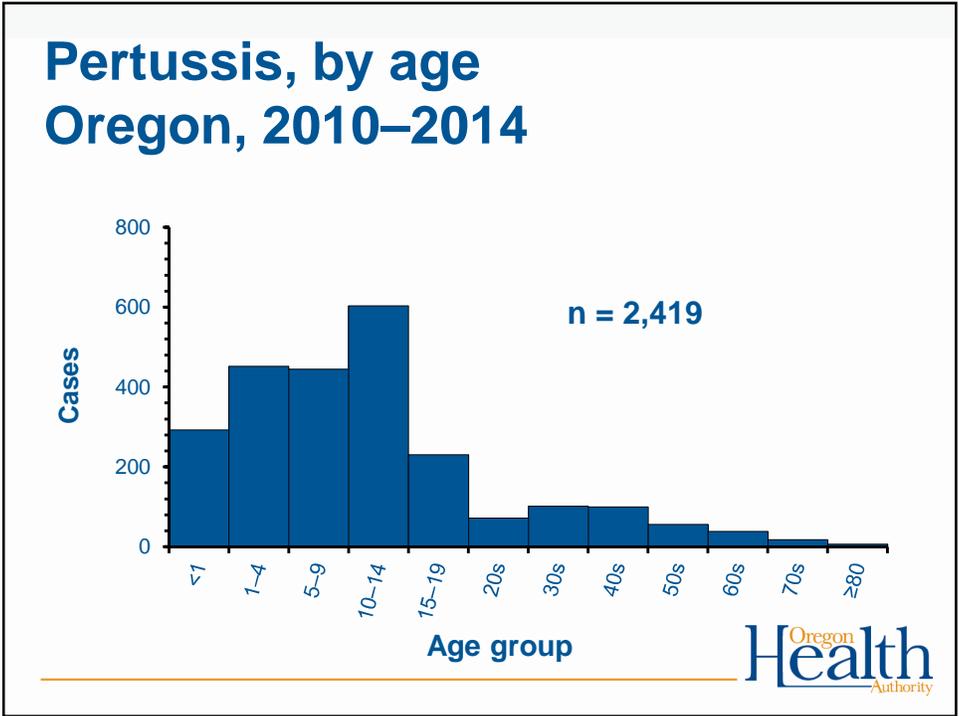


Pertussis, by month of onset Oregon, 2011–2015*



*through 4/27/2015





Pertussis Hot Spots, 2015*

<u>County</u>	<u>Cases</u>	<u>Cases/100,000</u>
Benton	26	30
Deschutes	24	15
Jackson	19	9
Lane	16	4.5
Oregon	151	3.8

