State of the State

January 20, 2017

Presenting To

APIC Grand Canyon | Phoenix, AZ

Arizona Department of Health Services

Agenda

- **Welcome**
  - Ken Komatsu
- **MEDSIS/MU**
  - Teresa Jue/Sara Imholte
- **Hepatitis B & C**
  - Elizabeth Kim
- **Vaccine Preventable Disease**
  - Susan Robinson
- **Vector/RMSF**
  - Hayley Yaglom
- **Influenza**
  - Rachel Perry
- **Zika**
  - Kara Tarter
- **HAI**
  - Rachana Bhattarai/Geoff Granseth
- **STD**
  - Ryan Kreisberg
- **HIV Surveillance**
  - Victoria Hansen
- **TB**
  - Amanda Swanson
- **Foodborne**
  - Bria Hamlet
- **Cocci**
  - Xandy Peterson
- **Questions**

Welcome

- Ken Komatsu
  - Rulemakings In Progress: Communicable Diseases
    - http://azdhs.gov/director/administrative-counsel-rules/rules/index.php#rulemakings-active-communicable-diseases

Updates

January 20th, 2017

APIC State of the State

Teresa Jue

2016 MEDSIS Updates

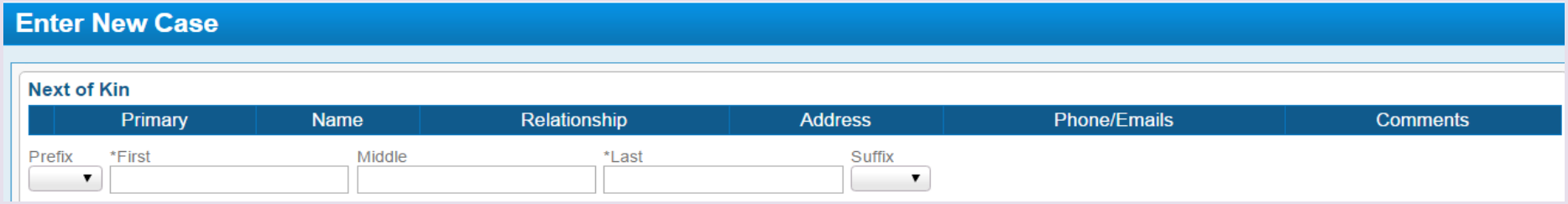
- New adult and childhood blood lead reporting in MEDSIS.

  2 Methods:

  a. Direct Entry into MEDSIS
  b. Submission of a standardized spreadsheet

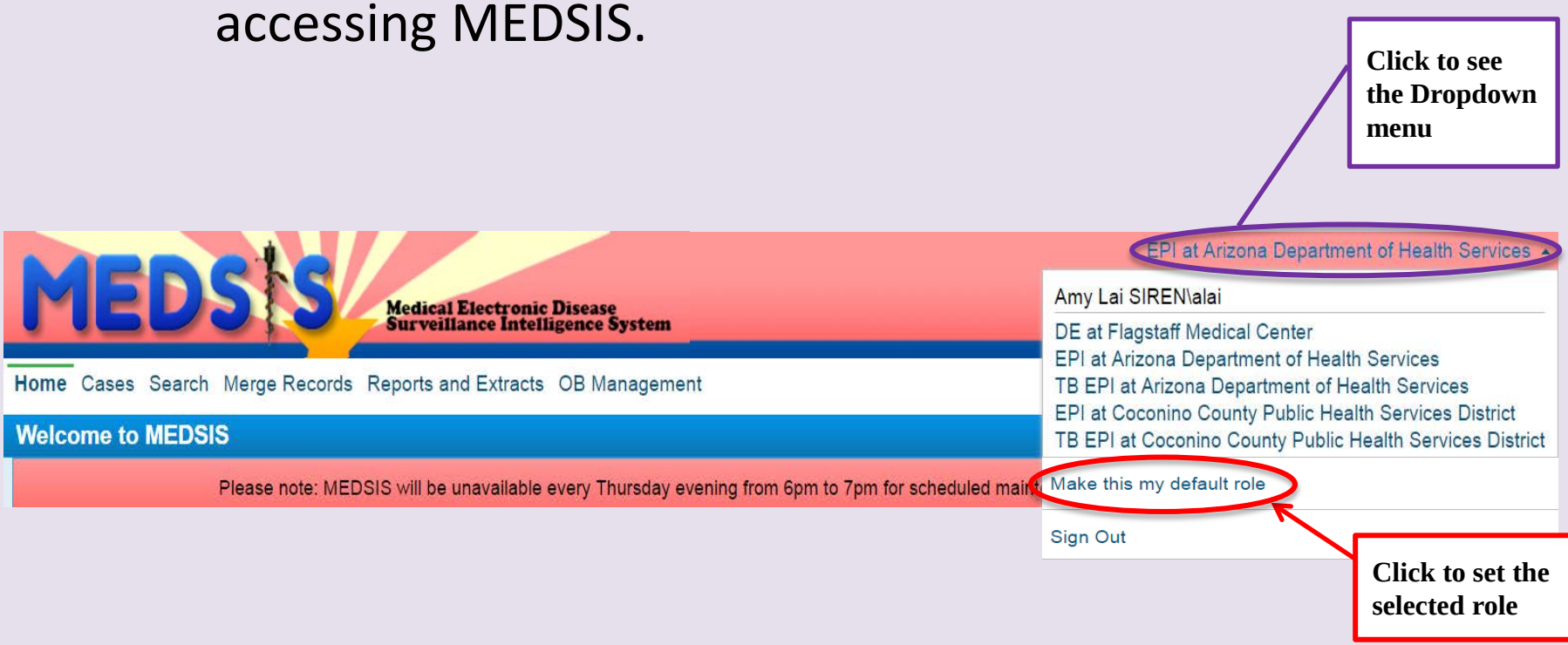
  If your facility performs blood lead testing and would like to report through either method, please contact the MEDSIS Help Desk at medsishelpdesk@siren.az.gov

- Next of Kin table
  a. Introduced in November 2016!!
  b. New next of kin table available during New Case Entry; users can provide additional contact information for public health follow-up.



2016 MEDSIS Updates

- Selecting default roles for users with multiple facilities
  a. Users who are reporting on behalf of multiple facilities can now select which default role you would like when accessing MEDSIS.



2016 MEDSIS DE Updates

- 1 focus group and 2 workgroup meetings were held in 2016.

- The 2017 MEDSIS Healthcare User Workgroups
  a. **Will be scheduled in the next few weeks.**

  If you are interested in providing feedback and helping with the prioritization of future enhancements or fixes, please e-mail the MEDSIS Help Desk at

  medsishelpdesk@siren.az.gov

What's next for 2017?

- More enhancements to improve the case reporting workflow in MEDSIS
  a. Currently researching how hospital users can add additional information to previously reported cases instead of creating new cases for each new result or update.
  b. More auto-populated fields, like county based off of zip code.

Questions?

medsishelpdesk@siren.az.gov

Meaningful Use

Sara Imholte

Meaningful Use

- Electronic Health Record Incentive Program run by CMS
- Two types of healthcare providers
  - **EP**: Eligible Professionals
  - **EH/CAH**: Eligible Hospitals/Critical Access Hospitals
- Three Stages (Stage 3 starts 2017 or 2018)
  - Continue support advanced use of Health Information Technology to improve outcomes for patients

CMS Finalizes 2 New Rules Fall 2016

1. Merit-Based Incentive Payment System (MIPS) and the Alternative Payment Model (APM) Incentive Under the Physician Fee Schedule, and Criteria for Physician-Focused Payment Models (also known as Quality Payment Program)

EP (EC)

2. Hospital Outpatient Prospective Payment and Ambulatory Surgical Center Payment Systems… Electronic Health Record (EHR) Incentive Programs… (also known as OPPS)

EH/CAH

What's important for public health and partners to know

- Meaningful Use hasn't gone way
- Incorporation of Meaningful Use into other CMS programs
- Same Public Health measures available (counting may be different)

Eligible Healthcare Provider Types

Federal Rule and Program	Stage 3 MU EHR Incentive Program	MIPS/APM Quality Payment Program	OPPS EHR Incentive Program
Eligible Provider Type	Medicaid clinicians, and hospitals who bill either Medicare or Medicaid **EP** **EH/CAH**	Medicare part B clinicians **EP / Eligible Clinicians (EC)**	Hospitals that attest to Medicare EHR incentive program or both Medicaid and Medicare (dual-eligible) **EH/CAH**

Public Health Measures Available at ADHS

- Immunization Registry (ASIIS) *bidirectional* **EP** **EH/CAH**
- Electronic Lab Reporting (ELR) to PH **EH/CAH**
- Syndromic Surveillance **EH/CAH**
- Cancer Registry **EP**
- *FUTURE* - Electronic Case Reporting EP EH/CAH

CDC

- NHSN Antimicrobial Use and Resistance **EH/CAH**
- National Health Care Surveys **EP** **EH/CAH**

