



PINAL • COUNTY  
*wide open opportunity*

# January 2015 Pinal County Measles Outbreak

Pinal County Public Health Services District

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Data presented as of February 6, 2015

# Measles

- Highly contagious respiratory virus
  - Airborne
  - Those unvaccinated or not immune have over a 90% of contracting measles when exposed
  - The virus can live in the air up to 2 hours after an infected individual is no longer in the room/area
- Signs and Symptoms
  - Up to a 21-day incubation period (may not test positive until signs and symptoms develop)
  - High fever (over 101 degrees F); cough; runny nose; red, watery eyes; and
  - Rash (infectious 4 days prior to rash and 4 days after rash)
- Severe Complications
  - 1 child out of every 1,000 will develop encephalitis (swelling of the brain), which can lead to convulsions and can leave the child deaf or mentally retarded
  - For every 1,000 children, 1 or 2 will die from it.



# Prevention of Measles

- Vaccination
  - MMR (Measles, Mumps, Rubella) or MMRV (+Varicella)
  - Two (2) doses of MMR offers the best protection
- Vaccine Schedule
  - 1 years old
  - 4-6 years of age
- Populations that are unable to be vaccinated
  - Under 1 years of age
  - Life-threatening allergic reaction to vaccine components or to the antibiotic neomycin
  - Pregnant women who have not been previously vaccinated
  - Immunocompromised individuals



# Measles Risk in Older Adults

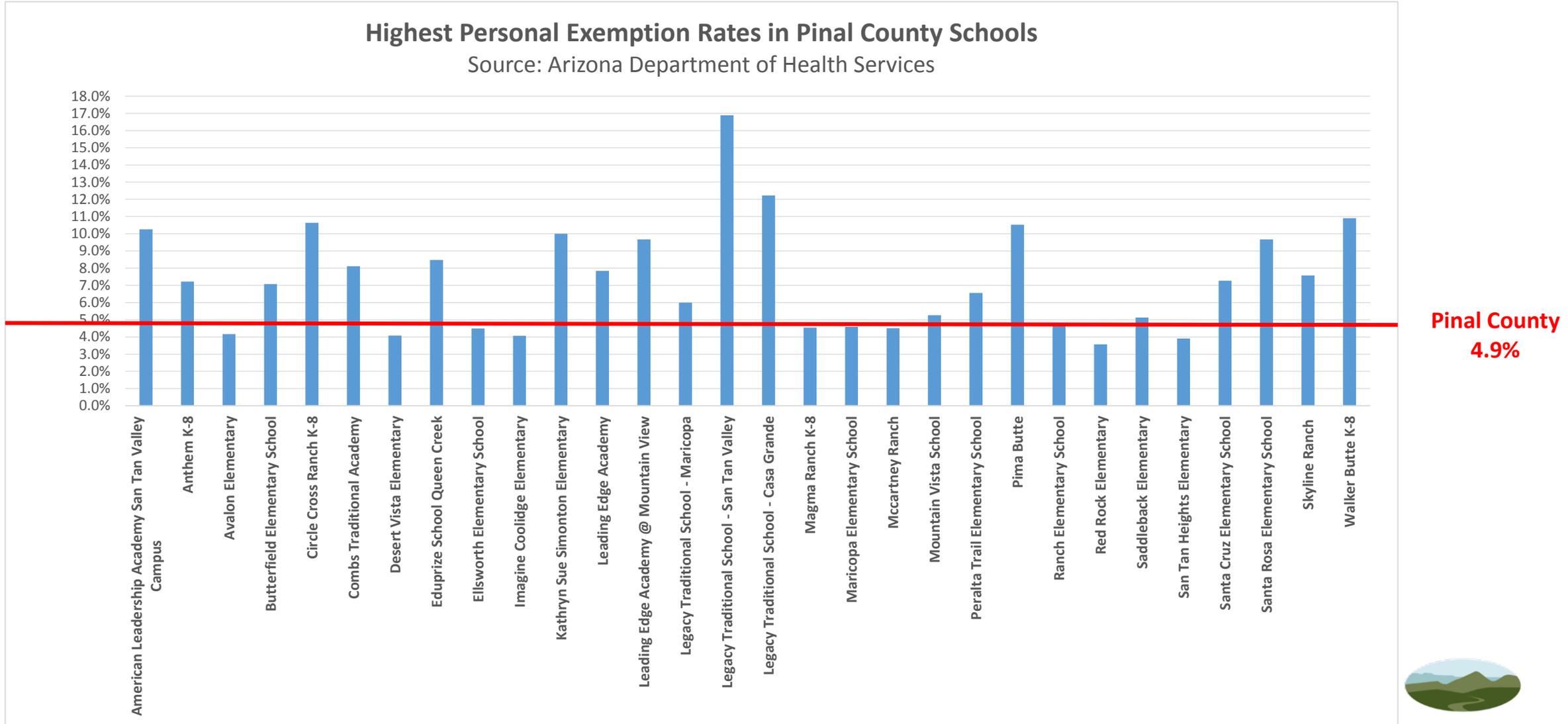
- Populations born prior to 1957 (MMR vaccine not produced until 1963)
    - Measles heavily circulated
    - Most had measles during childhood
    - Antibodies present for protection
  - Populations born in and after 1957
    - 2 doses of MMR
- \* If measles history or vaccination status is unknown, obtain at least one dose of MMR or get a titer to confirm immunity.**



