

Coping with the Pandemic

National Flu Vaccine Summit

Bob England, MD, MPH

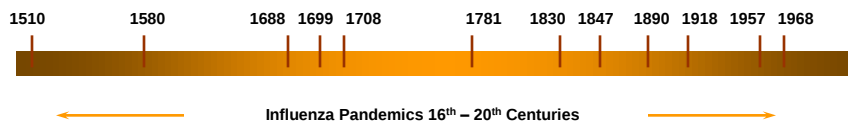
Maricopa County Dept
of Public Health

May 18, 2010

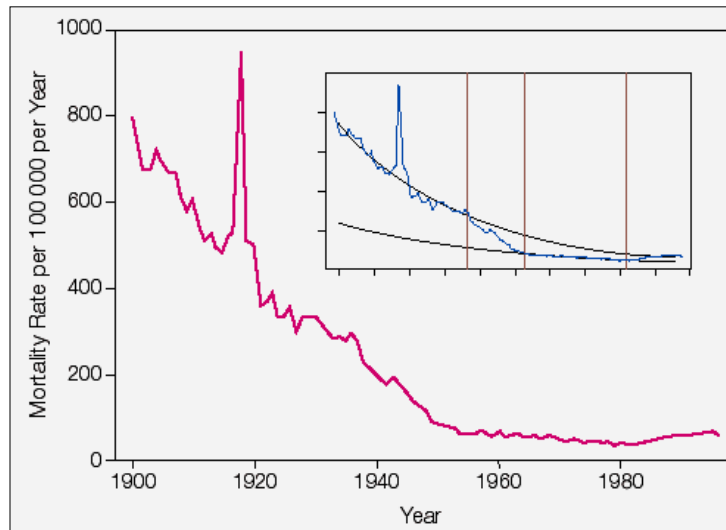


Flu Pandemics

- Irregular, ~2-3 per century



Trends in Infectious Disease Mortality in the United States During the 20th Century

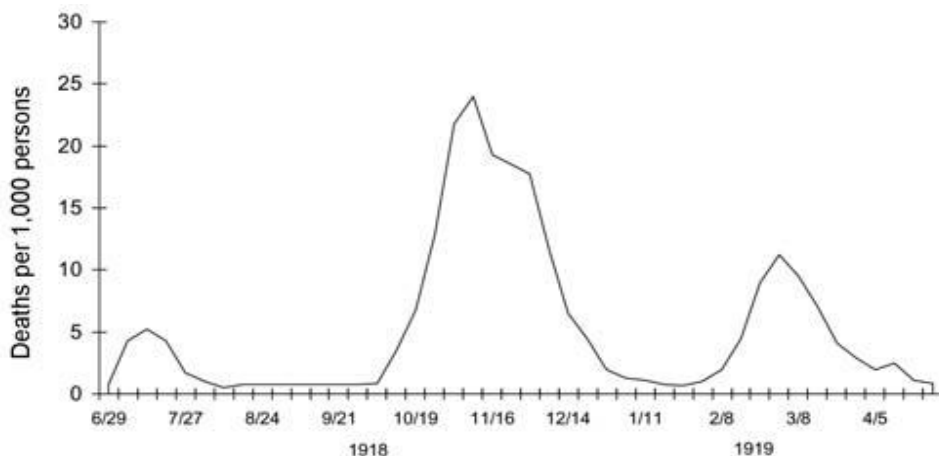


Armstrong, GL. JAMA. 1999 Jan 6;281(1):61-6.

20th Century Influenza Pandemics

- 1968-69 “Hong Kong flu,” (H3N2)
 - 34,000 US deaths (1-4 million worldwide)
- 1957-58 “Asian flu,” (H2N2)
 - 70,000 US deaths (1-4 million worldwide)
- 1918-19 “Spanish flu,” (H1N1)
 - >600,000 US deaths (20-100 M worldwide)
 - 2.5% overall mortality
 - Most deaths among young, healthy adults

Three pandemic waves: weekly combined flu and pneumonia mortality, U K, 1918–1919



