

# Coping with the Pandemic

## National Flu Vaccine Summit

Bob England, MD, MPH

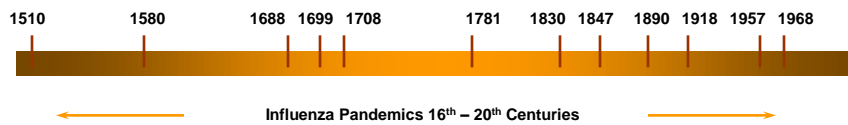
Maricopa County Dept  
of Public Health

May 18, 2010

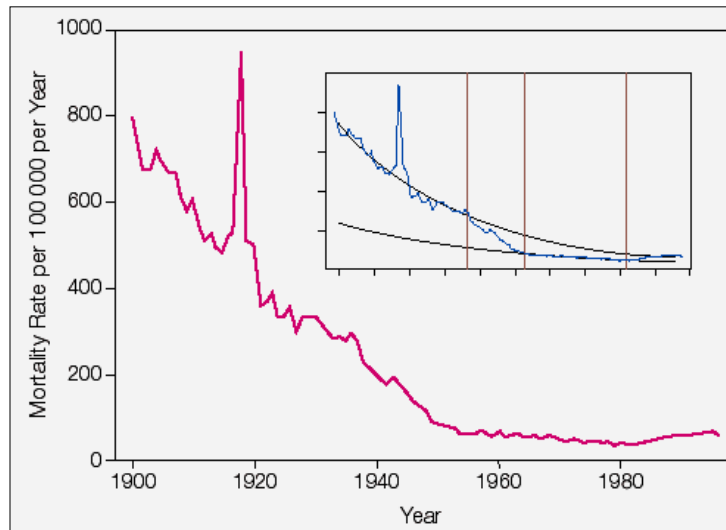


# Flu Pandemics

- Irregular, ~2-3 per century



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

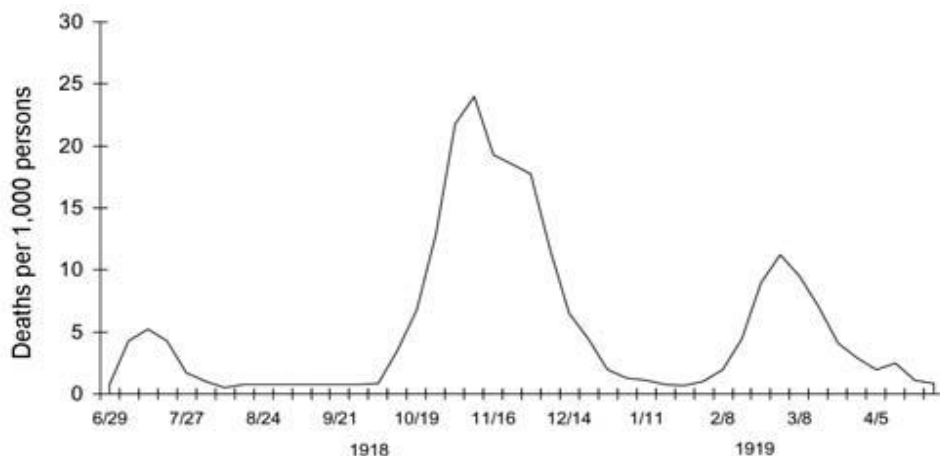


Armstrong, GL. JAMA. 1999 Jan 6;281(1):61-6.