# Vulnerability in Schools

## Highest Personal Exemption Rates in Pinal County Schools

Source: Arizona Department of Health Services



**Pinal County  
4.9%**



# Current Timeline of Positive Measles Cases in Arizona

- Nationwide Outbreak: 102 Cases in 14 States linked to Disneyland
- 7 Cases in Arizona
  - Two Cases in Maricopa County (first two positive cases in Arizona)
    - First Case linked to travel to Disneyland – January 22, 2015
    - Second Case announced on January 27, 2015
  - Five Cases in Pinal County
    - Four cases in one family; linked to travel to Disneyland – January 23, 2015
    - Fifth case exposed to the family of four cases – January 27, 2015
      - Visited several businesses during incubation period
      - Incubation Period concludes on February 13, 2015
      - Two incubation periods to fully conclude outbreak: March 6, 2015



# Response Objectives

- Prevent further spread, contain the outbreak
  - Identify exposures
  - Identify suspect cases
  - Identify un- and under-vaccinated individuals
  - Public messaging and education
  - Link to testing and vaccination



# Public Messaging

- Press Releases/Media Coverage (Local and National)
- Messaging and Direction to Healthcare Providers and Hospitals
  - Signage and precautions
- Measles Alert Signage
  - Locations where 5<sup>th</sup> case visited
  - ½ hour prior to purchase transactions and 2 hours after
  - Other locations had specific population identified
- Posters and Flyers in Kearny
  - Large posters in common public locations
  - Flyers at businesses for patrons
  - Public Health contact numbers

**ALL ABOUT MEASLES**  
for Parents, Families, and the Community



**MEASLES SYMPTOMS**  
Measles disease starts with a high fever followed by the "3 C's" that include cough, runny nose (coryza), and/or red, watery eyes (conjunctivitis). A red, blotchy rash begins 2-4 days after onset. The rash begins at the hairline and spreads down to the face, body, and then to the hands and feet over the next 3 days. The rash then fades in the same order it appeared. The rash lasts 5-6 days.  
Up to a third of measles cases become severe and may progress to pneumonia, seizures, encephalitis, brain damage, and death.



**MEASLES PREVENTION:**  
The best way to prevent measles is through two doses of MMR (measles-mumps-rubella) vaccine given according to the recommended schedule:  
1 First dose of MMR—given on or after the first birthday  
2 Second dose of MMR—recommended to be given at age 4-6 years, may be given as soon as 1 month after the first dose.  
Since MMR vaccine is not routinely given to children less than one year of age, it is especially important for family members of young children to make sure that everyone in their household is up to date on their vaccinations to protect the family from illness. Please contact the Pinal County Public Health Services District for further information about MMR vaccine.

**HOW IS MEASLES SPREAD?**  
Measles is very contagious and can be spread when an infected person coughs or sneezes. The virus can live in the air and on surfaces for at least two hours. A person with measles is infectious four days before the start of the rash until 4 days after the rash begins.

**WHAT TO DO IF YOU THINK YOU HAVE MEASLES**  
If you think you may have measles, **CALL YOUR HEALTH CARE PROVIDER FIRST** for instructions on what to do. Calling ahead will avoid exposing others. It is very important to stay home and away from others when sick.

**MEASLES TREATMENT**  
There is no specific treatment for measles. Measures can be taken to possibly prevent measles in persons who have been exposed.