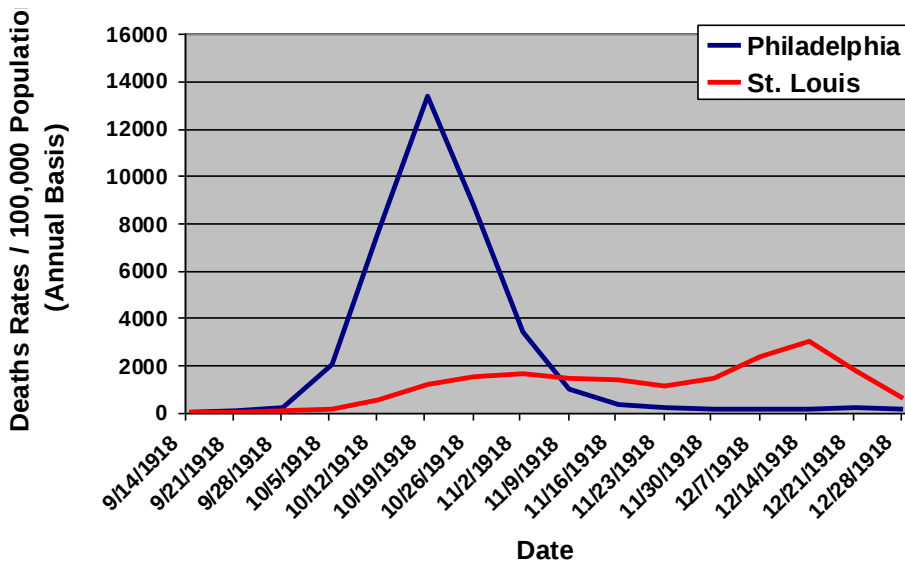
Canadian lab confirms human swine flu cases in Mexico

World health agency schedules emergency meeting after 20 deaths

Last Updated: Friday, April 24, 2009 | 10:17 PM ET Comments 360 Recommend 411
CBC News



1918 Death Rates: Philadelphia v St. Louis



Collins SD, Frost WH, Gover M, Sydenstricker E: Mortality from influenza and pneumonia in the 50 largest cities of the United States First Edition Washington: U.S. Government Printing Office 1930.

Moving crazy fast

- Fri, 4/24 – Cases confirmed in Mexico
- Sat, 4/25 – 1st CDC conf call
- Wed, 4/29 – 1st (of 4) press conferences, 1st confirmed case that closed 1st school
- Fri, 5/1 – Lots of pending labs, all over valley, involving dozens of schools
- Fri night, 5/1 – Decision re: school opening
- Sat, 5/2 – School Superintendent Conf call, announcement of schools reopening

How do I put this
in a sound bite?



Timing is Everything

- CDC School closure policy revision – (5/6) 4 days later
- School policies for 2nd wave in place before late July
- Mass media, school, health care, cities, tribes, churches, and employer education campaigns running by summer

Outreach

- Presentations (50 by me)
- Media (separately Spanish media)
- Focus groups with parents (and surveys)
- Website, handouts, posters, PSAs
- Daily updates, twitter, lots of interviews
- Sample letters (for schools)
- Newsletter articles, email updates...



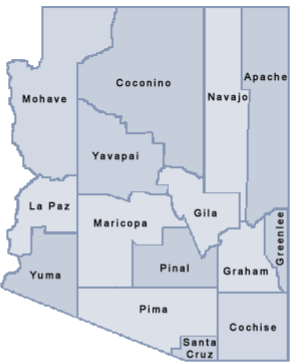
StopTheSpreadAZ.org

Find flu clinics
near you

Find an H1N1 or Seasonal Flu Shot

Arizona
Department of
Health Services

www.azdhs.gov/flu



Select a County or State organization
Or use the map to your left

Make a Selection ▼

Arizona Flu Hotline
1 877 764-2670

www.fluaz.org

FLU.GOV
 Know what to do
about the flu.
 VISIT FLU.GOV
 SHARE THIS WIDGET

What is Stop The Spread

Stop the Spread is a campaign to educate the public about the Novel H1N1 Flu pandemic, how it differs from seasonal flu, and how these two flu viruses can impact you, your family, and your community.

Please select a county or the state website above and read more about how this campaign was created to help you consider what you'll need to do to get ready for this flu season. Stay well and thanks for helping us Stop the Spread!

[en Español](#)

Department of Public Health

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 - Valley Fever
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- Birth & Death Certificates
- Preparedness & Response
- Health Statistics & Reports
- Community Health
- Disease Control & Prevention
- Clinic Services


VACCINE

NOVEL H1N1 Flu 2009

[Presione aquí para Español](#)

This site was created to help address some of your questions, concerns or help you access other sources of information. Check back often as we will update it as we learn more information and also please check out our [Media page](#) and hear from Dr. Bob and Dr. Rebecca talk in further detail about this flu season.

The icons on the left will take you to pages that provide detailed information and resources to help you educate yourself and your family regarding Novel H1N1.


SCHOOL

- Vaccine allocation strategy
- Vaccine safety information
- Locations where you can get H1N1 vaccine in Maricopa County


HOME

- School guidance
- How to report absenteeism during H1N1
- How to register for vaccine clinics
- Download School-related FLU materials


HEALTHCARE

- Flu Information for you on the [Media and Downloads](#) page
- More information will be coming soon


BUSINESS

- Treatment guidance
- Information for registered vaccine providers
- Locations for getting vaccine to healthcare workers
- Download HealthCare-related FLU materials


BUSINESS

- Useful planning tools and considerations found in our [Preparedness](#) site
- More information will be coming soon

La Gripe y su Familia



1 Enseñe a sus hijos buenos hábitos de higiene - ¡todos los días!

Debe cubrirse con el codo o con una toalla desechable al toser o estornudar.