THANK YOU

MeaningfulUse@azdhs.gov | 602-542-6002

azhealth.gov

@azdhs

facebook.com/azdhs

Hepatitis B and C

January 20, 2017

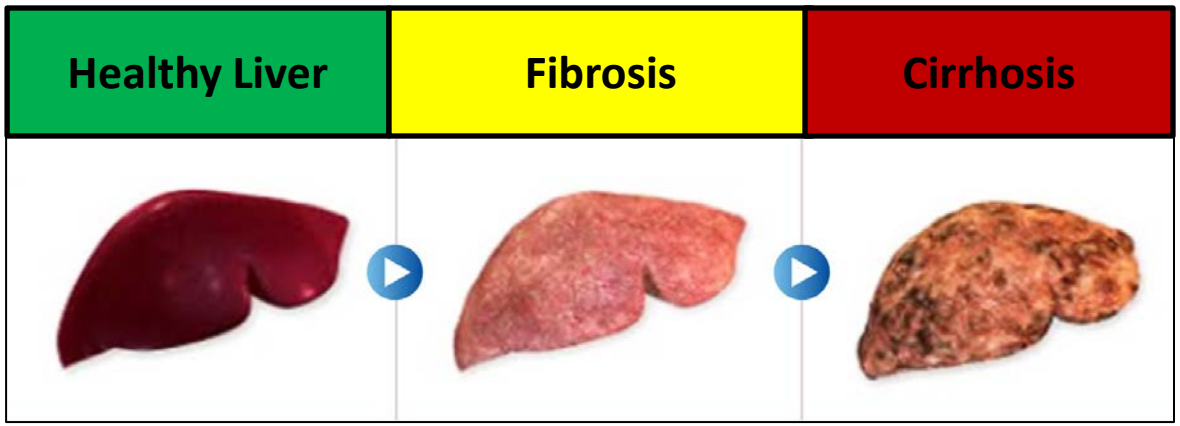
Presenting To

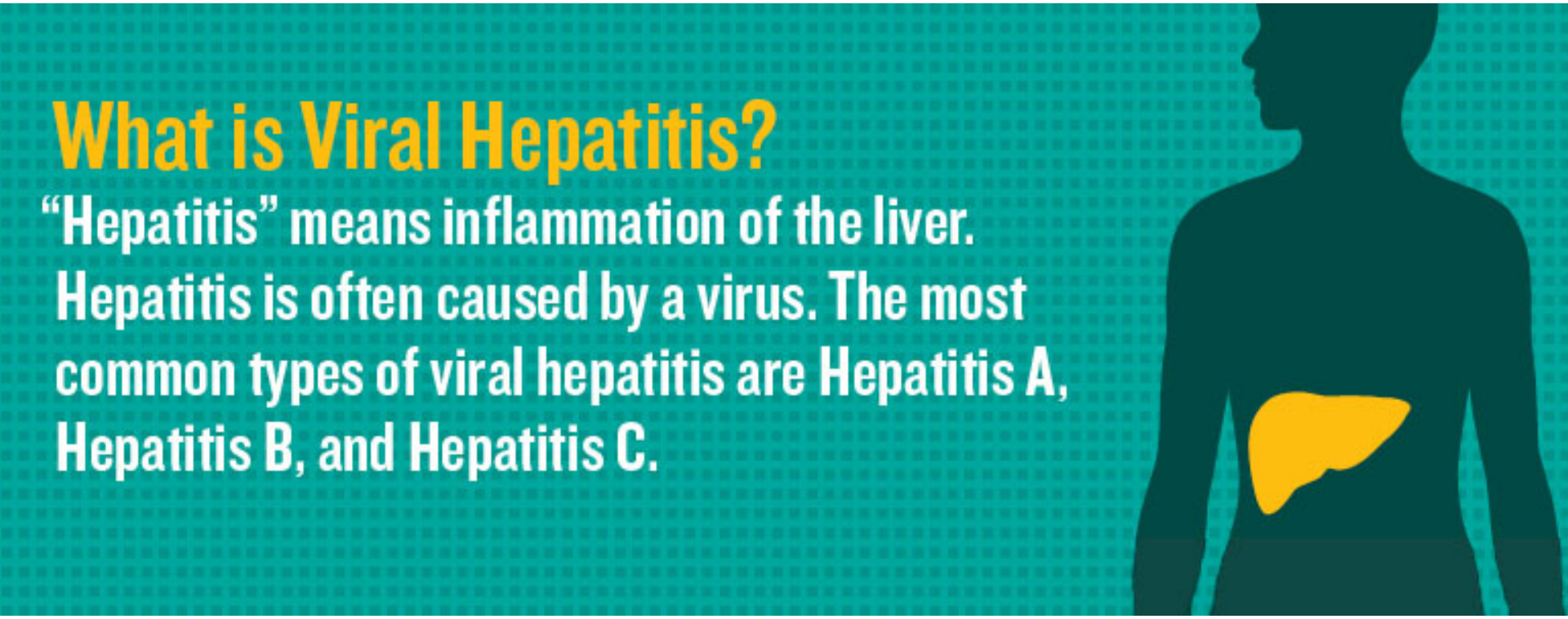
APIC: State of the State | Phoenix, AZ

Elizabeth Kim, MSPH | Epidemiologist

Objectives

- Hepatitis Refresher
- Hepatitis B and C
  - Surveillance
  - Statistics
  - Risk Factors
  - Testing Recommendations
- Hepatitis-HIV Co-Infections

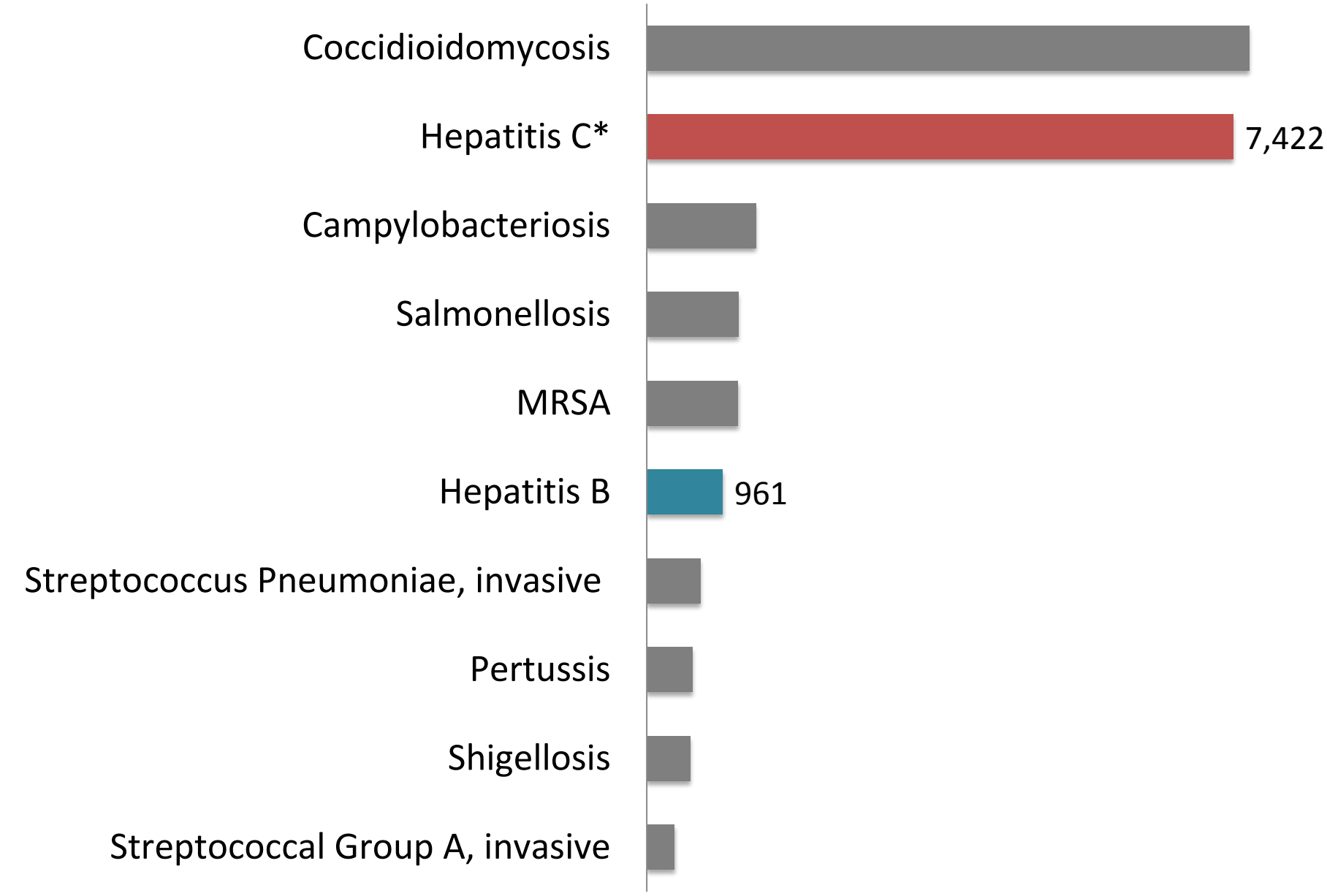




Hepatitis may also be caused by alcohol, side effects of medications, toxins, or bacteria.