## 20<sup>th</sup> 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



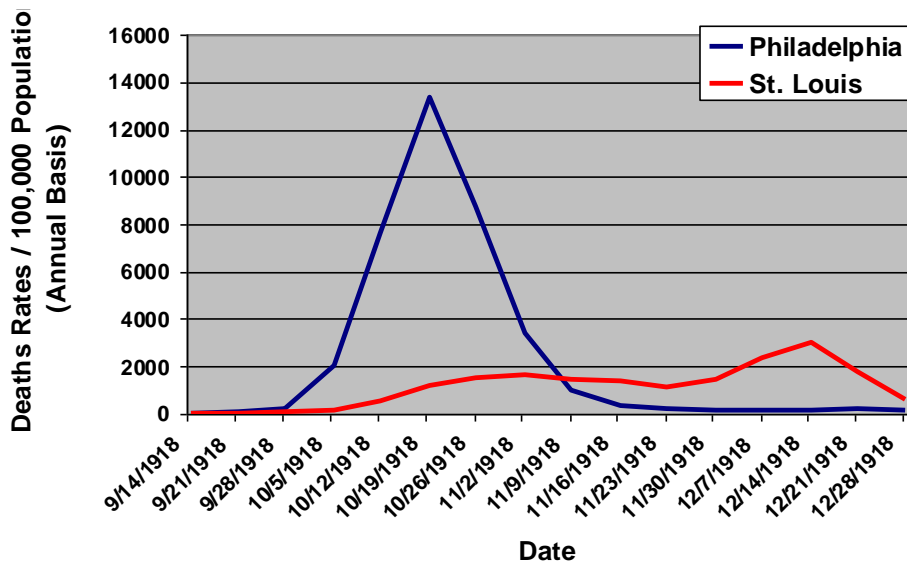
# Canadian lab confirms human swine flu cases in Mexico

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 – 1<sup>st</sup> CDC conf call
- Wed, 4/29 – 1<sup>st</sup> (of 4) press conferences, 1<sup>st</sup> confirmed case that closed 1<sup>st</sup> 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 2<sup>nd</sup> 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...



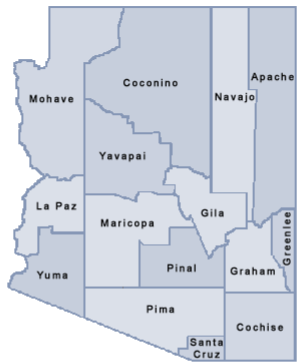
StopTheSpreadAZ.org

Find flu clinics near you

Find an H1N1 or Seasonal Flu Shot



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.fluzz.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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**Novel H1N1 Flu Menu**

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**Quick Links**

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  - West Nile Virus
  - Whooping Cough
  - Valley Fever
  - Prescription Discount Card
- Birth & Death Certificates
- Preparedness & Response
- Health Statistics & Reports
- Community Health
- Disease Control & Prevention
- Clinic Services

## 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.



VACCINE

Vaccine

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



SCHOOL

School and Educational Settings


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



HOME

Home


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



HEALTHCARE

Healthcare

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



BUSINESS

Business and Workplace

- 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.

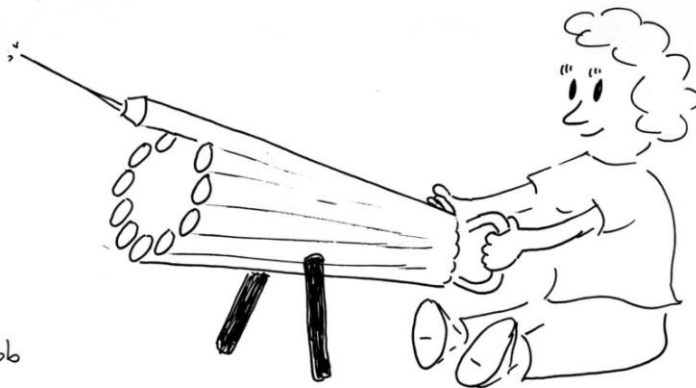
Los niños enfermos se deben quedar en casa.



## 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



## ACIP Vaccine Guidelines During a Shortage

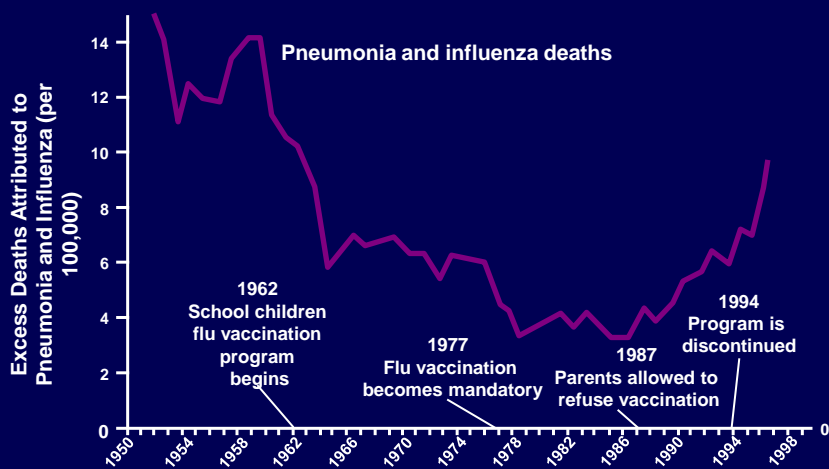
- Children 6 mo - 4 yrs
- Children 5 yrs - 18 yrs with risk factors
- Caregivers of infants < 6 mo
- Pregnant women
- HCWs & Emergency medical workers

Are we  
missing the  
big picture?