*through 4/27/2015



Meningococcal Disease

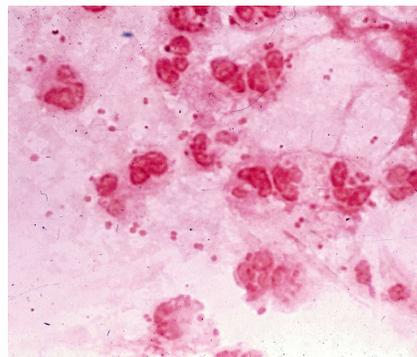
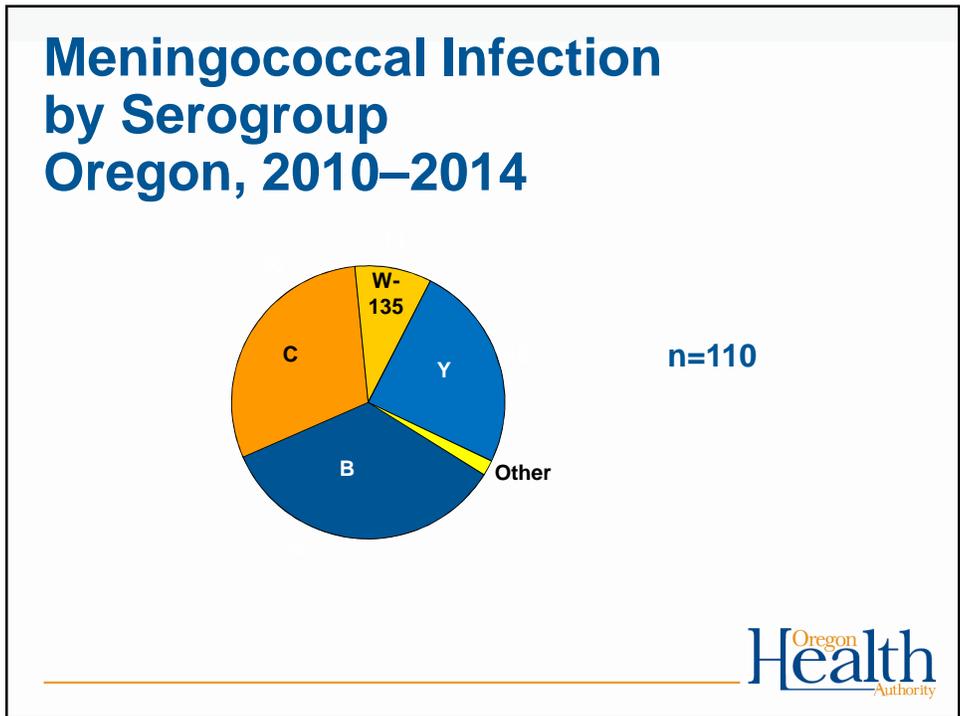
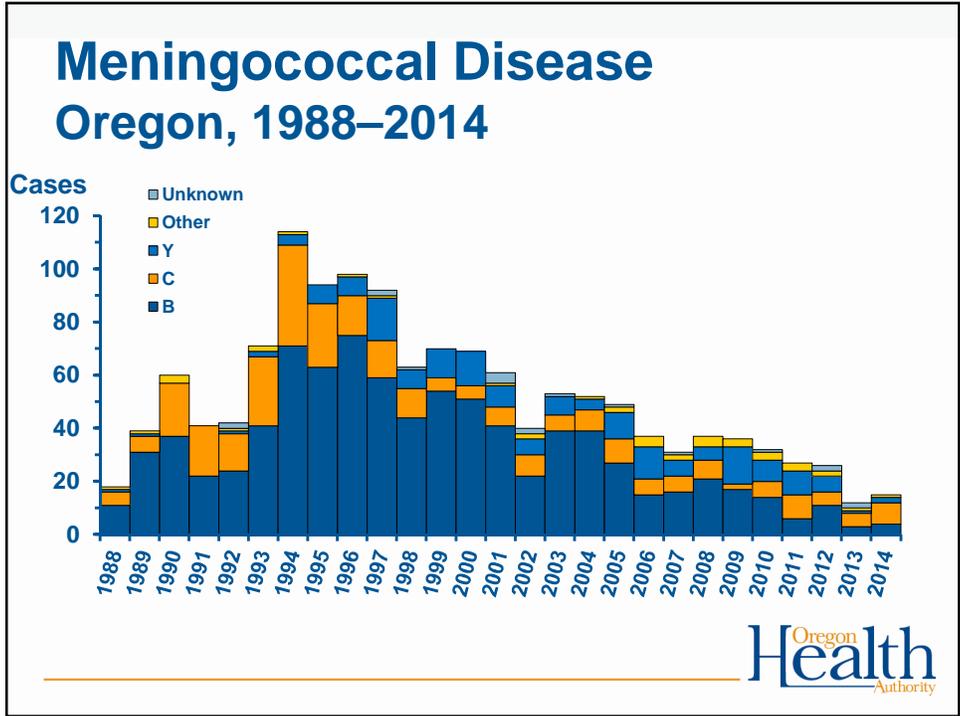