Image: http://www.cdc.gov/hepatitis/

Top 10 Reported Diseases in Arizona, 2015



*Based on ELR reports only

The ABCs of Hepatitis B & C

Hep B	Estimated 19,200 acute cases in 2014	Vaccine	Treatment	10% develop chronic infection	• Fever • Fatigue • Loss of appetite • Nausea • Vomiting • Abdominal pain • Dark urine • Clay-colored stool • Joint pain • Jaundice	• Blood-borne • IDU • Occupational exposure • Perinatal • Sex
Hep C	Estimated 30,500 acute cases in 2014	No Vaccine	Cure	80% develop chronic infection		

Hepatitis B

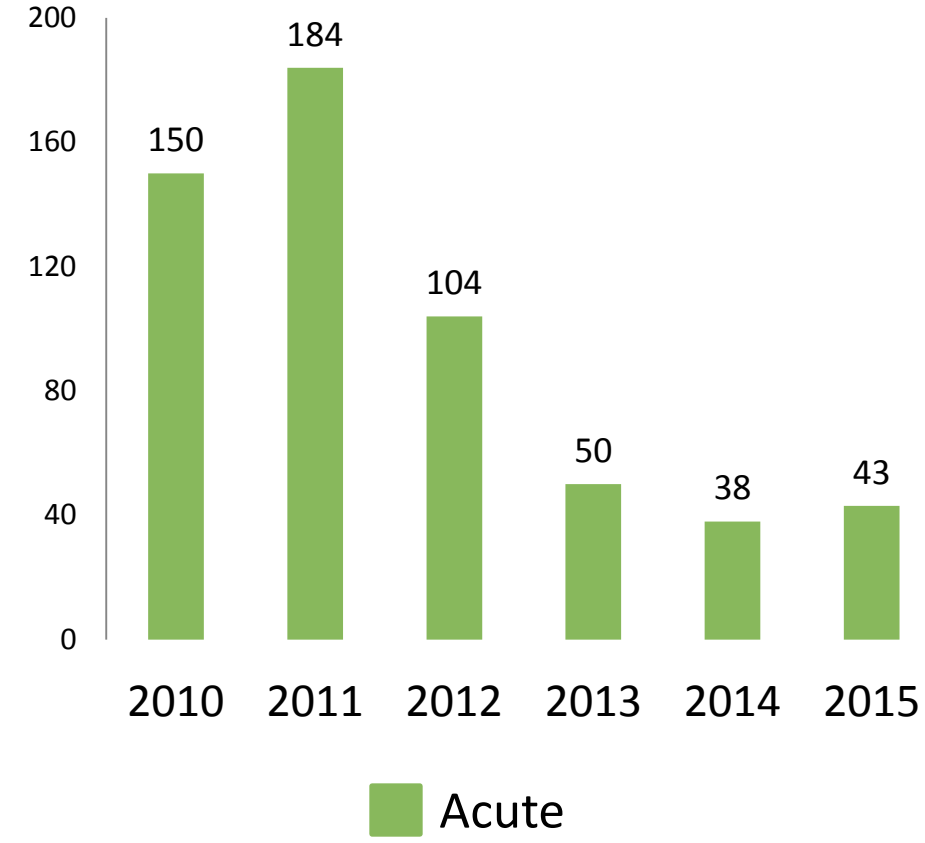
Acute Hepatitis B

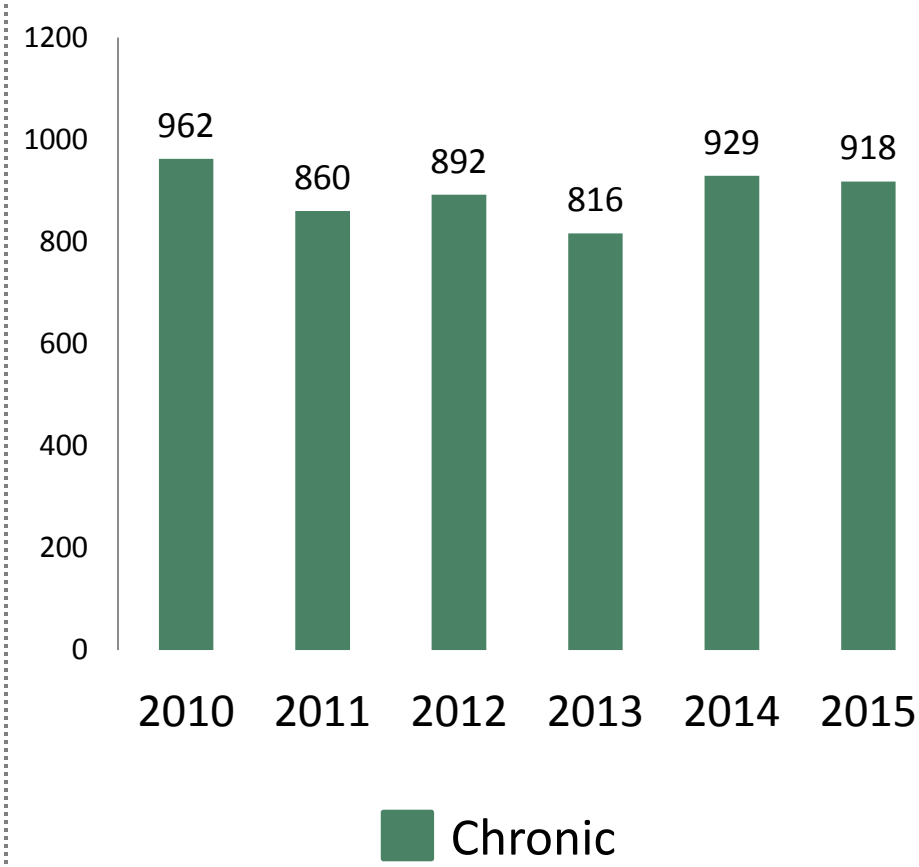
- Symptoms AND jaundice OR elevated liver enzyme levels
- HBsAg+ AND IgM+ (if done)

Chronic Hepatitis B

- IgM- AND HBsAg + OR HBV DNA+ OR HBeAg+
- Doesn’t meet criteria for acute

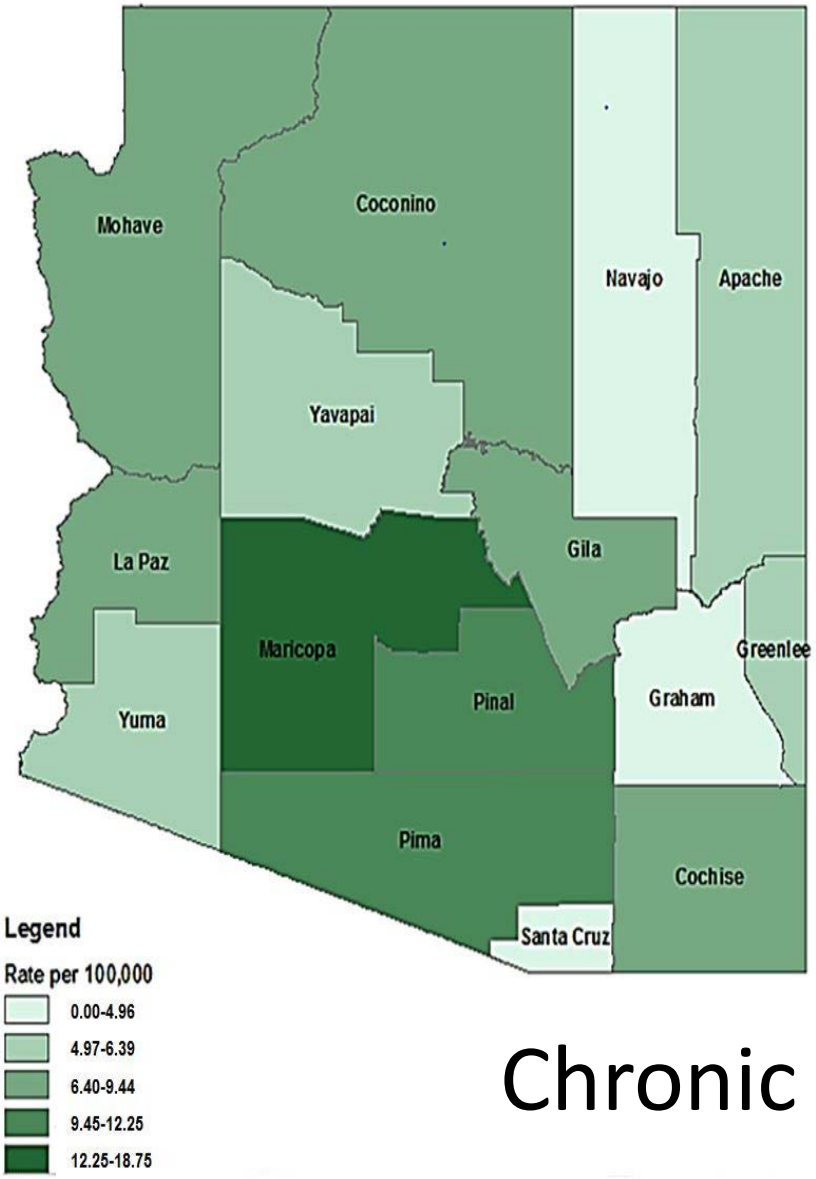
Reported Hepatitis B Cases in Arizona





Hepatitis B: Average Annual Rate 2006-2015

Acute



Chronic


HBV

U.S. Preventive Services Task Force Final Recommendation on HBV

- Screening for infection in adolescents and non-pregnant adults
  - high risk
- Screening for infection in pregnant women
  - first prenatal visit