## 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

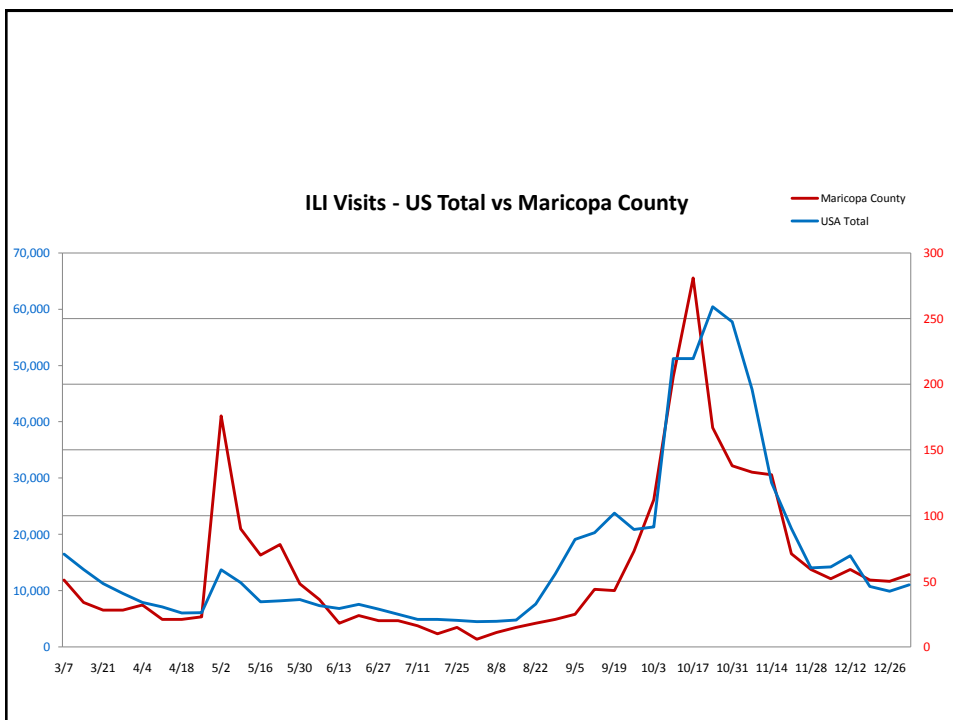
<u>Provider type</u>	<u># enrolled</u>	<u>LAIV -9/30</u>	<u>Wk 1 (10/9)</u>	<u>Wk 2 (10/16)</u>
Hospitals	38			
Urgent Care	38			
CHCs	6			
LTC facilities	35			
EMS	17			
Tribal	5			
Military	1			
Corrections	13			
Mass Immunizers	15			
School-based	5			
Pharmacies	128			
Pvt – Family Practice	314			
“ - 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