Use buenos hábitos para lavarse las manos y descanse todos los días.



2 Deje a los niños en casa cuando están enfermos.

Cuando un niño va a la escuela enfermo puede infectar a otros compañeros de clase tan rápido que el índice de contagio es alarmante.

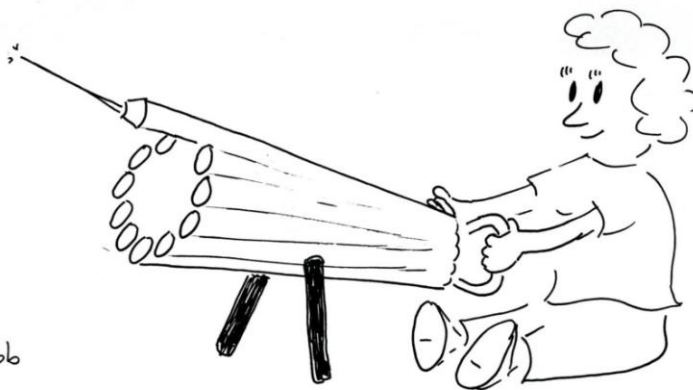
Los niños enfermos se deben quedar en casa.



3 Considere ponerse la vacuna durante la temporada de Gripe.

La vacuna funciona mejor para detener la propagación de la Gripe cuando todo el mundo se vacuna ya que los gérmenes no tienen un lugar a donde ir.

THE GATTLING SYRINGE



- Dr. Bob

		Tier 1 Tier 2 Tier 3 Tier 4 Tier 5 Not Targeted**			Severity of Pandemic		
Category	Target Group	Estimated Number*	Severe	Moderate	Less severe		
Homeland and national security	Deployed and mission critical personnel	700,000					
	Essential support & sustainment personnel	650,000					
	Intelligence services	150,000					
	Border protection personnel	100,000					
	National Guard personnel	500,000					
	Other domestic national security personnel	50,000					
	Other active duty & essential support	1,500,000					
Health care and community support services	Public health personnel	300,000					
	Inpatient health care providers	3,200,000					
	Outpatient and home health providers	2,500,000					
	Health care providers in LTCFs	1,600,000					
	Community support & emergency management	600,000					
	Pharmacists	150,000					
	Mortuary services personnel	50,000					
	Other important health care personnel	300,000					
Critical infrastructure	Emergency services sector personnel (EMS, law enforcement and fire services)	2,000,000					
	Mfrs of pandemic vaccine & antivirals	50,000					
	Communications/IT, Electricity, Nuclear, Oil & Gas, and Water sector personnel	2,150,000					
	Financial clearing & settlement personnel						
	Critical operational & regulatory government personnel						
	Banking & Finance, Chemical, Food & Agriculture, Pharmaceutical, Postal & Shipping, and Transportation sector personnel	3,400,000					
	Other critical government personnel						
General population	Pregnant women	3,100,000					
	Infants & toddlers 6–35 mo old	10,300,000					
	Household contacts of infants < 6 mo	4,300,000					
	Children 3–18 yrs with high risk condition	6,500,000					
	Children 3–18 yrs without high risk	58,500,000					
	Persons 19–64 with high risk condition	36,000,000					
	Persons >65 yrs old	38,000,000					
	Healthy adults 19–64 yrs old	123,350,000					

*Estimates rounded to closest 50,000. Occupational target group population sizes may change as plans are developed further for implementation of the pandemic vaccination program

**Persons not targeted for vaccination in an occupational group would be vaccinated as part of the General Population based on their age and health status.

ACIP Vaccine Guidelines

- Everyone 6 mo - 24 yrs
- 25 - 64 yrs with risk factors
- Caregivers of infants < 6 mo
- Pregnant women
- HCWs & Emergency medical workers

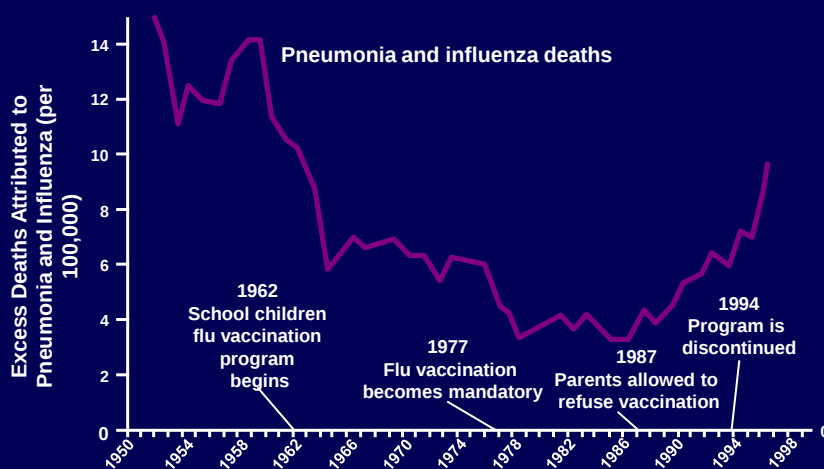
ACIP Vaccine Guidelines During a Shortage

- Children 6 mo - 4 yrs
- Children 5 yrs - 18 yrs with risk factors
- Caregivers of infants < 6 mo
- Pregnant women
- HCWs & Emergency medical workers





Mass Vaccination of Children in Japan Reduced Overall Deaths



Reichert TA et al. *N Engl J Med.* 2001;344:889-96.