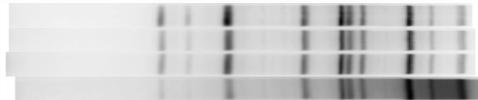
Photo courtesy of Dr. Brian Lauer





University of Oregon Cases Jan–Feb 2015

- Jan 13: 19 year-old woman
- Jan 31: 19 year-old woman
- Feb 1: 19 year-old man
- Feb 17: 18 year-old woman (fatal)
- All serogroup B
- PFGE:
- FHbp B24; Nhba peptide 5; no nadA



Serogroup B Meningococcal Vaccines

- Trumenba™ (Pfizer): 0, 2, 6 months;
approved 29 Oct 2014: fHbp x 2
(subfamilies A & B)
- Bexsero® (Novartis): 0, 1 month;
approved 23 Jan 2015; NHBA, NadA,
fHbp, PorA
- 0.5-mL prefilled syringes
- Intramuscular
- Label: 10–25 years of age



The Register-Guard
EUGENE, OREGON SATURDAY, FEBRUARY 28, 2015 \$1.00

UO works with insurers, clinics to offer costly shots

A three-dose course of protection against a contagious and potentially deadly bacteria costs \$345

By CHRISTIAN HILL
The Register-Guard

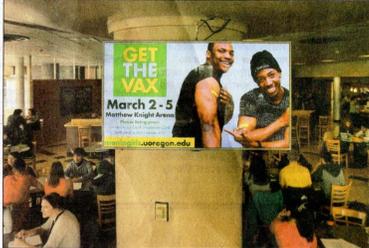
University of Oregon officials don't want cost to deter students from getting a newly approved vaccine to protect against a type of contagious bacteria that has killed one student and sickened three others when its large-scale clinics start Monday.

The vaccine, called Trumenba, developed by Pfizer and approved by the U.S. Food and Drug Administration in October, isn't cheap, with a list price of \$115 a dose, or a total of \$345 for the three-shot course that offers students the greatest protection.

The university is organizing follow-up clinics to administer the second and third doses of the meningitis vaccination two and six months after the initial shot.

The university said all insurers in Oregon, including the Oregon Health Plan, the state's Medicaid program for low-income residents, are covering the vaccine for the students. It's

Turn to **VACCINE**, Page A9



CHRIS PETERS/The Register-Guard

A public service announcement encouraging vaccinations plays on a screen in the Erb Memorial Union on campus.

Oregon Health Authority

Trumenba™: Randomized, Placebo-Controlled Trial

- fHbp (recombinant lipoprotein 2086) expressed in *E. coli*
 - subfamily A: A05 variant
 - subfamily B: B01 variant
- 25 sites in Australia, Poland, Spain
- Healthy males & females 11–18 years old
- Vaccinated at 0, 2, 6 months

Richmond PC. Lancet Infect Dis 2012; 12:597–607.

Oregon Health Authority

Serum Bactericidal Antibody Responses to Trumenba™ among U.S. Adolescents

	Factor H Binding Protein Subtype*				Composite†
	A22	A56	B24	B44	
Before Dose 1	—	—	—	—	0.7
After Dose 2	74%	93%	63%	47%	52%
After Dose 3	86%	95%	85%	81%	84%

* Percentages with ≥4-fold increase in hSBA titer

† Percentages with hSBA titer ≥lower limit of quantitation



Pfizer. Trumenba Prescribing Information, 2014.