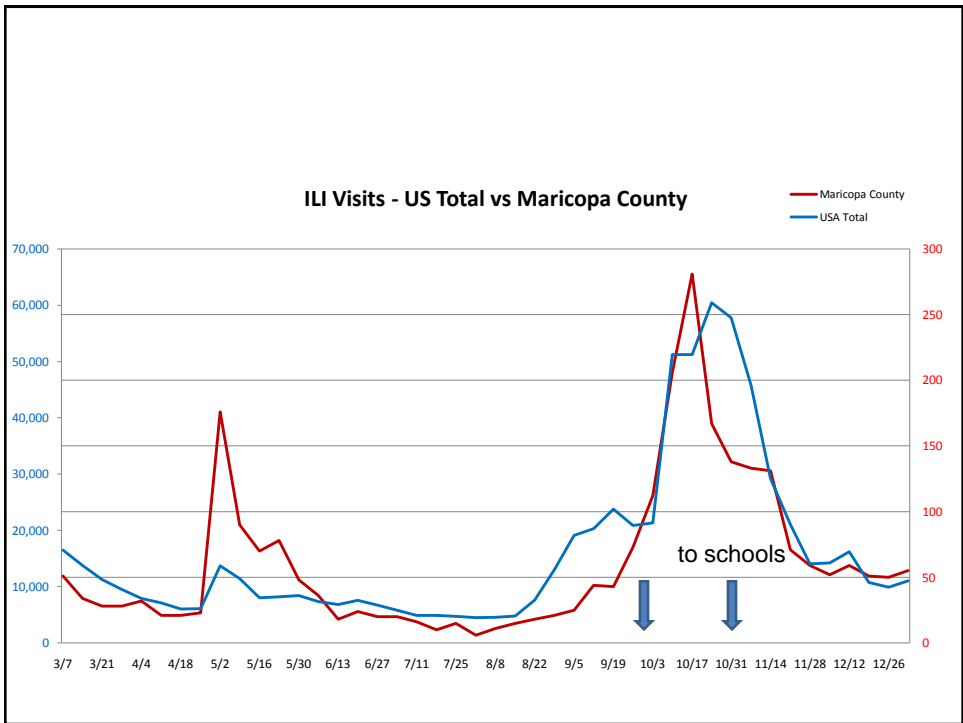
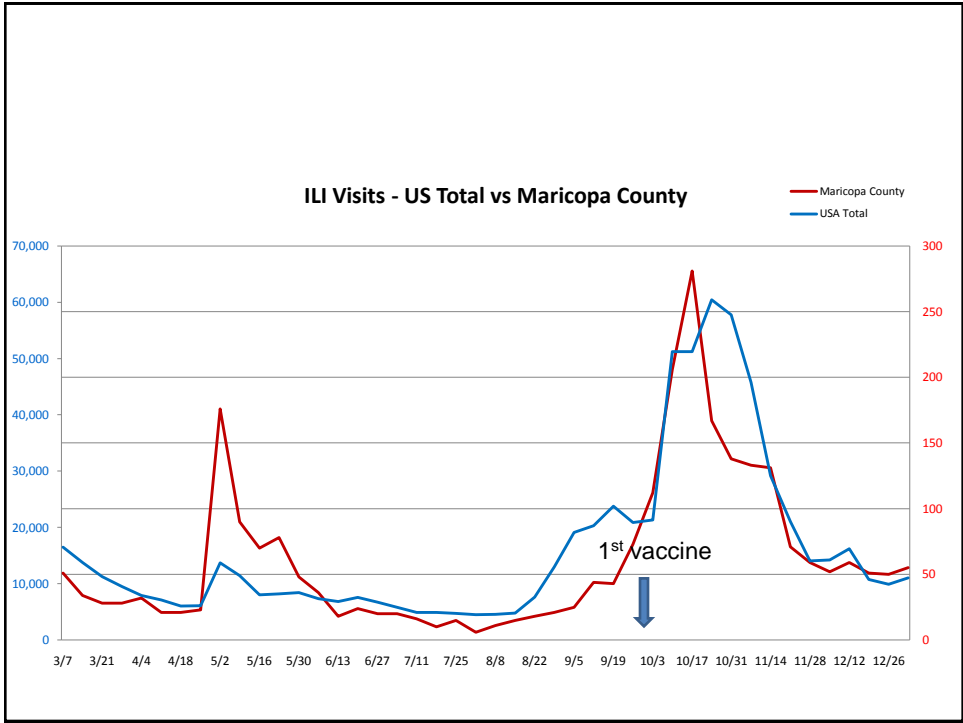
## What happened with vaccine?