http://www.uspreventiveservicestaskforce.org/uspstf/uspshepb.htm

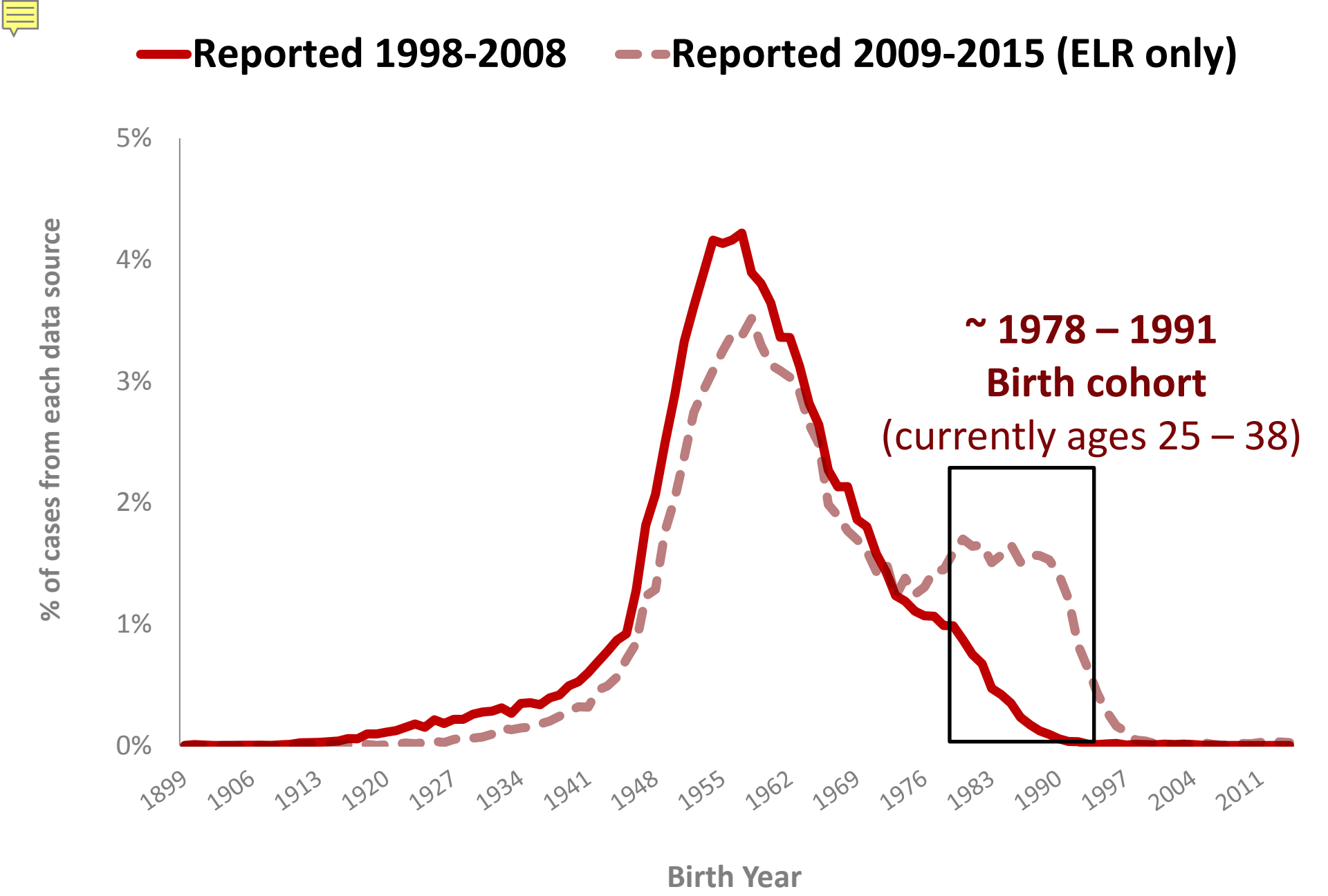
Hepatitis C

Acute Hepatitis C

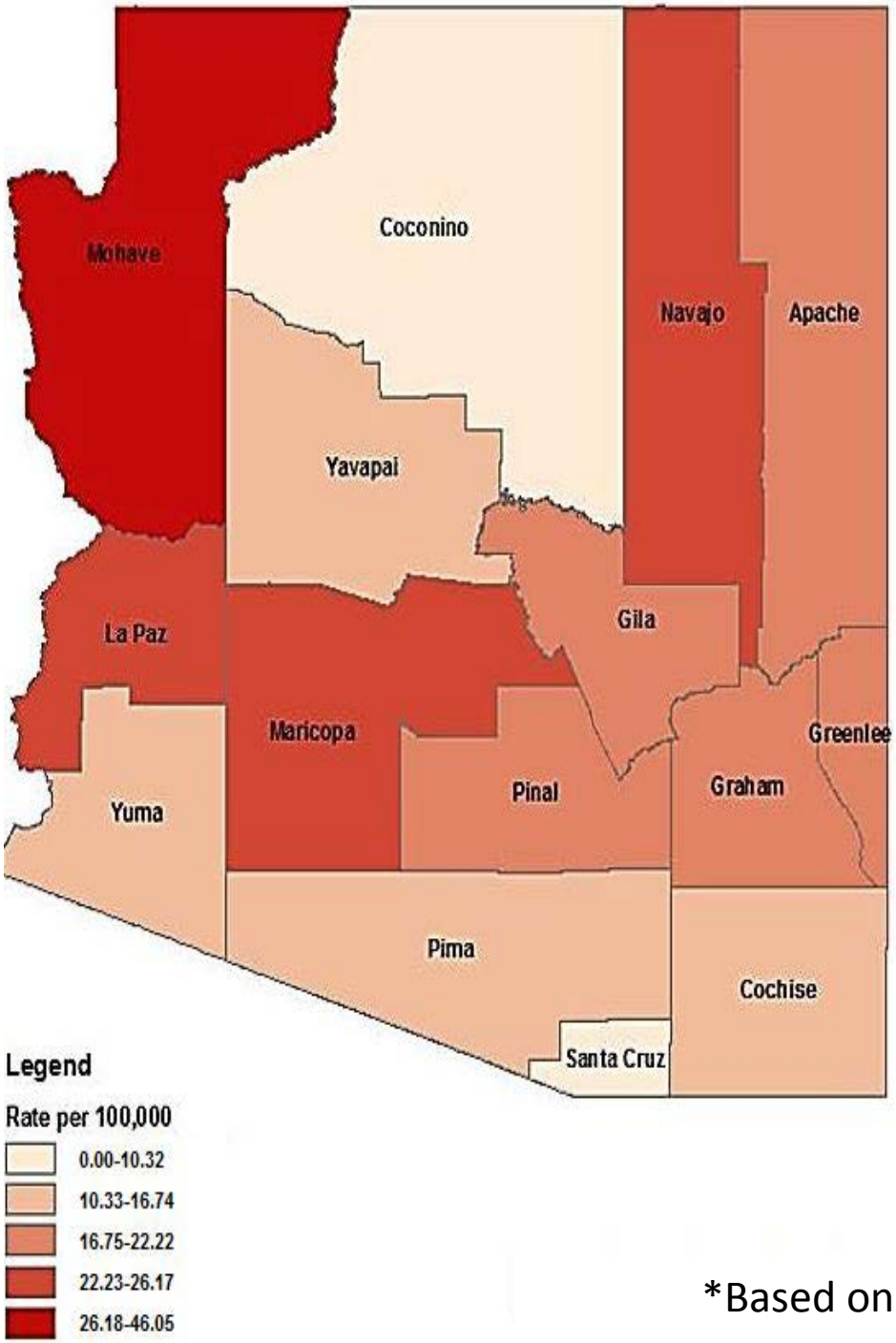
- Symptoms AND jaundice OR elevated ALTs
- Anti-HCV + OR HCV-RNA/NAT+