Role of School Health

- Push hygiene messages
 - Teach kids
 - Info to parents
 - Teach the teachers
- Vigilance & Enforcement
 - NO sick kids in school
 - Call Local Health Dept for dramatic changes
- Mass vaccine effort

The Search for Immunizers

- RFP during the summer
 - Bill insurance first
 - Turn no one away
 - We'll reimburse $\leq$ \$8 admin fee for uninsured
- Handful of immunizers signed up
 - But only one willing to do schools
- School-based vaccines:
 - Mesa schools done by Mesa Fire Dept
 - Scottsdale schools by Scottsdale Health Care
 - All others solicited by ONE private mass immunizer
 - We urged all schools to participate

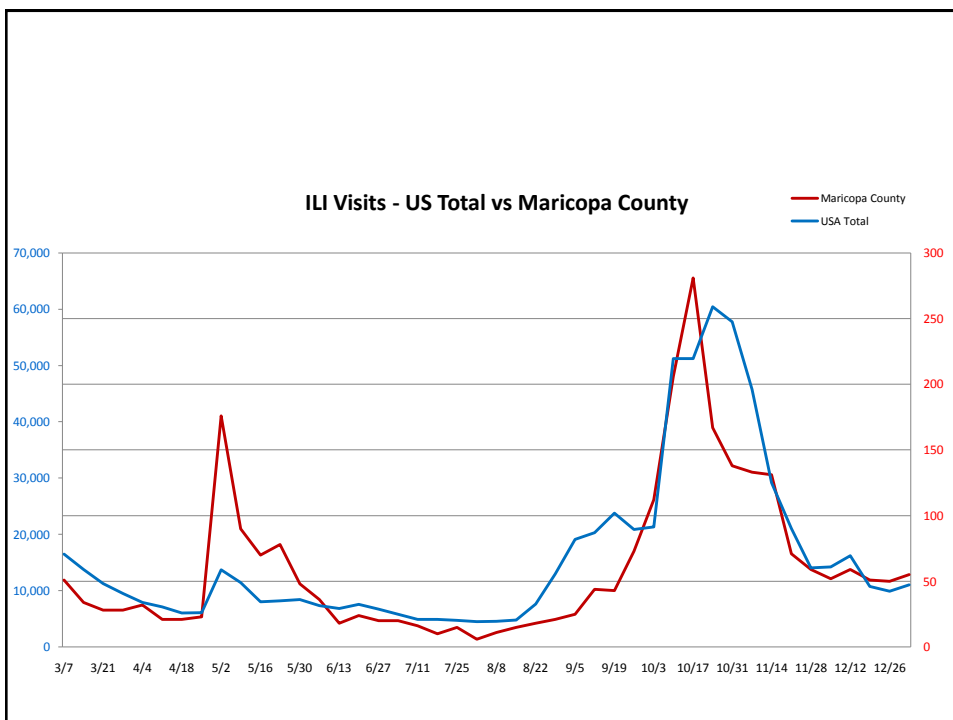
<u>Provider type</u>	<u># enrolled</u>	<u>LAIV ~9/30</u>	<u>Wk 1 (10/9)</u>	<u>Wk 2 (10/16)</u>
Hospitals	38			
Urgent Care	38			
CHCs	6			
LTC facilities	35			
EMS	17			
Tribal	5			
Military	1			
Corrections	13			
Mass Immunizers	15			
School-based	5			
Pharmacies	128			
Pvt – Family Practice	314			
“ - Pediatrics	149			
“ - OB/Gyn	63			
“ - Internal Med	37			
“ - Very Lg Providers	4			
“ - Other hi-risk	53			
“ - “Retail” clinics	32			
“ - Other	88			
<u>MCDPH</u>	<u>1</u>			
Total	~7.4M pts	37,500	61,800	41,200