Meningococcal Vaccine Campaign, U of O

- Posters
- Reader Boards
- Video Screens (Student Union, Arena, some classrooms)
- Coffee cup stickers
- Social Media: “Call me a Residence Halls, “The Dash”
- Student newspaper ads
- Frat/Sorority House Meetings
- Athletics: team by team
- Emails to students, parents



Meningococcal Vaccination University of Oregon, 2015

- Trumenba™ (3-dose)
- Recommended for:
 - All undergraduates
 - Grad students living in campus residence halls
 - Fraternity & sorority members



Oregon
Health
Authority

Meningococcal Vaccine Campaign, U of O

- Through 30 March: 9,748 (first) doses
 - Pre-week: 396
 - Public Health week: 2,507
- Second-dose clinic April 7–9



lth
Authority

Risk Factors for Meningococcal Disease University of Oregon, January–March 2015

Category	Students	Cases	Cases per 10,000	RR (95% CI)
Freshmen	3,780	4	10.6	8.2 (1.5–44.7)
Other	15,470	2	1.3	
Dorm	3,505	2	5.7	2.2 (0.4–12.3)
Off campus	15,745	4	2.5	
Greek	3,159	4	12.7	10.2 (1.9–55.6)
Not	16,092	2	1.2	



Serogroup B Meningococcal Vaccines: ACIP vote, 26 Feb 2015

- Asplenia, anatomic or functional (e.g., sickle-cell disease)
- Terminal complement component deficiency (including use of eculizumab (Soliris®)*)
- Microbiologists routinely exposed to isolates of *N. meningitidis*
- Control of serogroup B outbreaks

*Package insert: “Life-threatening and fatal meningococcal infections have occurred in patients treated with Soliris...”

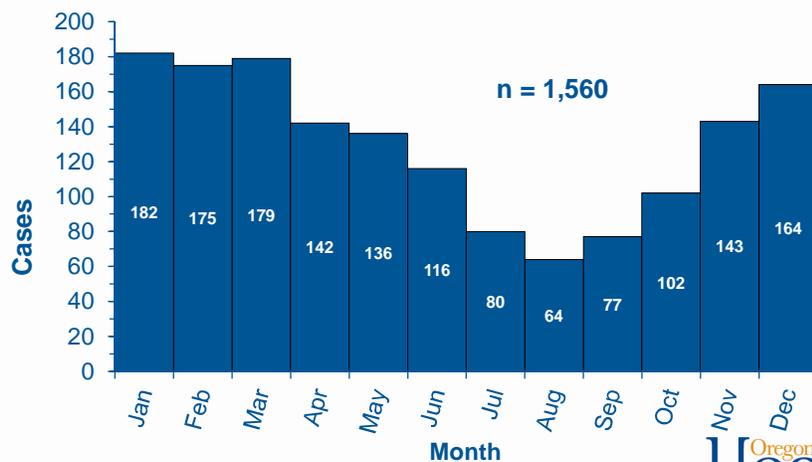


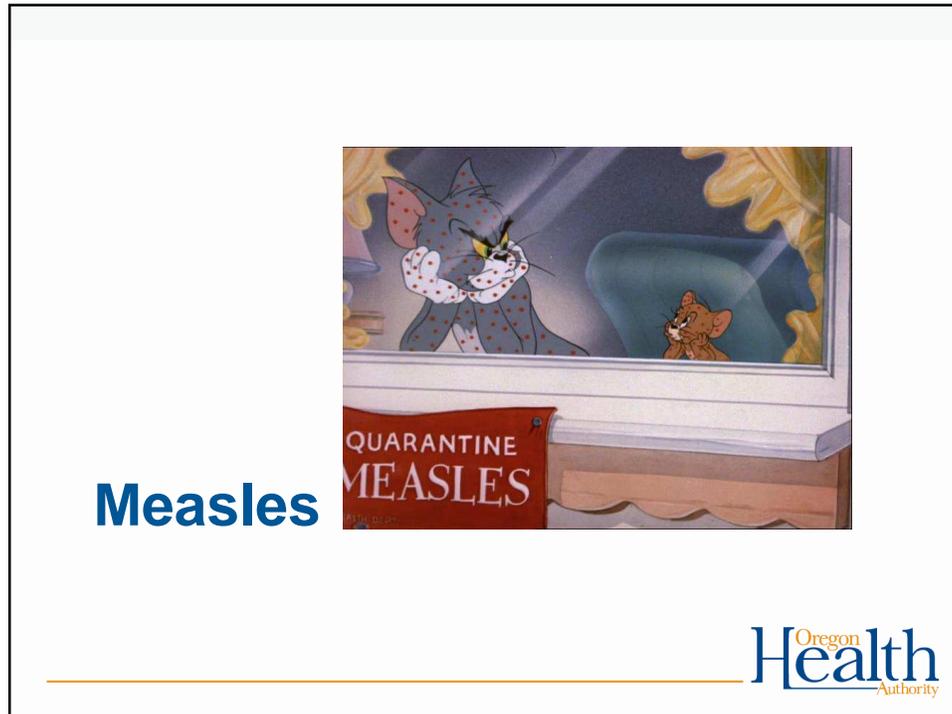
Meningococcal Serogroup Vaccines: Differences in ACIP Recommendations