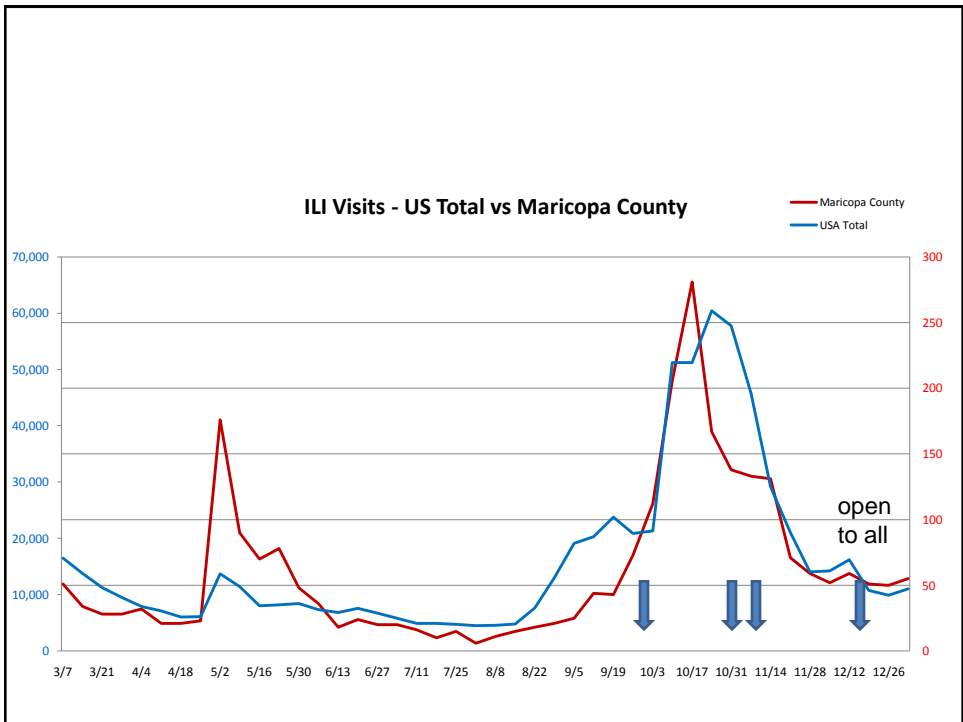
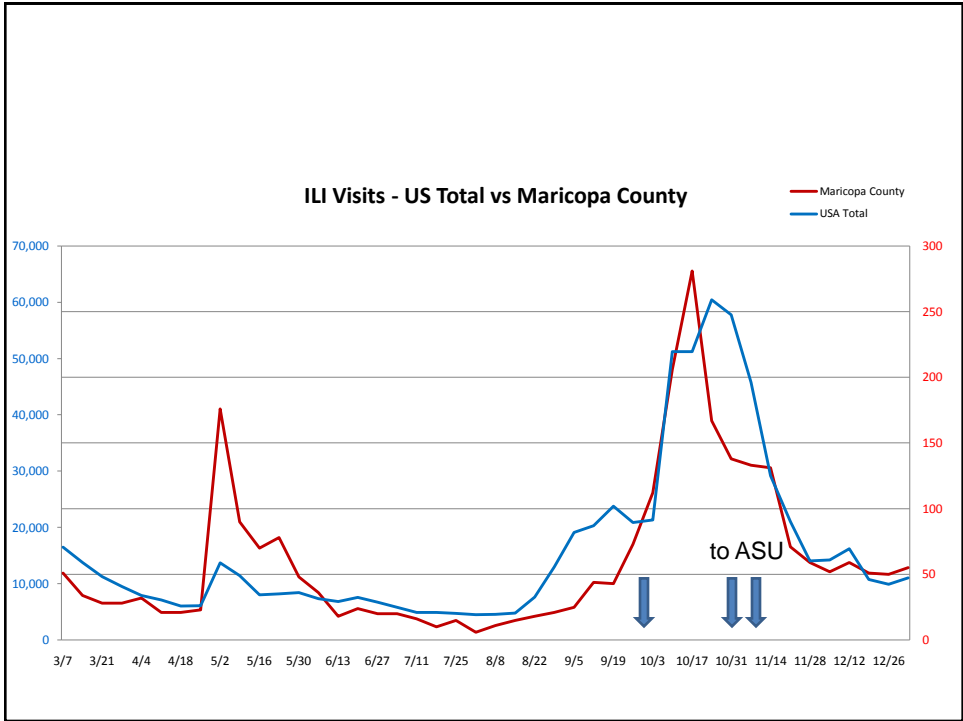
- Fluctuating daily vaccine allocation
  - (~1/3 of projections through Oct)
- Much more LAIV than providers preferred
- Early MCDPH principles:
  - Push it toward highest risk groups
  - Keep it moving (nothing in the 'fridge)