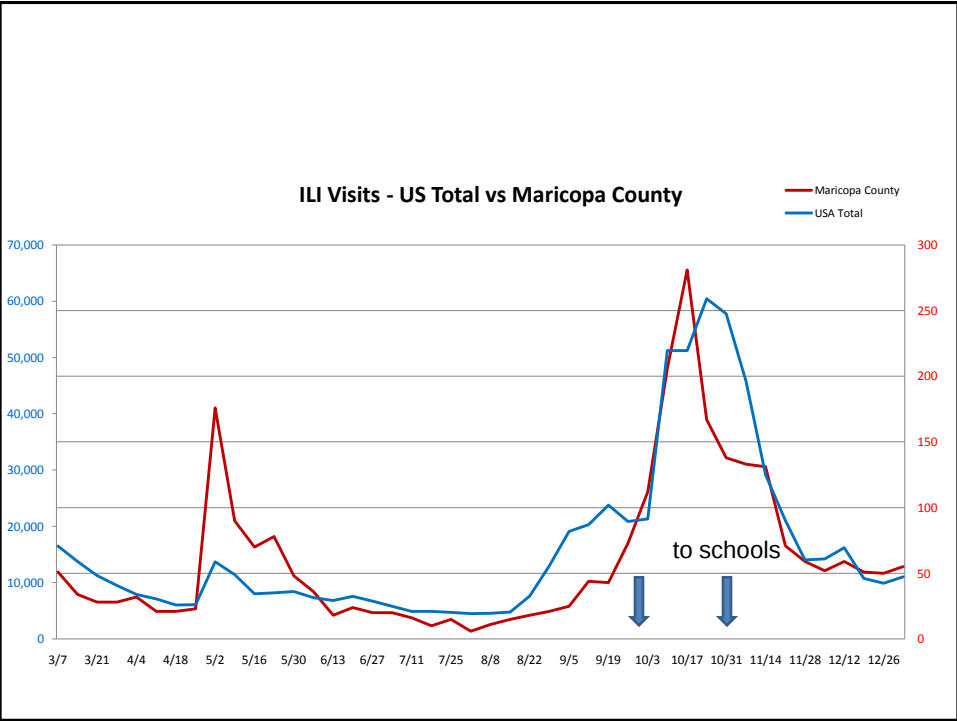
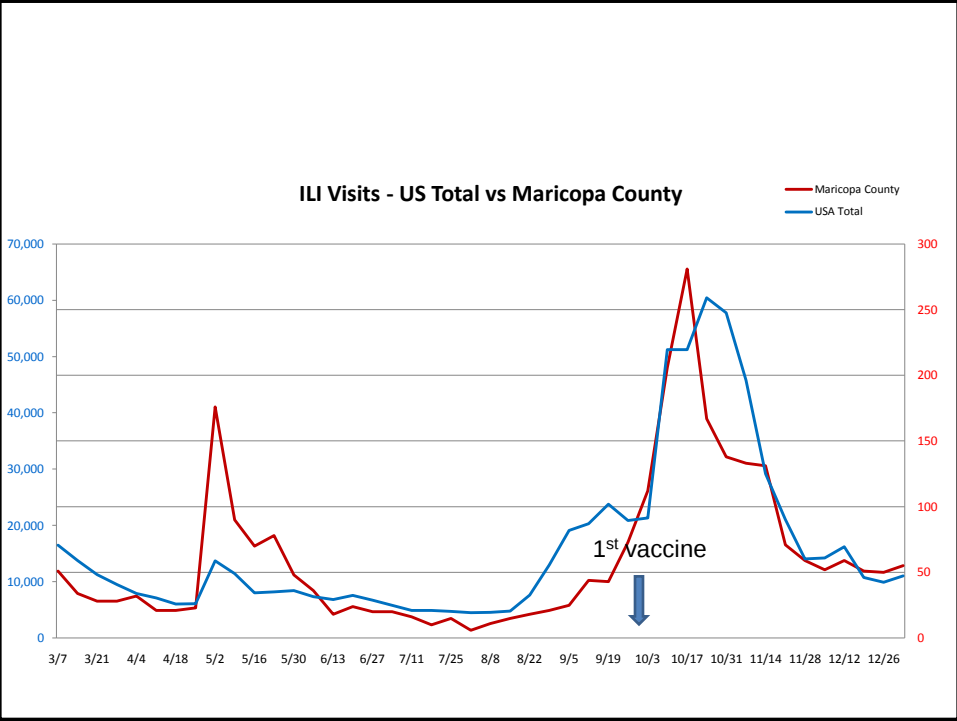
What happened with vaccine?