Group	MenACWY	MenB
Age groups	6 months – 55 years	≥10 years
Routine adolescent vax	Yes	No
College freshmen in dorms	Yes	No
Military recruits	Yes	?
Travel	Yes	No



Meningococcal Disease, By Month—Oregon, 1988–2014





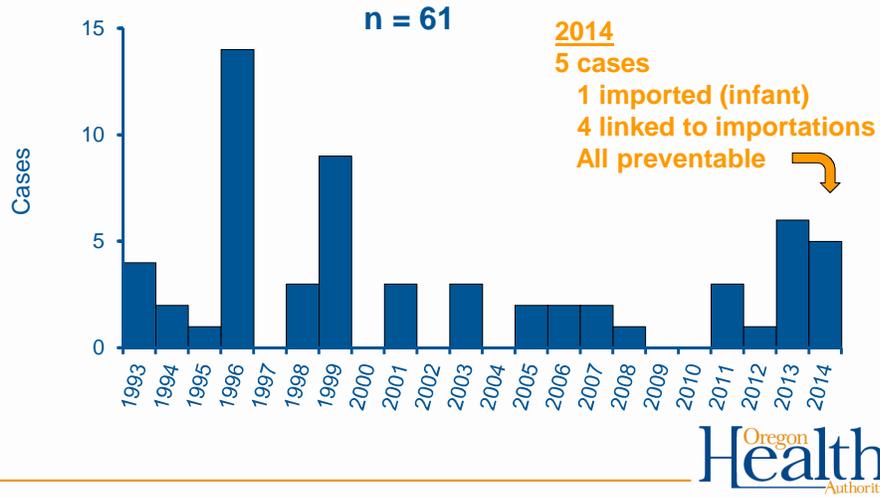
Measles: Disneyland Outbreak

- December 28, 2014–April 17, 2015
 - 147 cases from 7 states (1 Oregonian)
 - 40 Disneyland exposures Dec 17–20, 2014
 - Source unknown
 - Virus type B3, identical to cause of large 2014 outbreak in Philippines
- California:
 - 131 cases
 - Of 81 with known status: 56 (69%) unvaccinated

www.cdc.gov/measles/multi-state-outbreak.html

www.cdph.ca.gov/HealthInfo/discond/Pages/MeaslesSurveillanceUpdates.aspx

Measles — Oregon, 1993–2014



Influenza

Influenza Vaccine Recommendations for 2014–2015

- Annual vaccination for all persons ≥ 6 months of age without contraindications
- No change in viral strain selection from prior season
- 2 doses for children 6 months–8 years of age in first season (unless first dose received during 2013–2014 season)
- 2 doses if 0 doses of pH1N1 received previously



CDC. MMWR 2014; 63:691–7.