Chronic Hepatitis C

- No available evidence of illness
- Anti-HCV+ OR HCV-RNA/NAT+

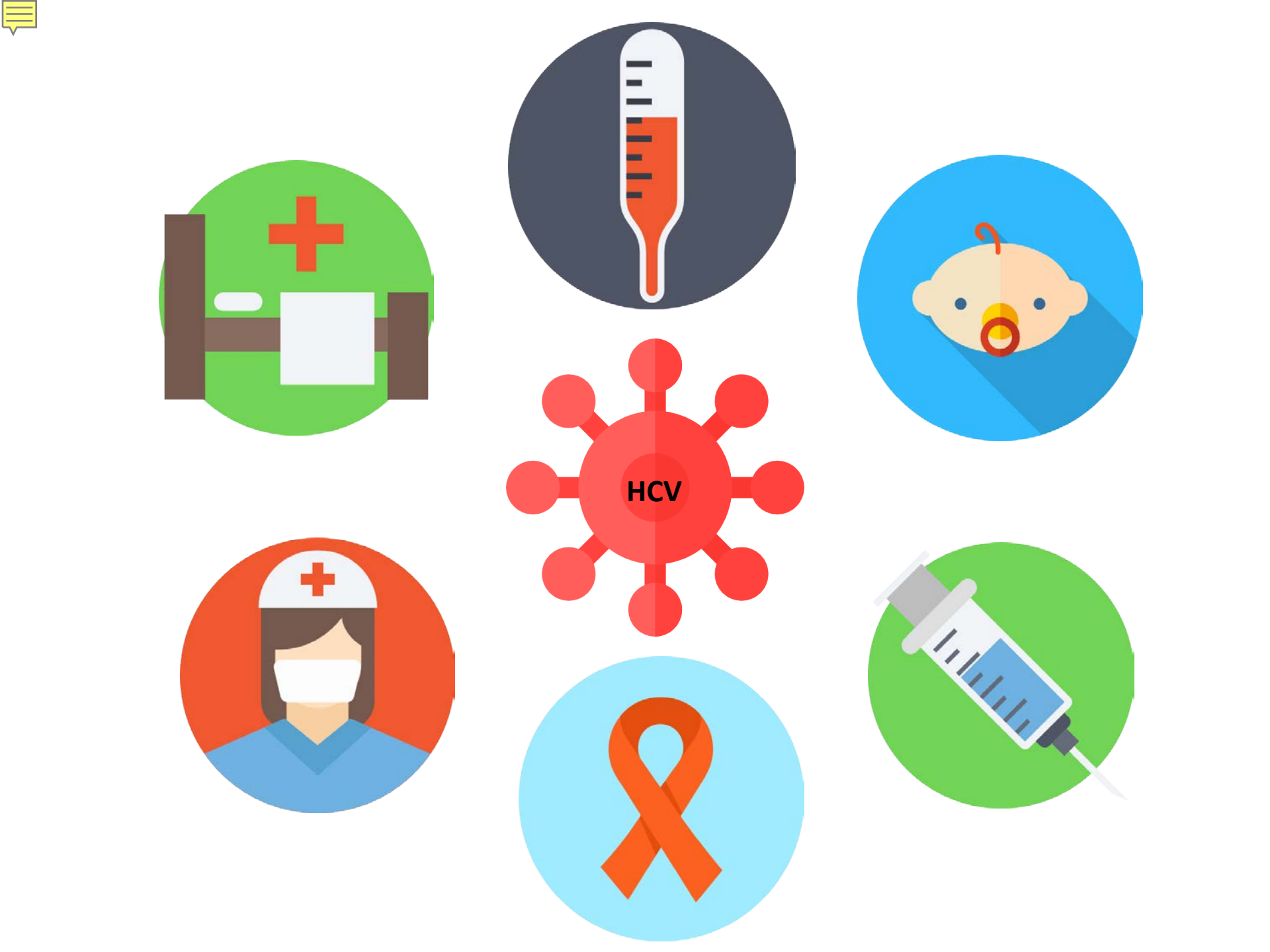


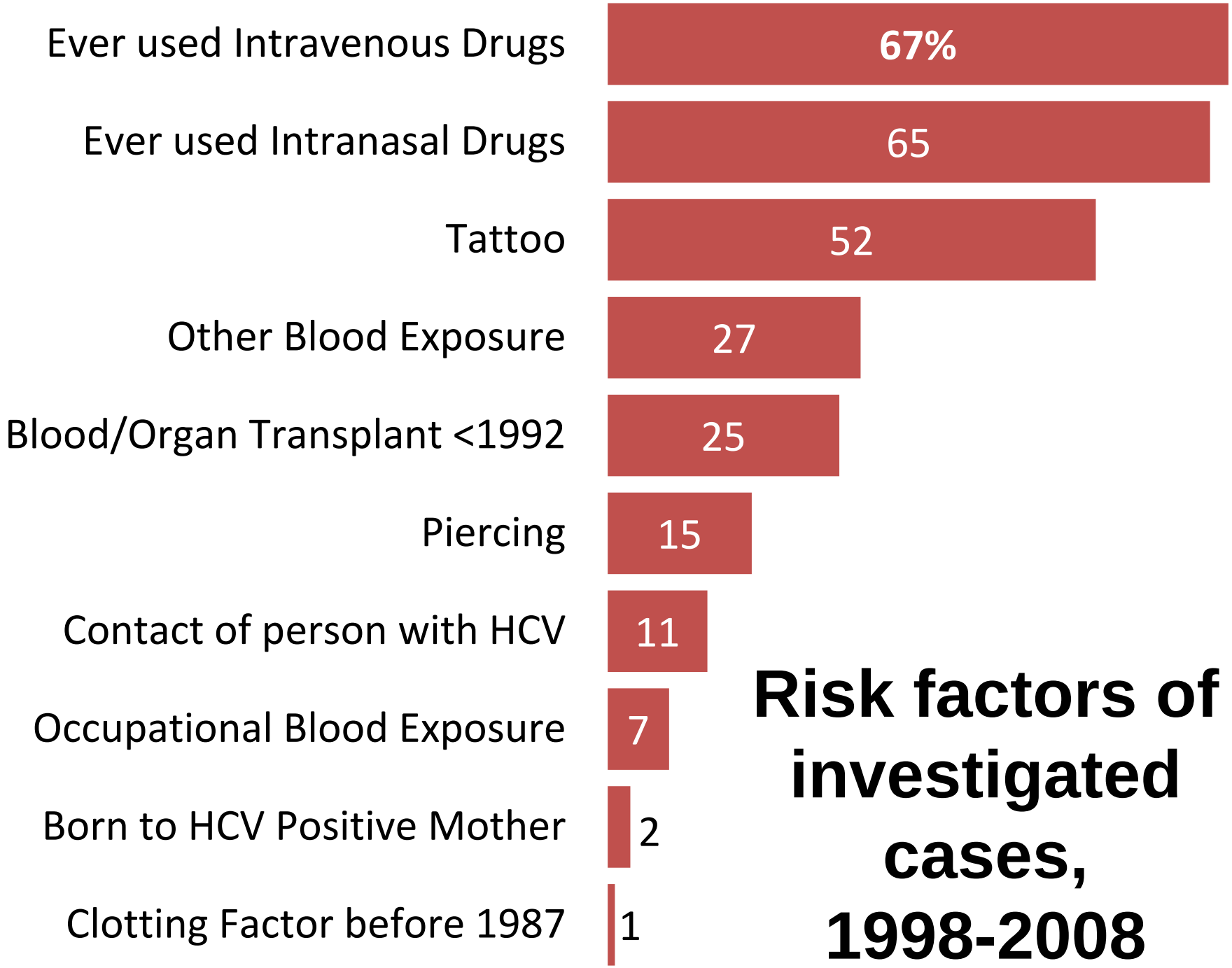
Excludes 735 cases with missing birthdate or ages <1 or >99 (possible data errors)



Hepatitis C: Average Annual Rate* 2013-2015

*Based on ELR Reports, relative to county population


HCV



Risk factors of investigated cases, 1998-2008

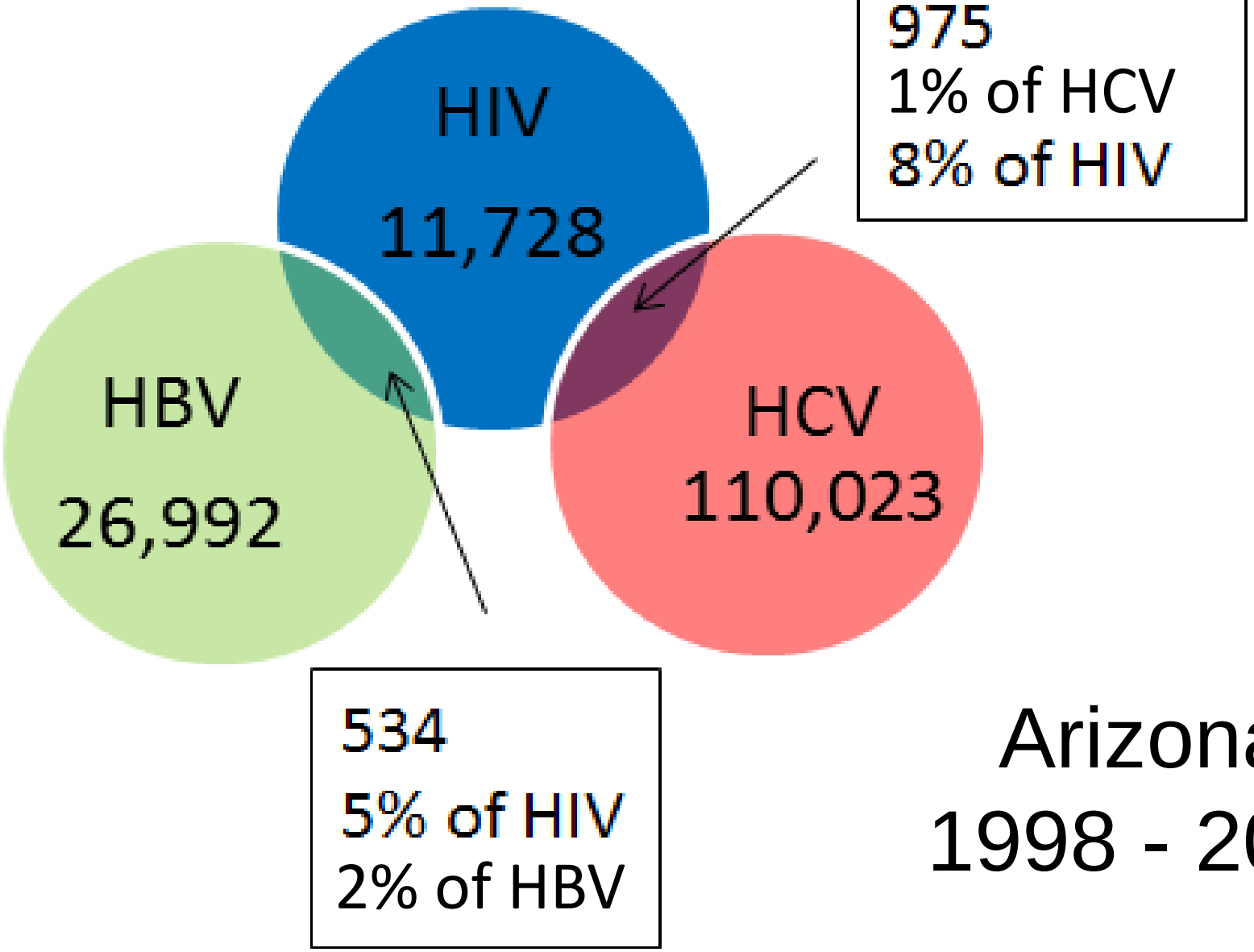
U.S. Preventive Services Task Force Final Recommendation on HCV