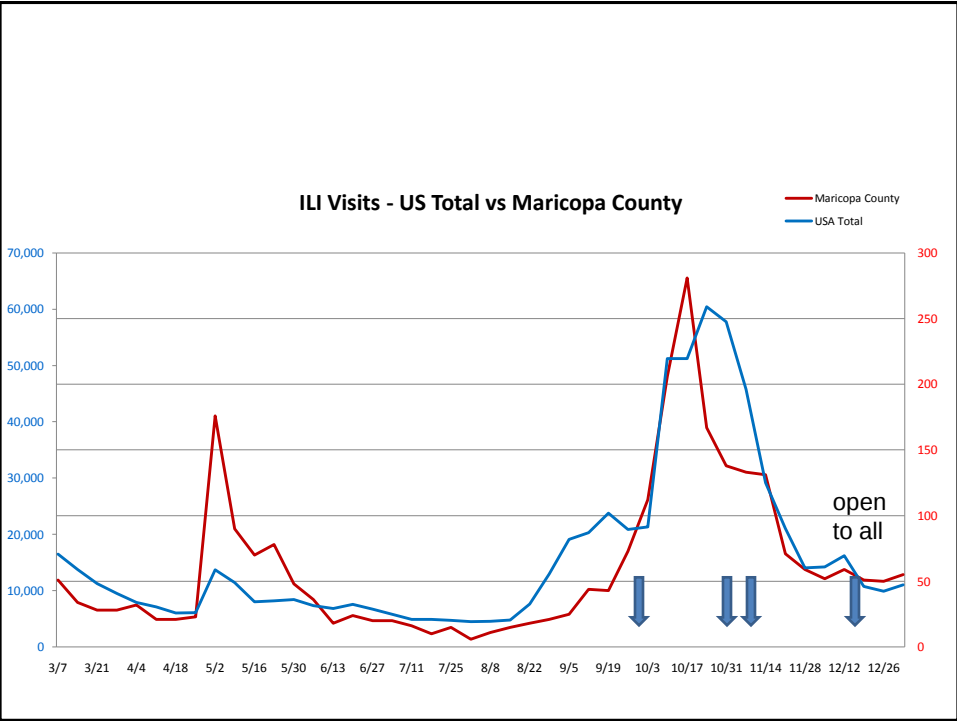
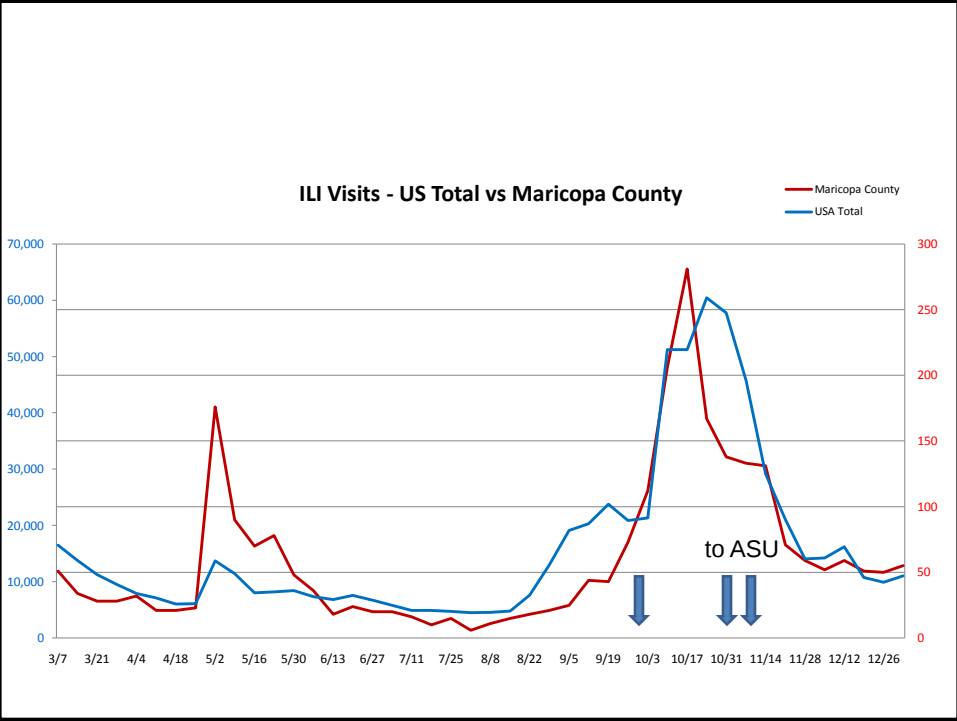
- Fluctuating daily vaccine allocation
 - (~1/3 of projections through Oct)
- Much more LAIV than providers preferred
- Early MCDPH principles:
 - Push it toward highest risk groups
 - Keep it moving (nothing in the 'fridge)