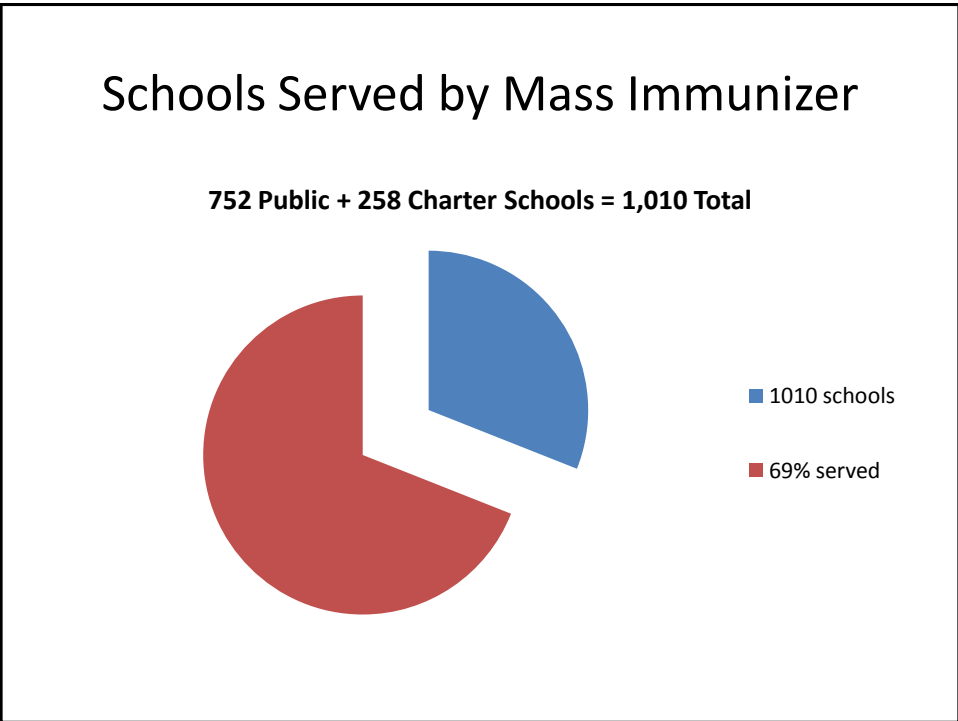
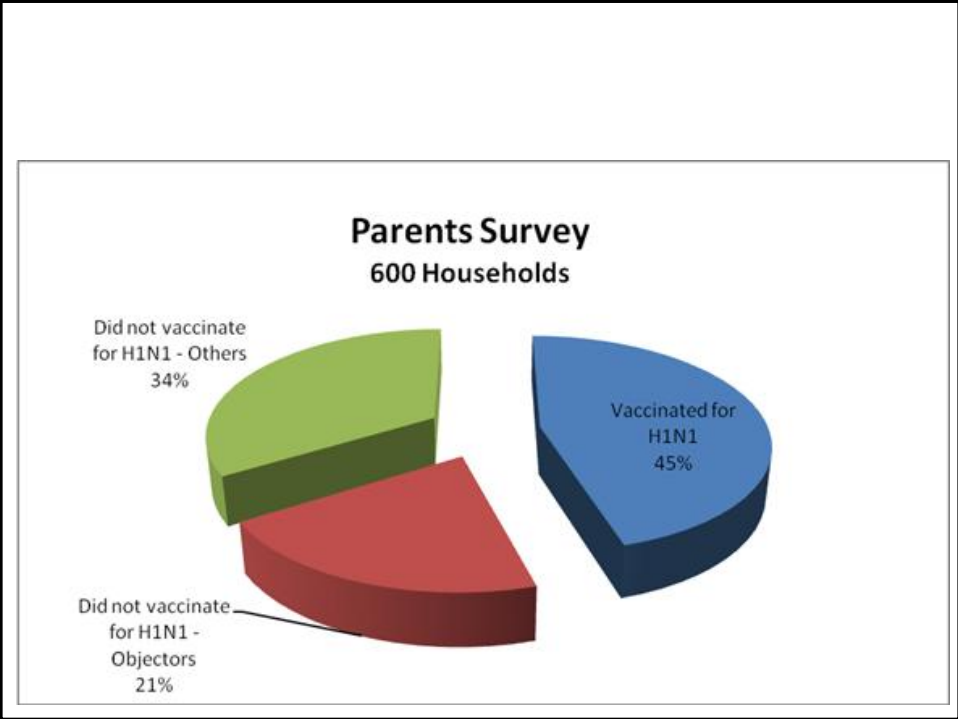
# What happened with vaccine?