**Questions?**  
Contact the Pinal County  
Public Health Services  
District  
520-509-3555  
Or  
888-431-1311  
[www.pinalcountyz.gov](http://www.pinalcountyz.gov)



# Pinal County and Public Health Resources

- Primary response section:
  - Communicable Disease Section/Epidemiology
- Supporting response sections:
  - Call Center Personnel
  - School Health Liaison Program
  - Clinic Nursing Services/Clinic Operations Managers
  - Women, Infants, and Children (WIC) Services
  - Central Support and Accounting
    - Supplies, vaccine, payroll, procurement
- Oversight/Coordination:
  - Emergency Preparedness and Response Section



# Call Centers

- Pinal County Citizen Contact Center (*19 calls*)
- Public Health Central Appointment Desk (*159 calls*)
- Public Health Incident Command Center Call Center (*133 calls*)
- Public Health Infectious Disease and Epidemiology Section (*451 calls*)
- *Televox Reminder/Recall Automated System (482 calls to undervaccinated)*
  
- Scripts with detailed information
  - General information
  - Exposures
  - Suspect Cases
  - Un- and Under-Vaccinated



# Schools

- Preparing schools for outbreak
  - Arizona Revised Statute on student exclusions (ARS § 15.873)
  - Only schools with exposure to positive cases
  - Affected school had 100% vaccination coverage rate
- School Health Liaison Program
  - Point of Contact for School Officials and School Nurses
  - Gather exemption and under-vaccinated data
  - Messaging to all schools



# Clinic Operations

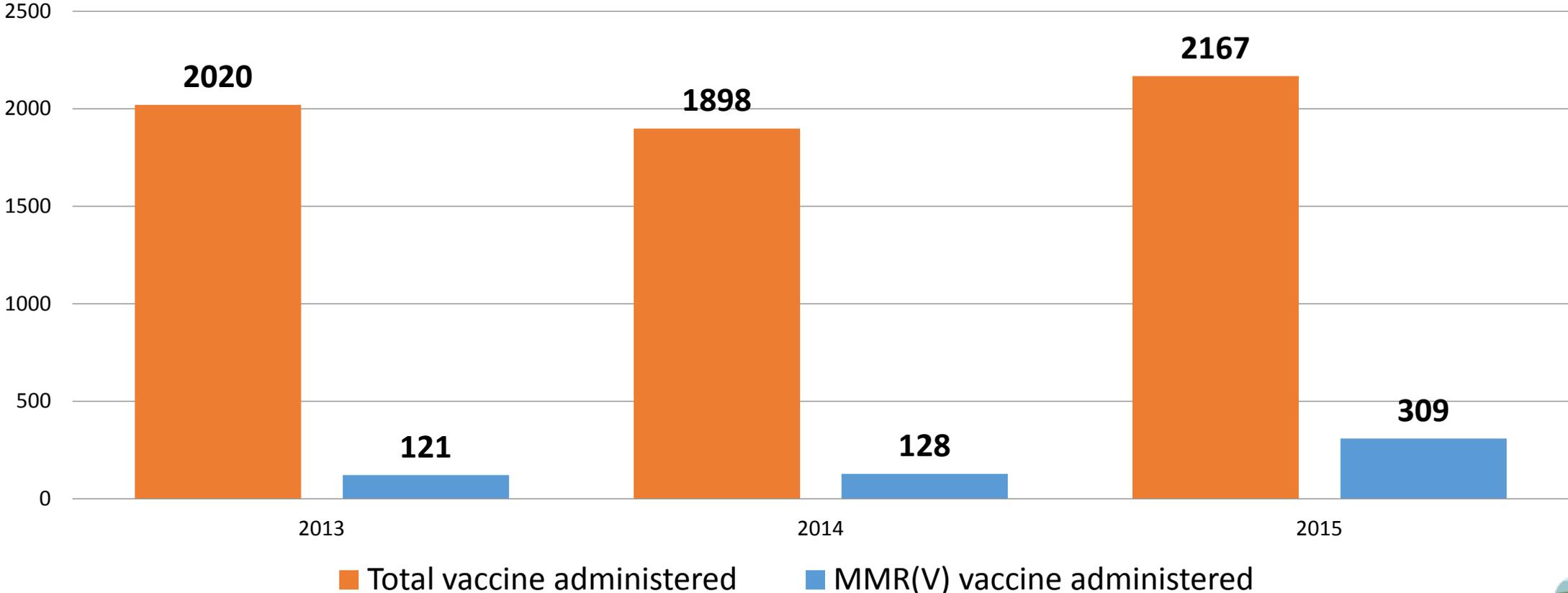
- Vaccination and Education
  - Increase in vaccinations and vaccination inquiry
- WIC Staff to link clients to vaccination services
- Nursing resources trained to assist Communicable Disease Section
  - Specimen collection
- Vaccine Manufacturers - Automated calls and postcard mailings
  - Telephonic and written correspondence to parents of children missing vaccine dose(s)



# Increase in Vaccination

## Pinal County Public Health Services District Immunizations Administered by Year (*Jan 1-Feb 8 only*)

Data Source: ASIIS/eClinicalWorks eBO Reports



# The Cost of an Outbreak

- Pima County (2008 Measles Outbreak)
  - Over 1 year and \$800,000
- Current Pinal County Outbreak
  - 3 weeks and over \$32,000
- Labor Intensive and Costly for a vaccine-preventable disease



Questions or Comments?