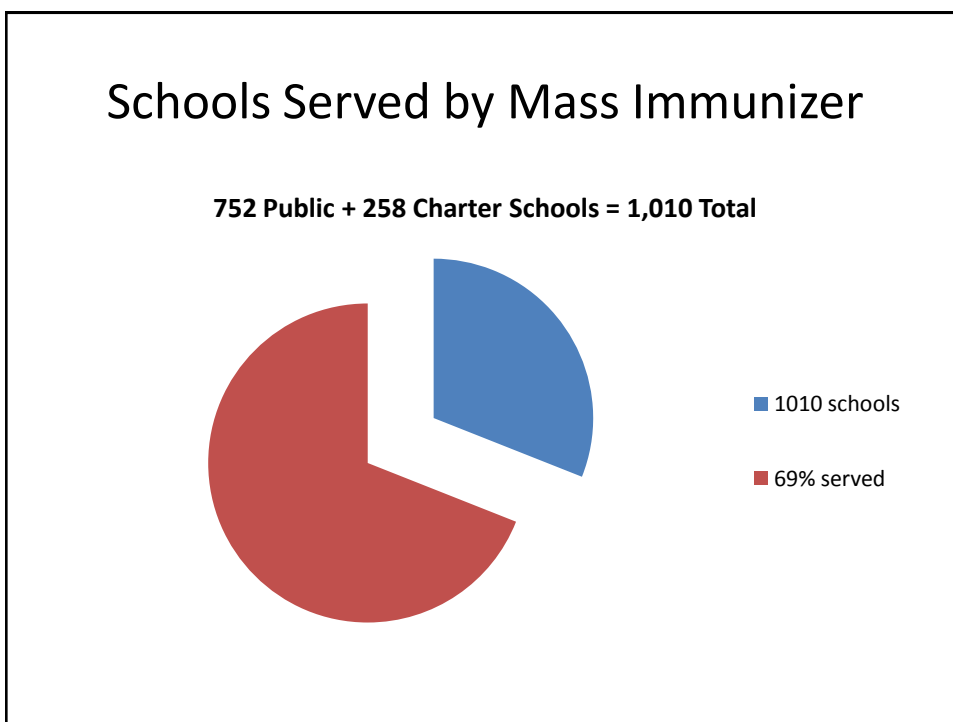
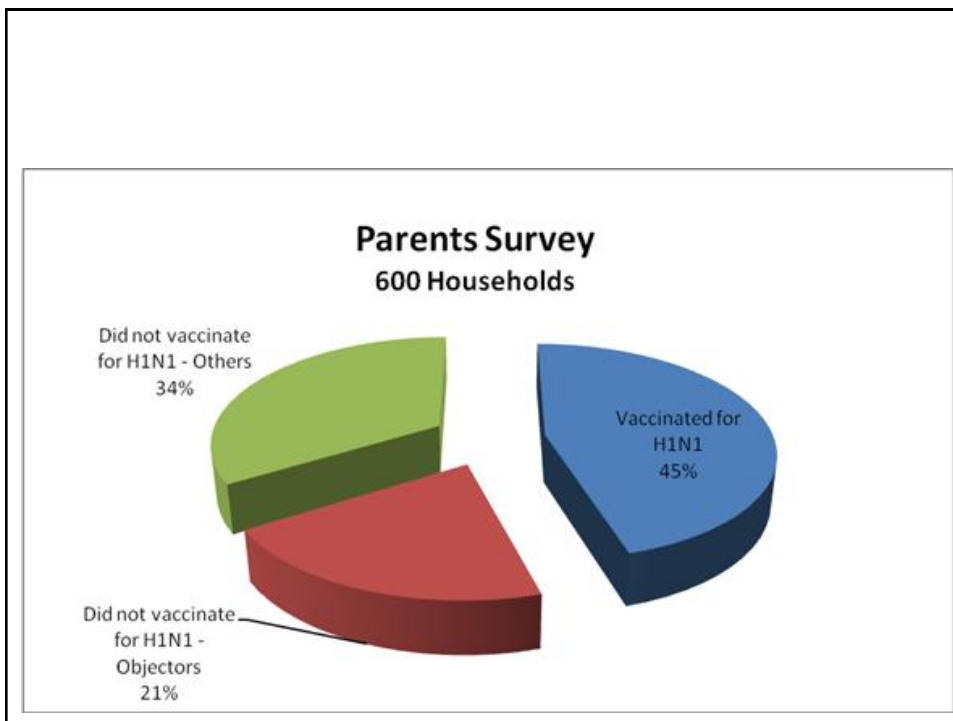
What happened with vaccine?

- Fluctuating daily vaccine allocation
 - (~1/3 of projections through Oct)
- Much more LAIV than providers preferred
- Early MCDPH principles:
 - Push it toward highest risk groups
 - Keep it moving (nothing in the 'fridge)
- Later: divert to schools (herd effect)
- Then: *pleeeeee* take it, anyone, everyone