Screening for infection in adults

- high risk
- 1-time screening to birth cohort 1945 to 1965

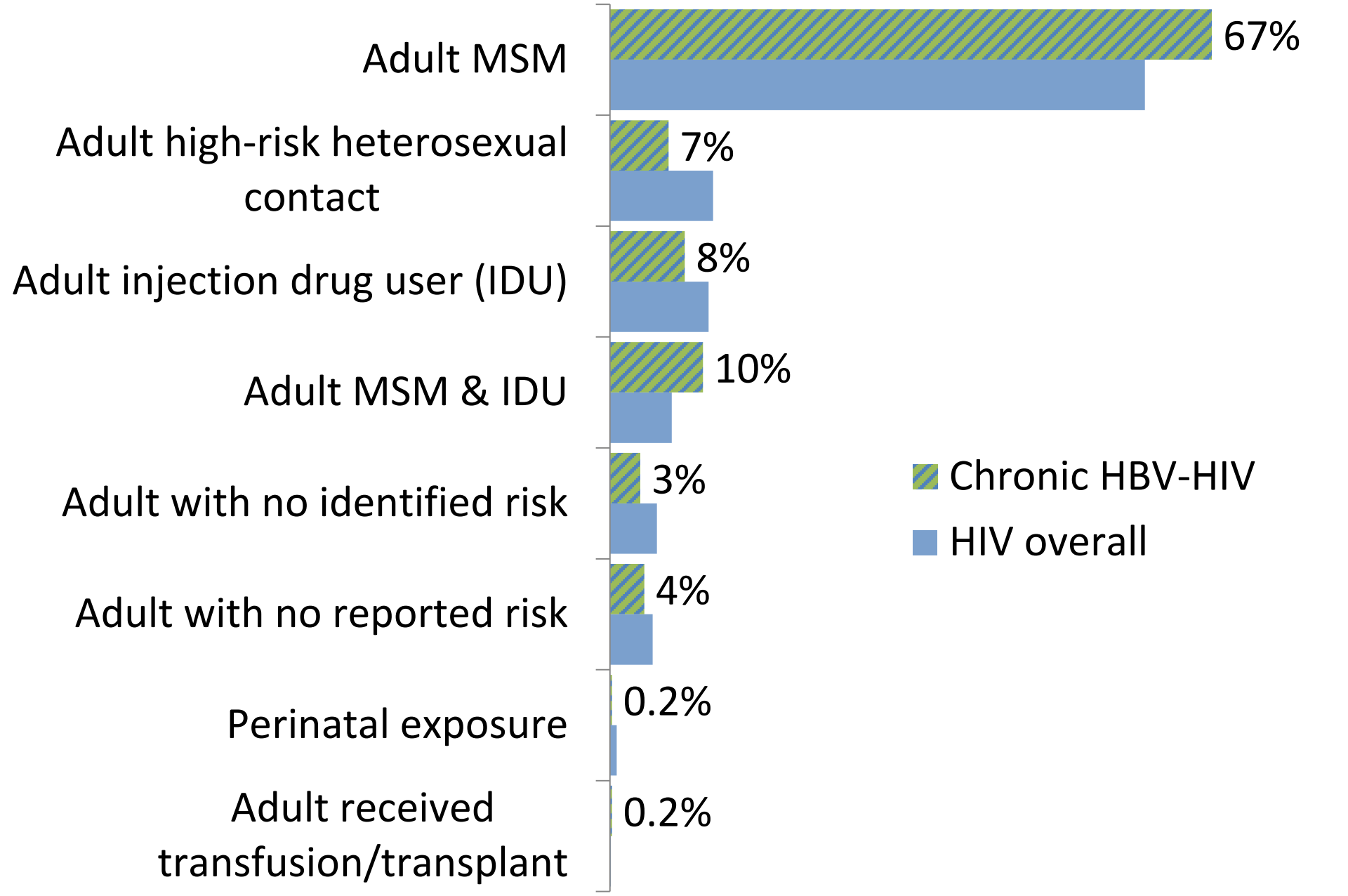
http://www.uspreventiveservicestaskforce.org/uspstf/uspshepc.htm

Co-infections with HIV

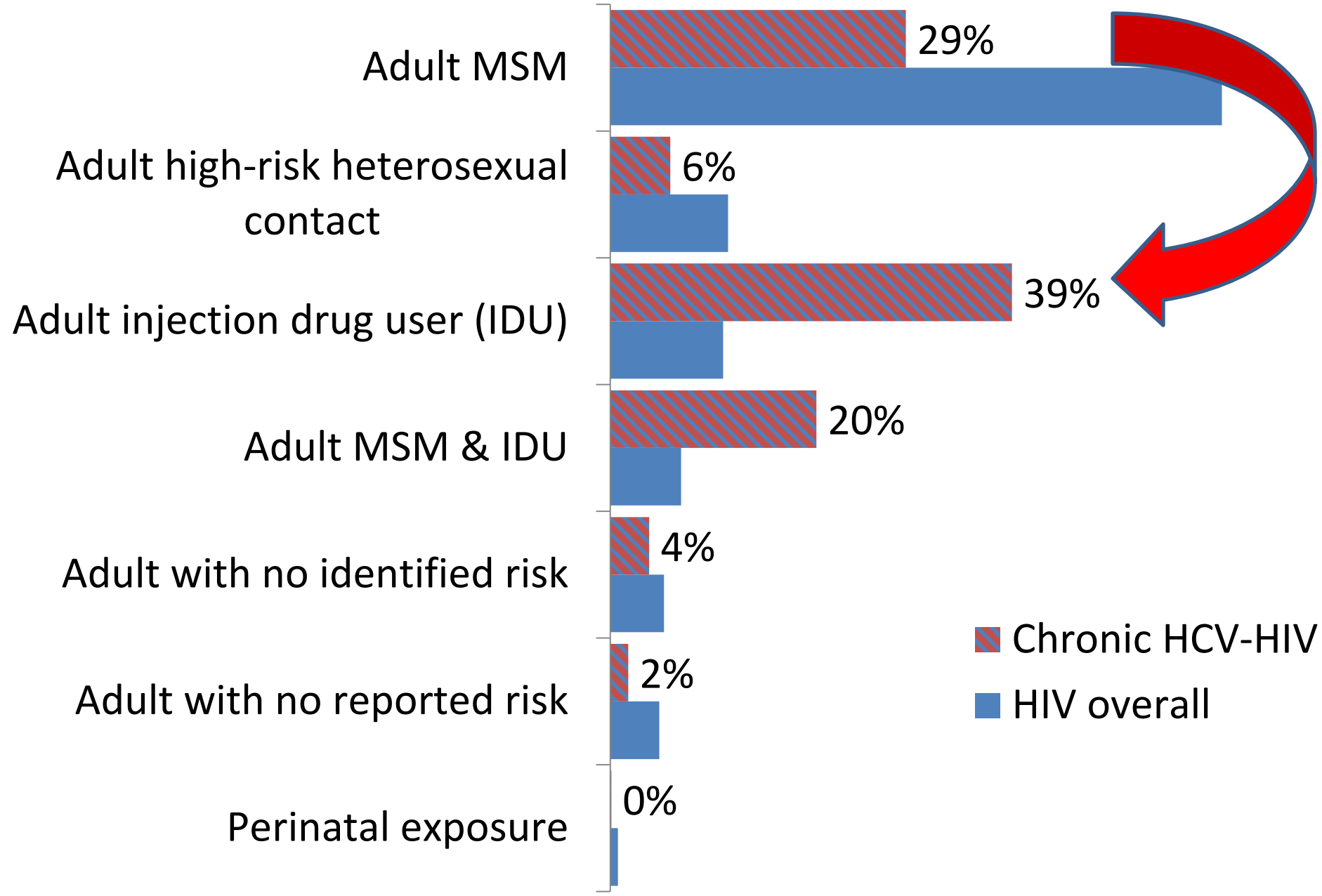


Arizona,
1998 - 2014

Chronic HBV and HIV



Chronic HCV and HIV



ARIZONA DEPARTMENT
OF HEALTH SERVICES

2016 Viral Hepatitis Epidemiologic Profile for Arizona

June 2016

ARIZONA DEPARTMENT OF HEALTH SERVICES

Health and Wellness for All Arizonans

Hepatitis Program

ADHS Home / Public Health Preparedness / Epidemiology & Disease Control / Infectious Disease Services / Highlighted Infectious Diseases for Arizona / Hepatitis Program - Home

- **Home**
- About Viral Hepatitis
- Hepatitis A
- Hepatitis B
- Hepatitis C
- Other Types of Viral Hepatitis
- Hepatitis Educational Materials
- Viral Hepatitis Summit
- Infectious Diseases A-Z
- Communicable Disease Reporting
- Disease Data, Statistics, & Reports
- Disease Investigation Resources
- Legal Requirements

Home

- Arizona 2016 Viral Hepatitis Profile
- Check out ADHS' new hepatitis education materials
- Read CDC's Press Release on Rising Hepatitis C Death Toll
- Check out the new AZ hepatitis C resource directory

Learn more about this foodborne disease that affects the liver.