Influenza Vaccine Efficacy Early returns, 2014–2015 season

- U.S. Influenza Vaccine Effectiveness Network
 - MI, PA, TX, WA, WI
 - Patients 6 months of age
 - Seeking outpatient medical care for ARI
- Adjusted for place, age, sex, race, ethnicity, self-rated health, enrollment lags
- 2,321 enrolled Nov 10, 2014 – Jan 2, 2015



CDC. MMWR 2015; 64:10–5.

Influenza Vaccine Efficacy Early returns, 2014–2015 season

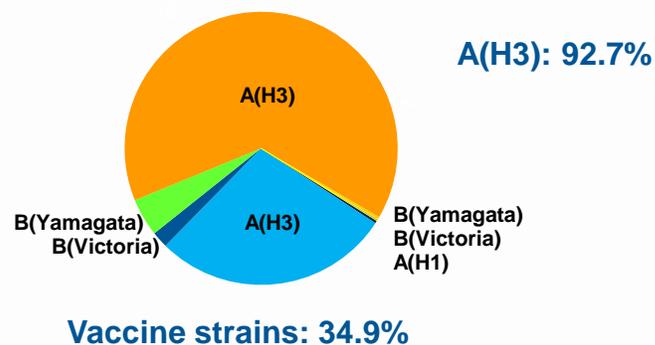
Age	Influenza +		Influenza -		Adjusted VE	
	Total	%Vax	Total	%Vax	VE	95% CI
6 mos–17 years	410	39%	583	49%	24%	0%–43%
18–49 years	268	43%	400	48%	16%	-18%–41%
≥50 years	272	71%	388	76%	23%	-14%–41%
Overall	950	49%	1371	56%	23%	8%–36%

ACIP, 26 Feb 2015:
Updated VE against A(H3N2): **18%**



CDC. MMWR 2015; 64:10–5.

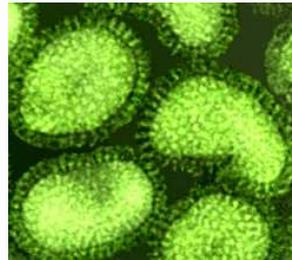
Circulating Influenza Strains 2014–2015 Season*



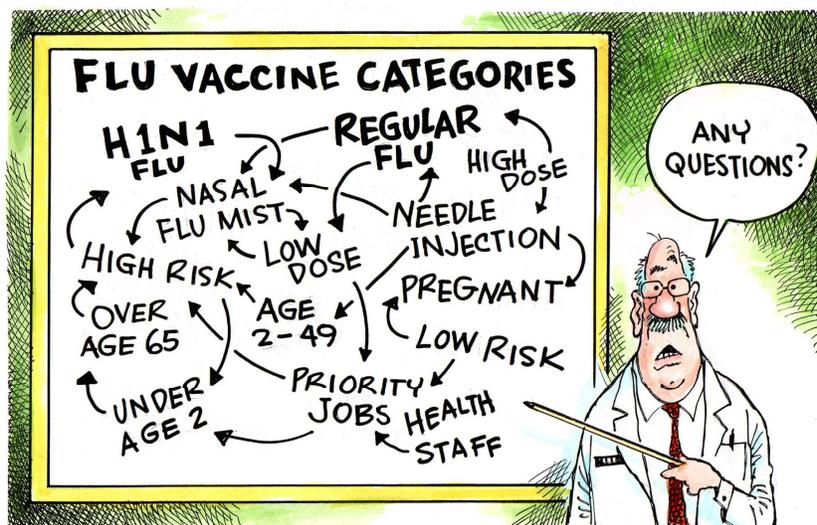
*Through 5 Feb 2015. Data extrapolated from CDC. MMWR 2015; 64:206–12.

Influenza Vaccine Strains Northern Hemisphere, 2015–2016 Season

- A/California/7/2009 (H1N1)pdm09-like
- A/Switzerland/9715293/2013 (H3N2)-like
- B/Phuket/3073/2013-like



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ANY QUESTIONS?

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