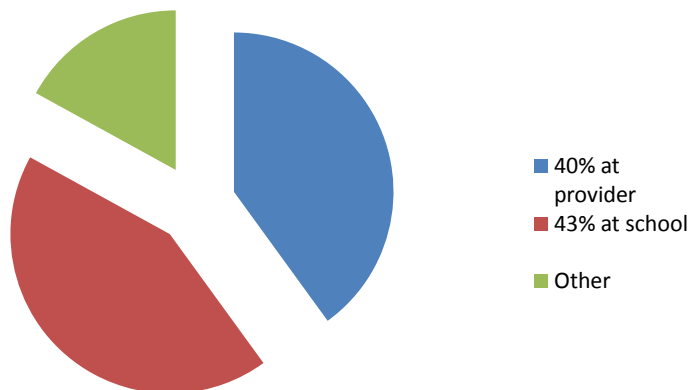


Mean % of Students Vaccinated at each School by Mass Immunizer

34% Immunized at School



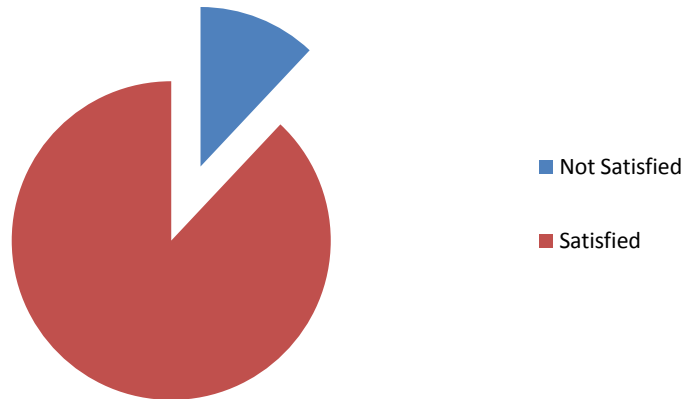
Where Students were Vaccinated



43% Immunized at School

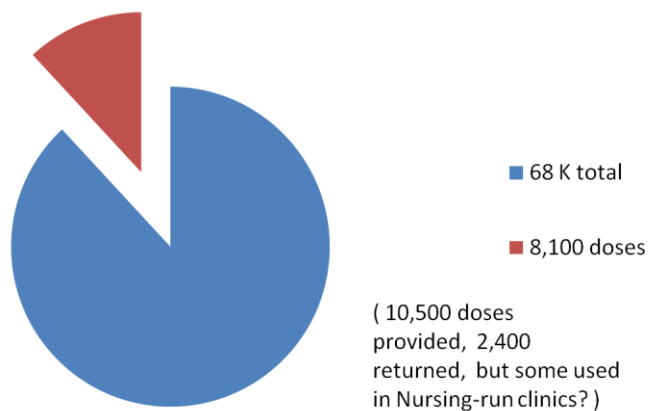
Parental Satisfaction with School Immunization

88% Very or Somewhat Satisfied



ASU (began after 11/10)

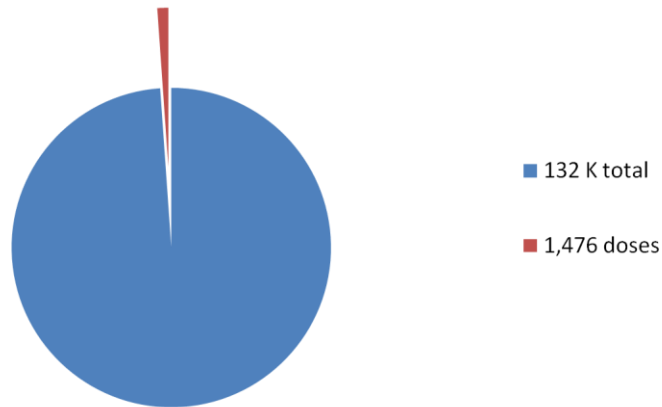
Doses vs. Students



Maricopa Community Colleges

(12/8-18 & 1/19, then 2/2-17)

Doses vs. Students



Maricopa Community Colleges

LAIV vs. Injectable

Doses vs. Students



Bob's nightmare

- Public memory afterward:
 - “They made a big deal of flu shots, and everyone got sick anyway”
 - “I got my flu shot and I got sick”
 - “Flu shots don't work / don't matter”
- Much evaluation ongoing

Optimistic Notes

- In a HUGE community, with very little time:
 - Vast majority of schools participated
 - Nearly half of kids vaccinated
 - Only 21% cited objections (often due to perception of vaccine as “new” or “experimental”)
 - Complicated billing may have led to some passive missed vaccinations
- With planning and simpler system, school based flu vaccination may reach herd effect

"It's just the flu"

Influenza Estimates for the US

- Cases: 25 – 50+ million cases
- Infection rate 7% to 20% of general pop
- (among kids 5-14 y.o.) 16% to 38%
- Days of illness: 100 – 200 million days
- Work loss: ~75 million days
- Hospitalizations: ~114,000
- Deaths (avg in 1990s): ~36,000
- Costs: ~\$3-5 billion

MMWR 2003; 52 (RR-8); Thompson et al. JAMA 2003; 289: 179;

Adams PF et al. Vital Health Stat 1999; 10(200).

ACIP (Advisory Committee on Immunization Practices). *MMWR*. 2004/Apr 30;53:1-40.

AAP (American Academy of Pediatrics). *Pediatrics*. 2004/May;113:1441-47.

Sullivan K. *Pharmacoeconomics*. 1996;9 (Suppl 3):26-33.

StopTheSpreadAZ.org

(WeArePublicHealth.org)

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