Find out more about this bloodborne pathogen that affects the liver.

Information about this common disease that is the leading cause of liver cancer.

Info about lesser-known forms of viral hepatitis that also affect the health of the liver.

hepatitisaz.org/

THANK YOU

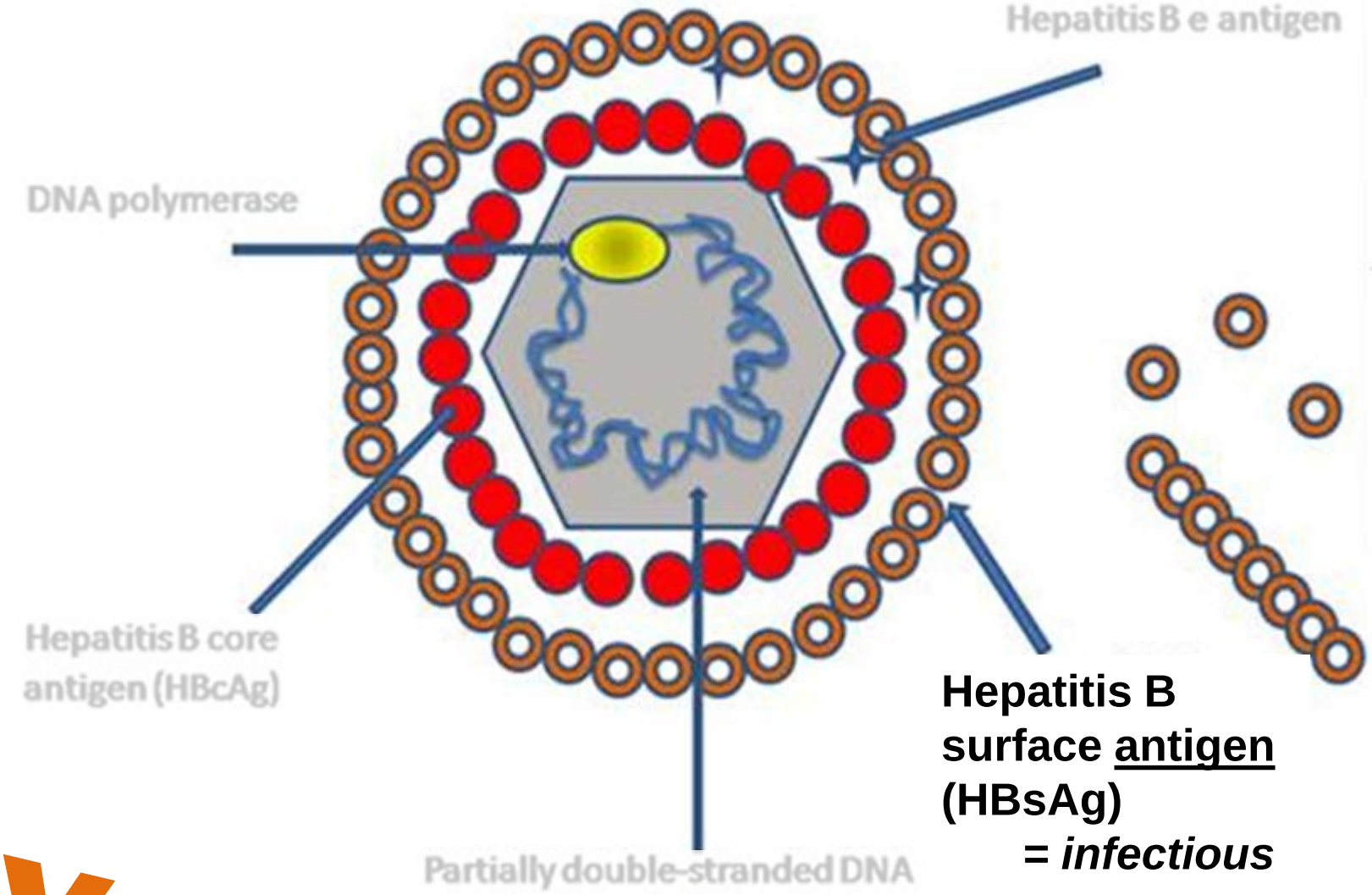
Elizabeth Kim, MSPH | Epidemiologist

Elizabeth.Kim@azdhs.gov | 602-542-4077

azhealth.gov

@azdhs

facebook.com/azdhs

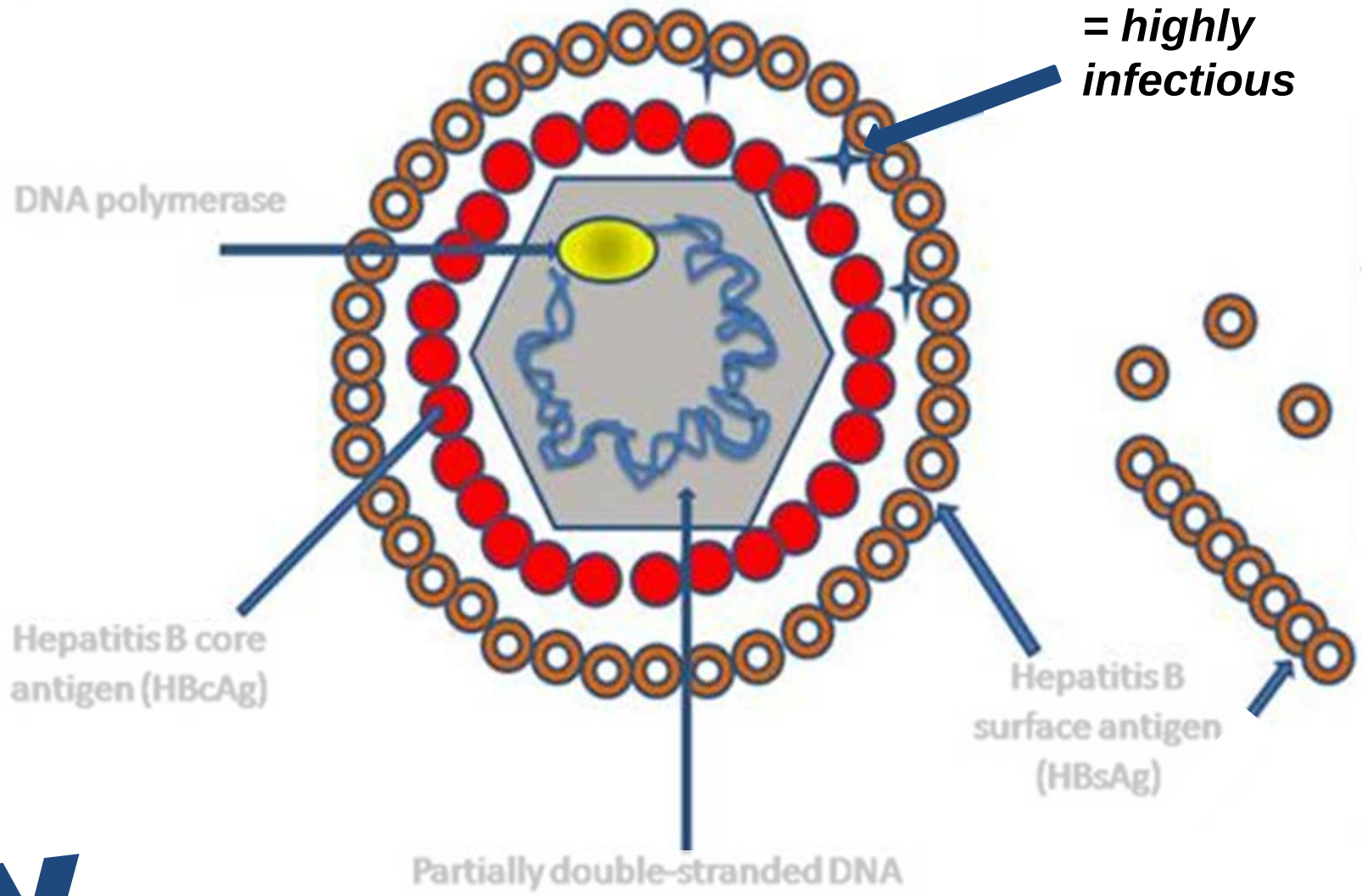