- 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: *pleeeeeeze* take it, anyone, everyone







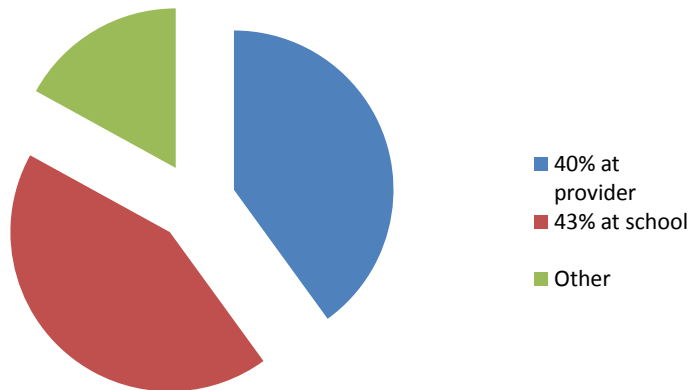


## Mean % of Students Vaccinated at each School by Mass Immunizer

34% Immunized at School



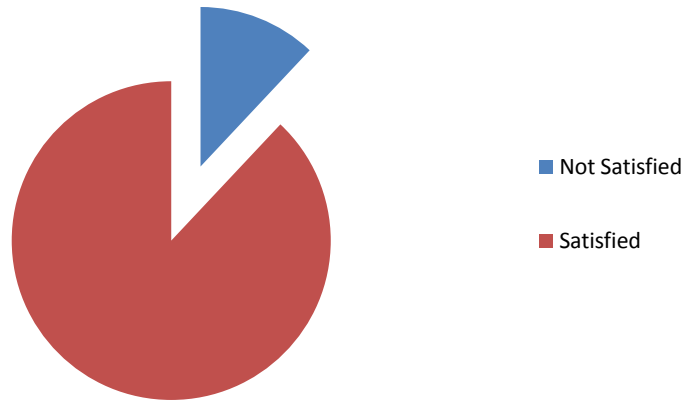
## Where Students were Vaccinated



43% Immunized at School

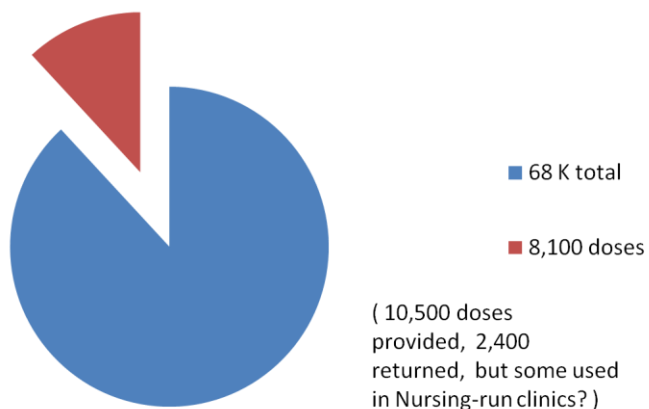
# Parental Satisfaction with School Immunization

88% Very or Somewhat Satisfied



# ASU (began after 11/10)

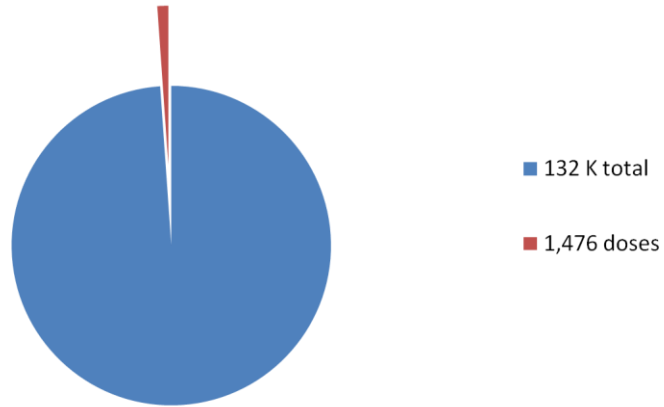
Doses vs. Students



# 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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