Hepatitis B surface <u>antigen</u> (HBsAg) = *infectious*

Y

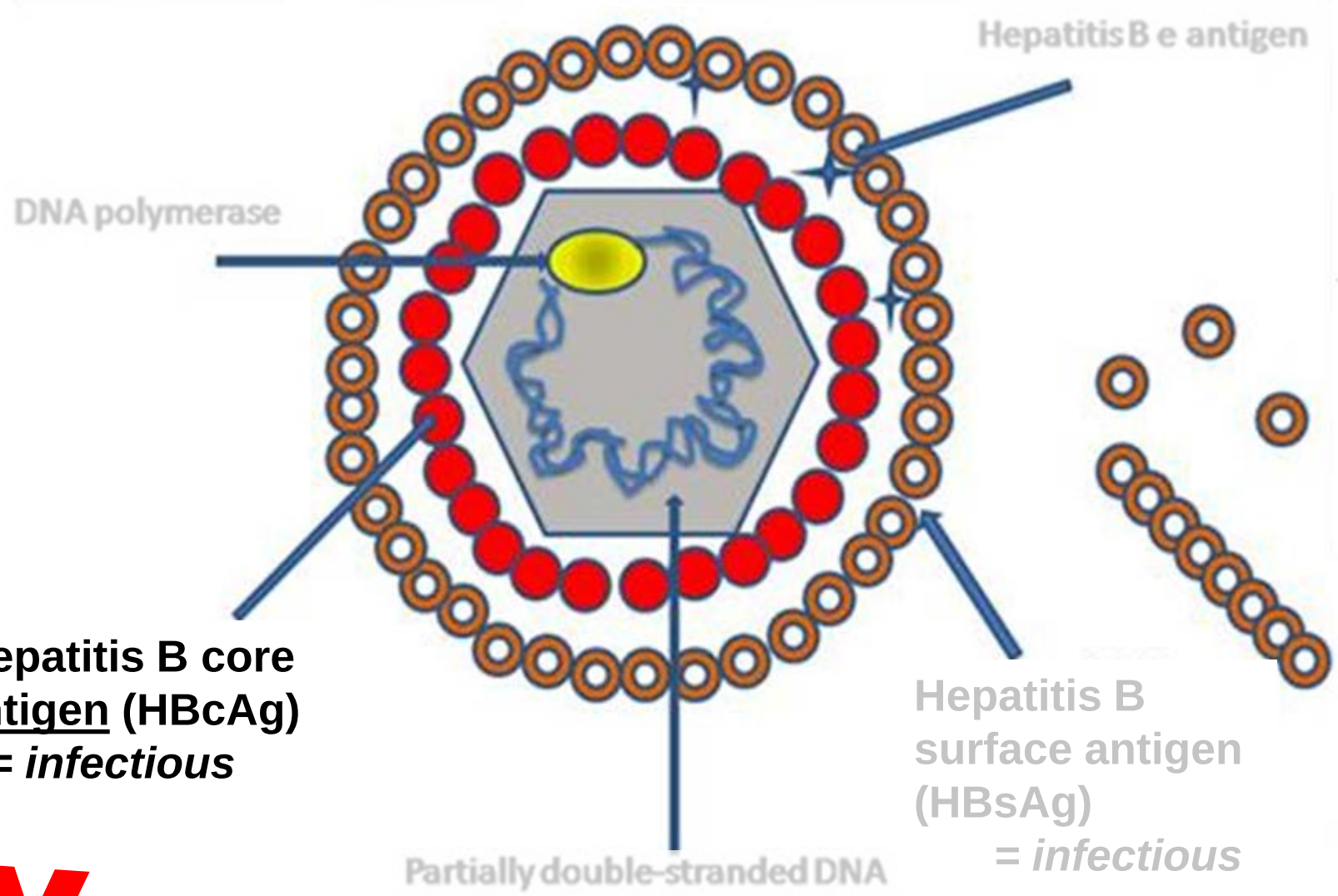
Hepatitis B surface <u>antibody</u> (HBsAb) = *recovery*

Hepatitis B envelope <u>antigen</u> (HBeAg) = *highly infectious*



Y

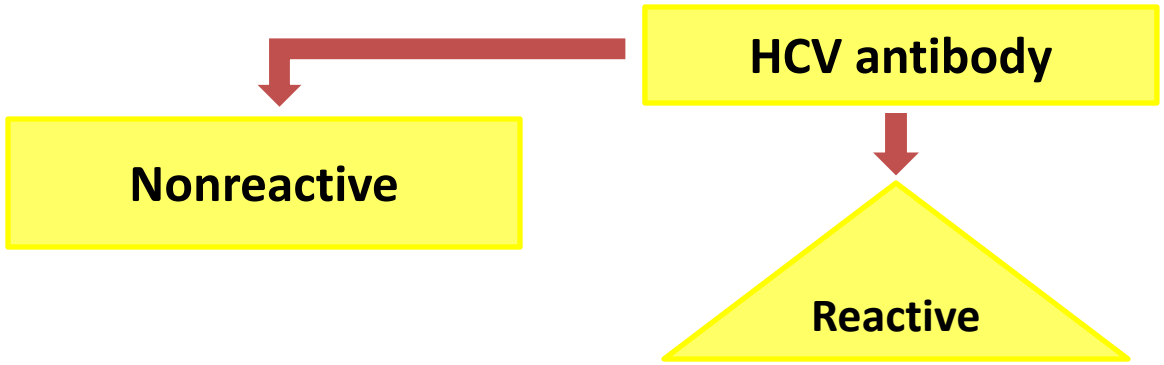
Hepatitis B envelope <u>antibody</u> (HBeAb) = *recovery*



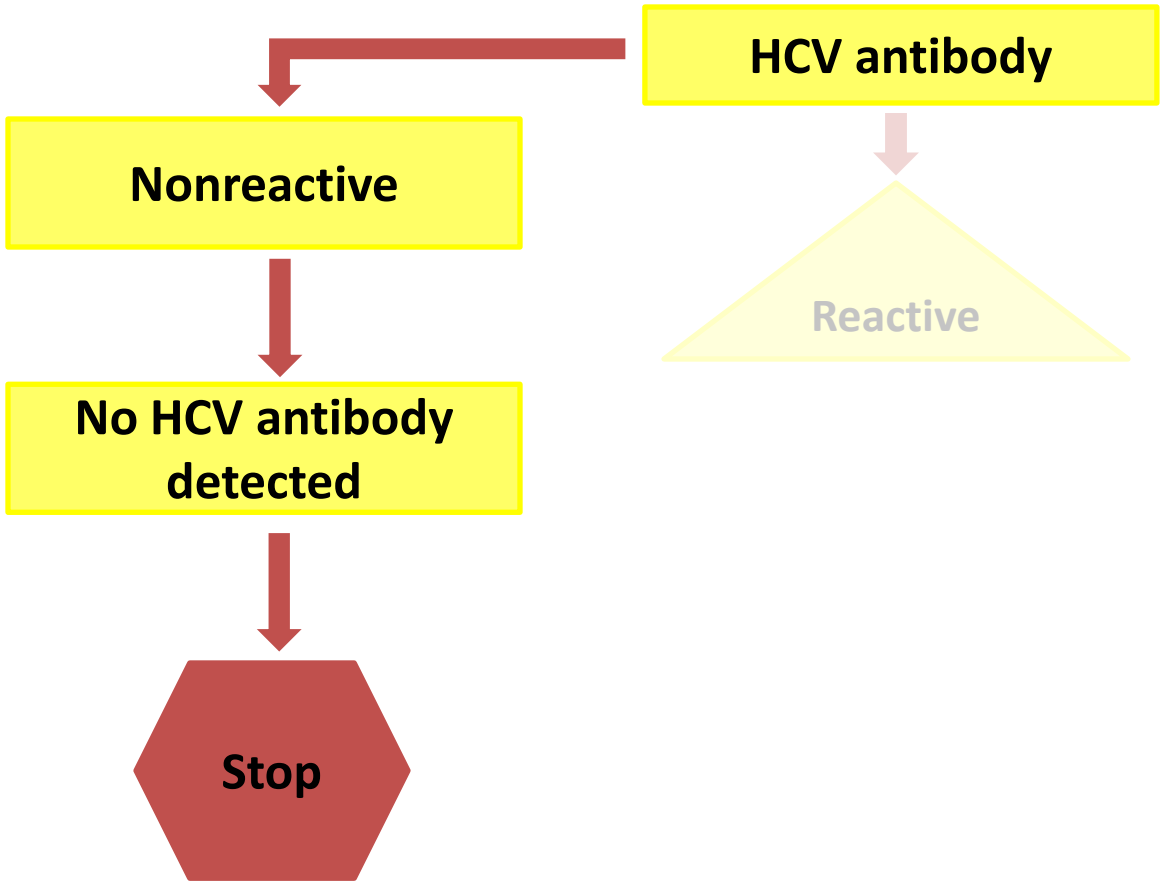
Y

IgM <u>antibody</u> to hepatitis B core antigen (IgM anti-HBc)
= *recent infection*

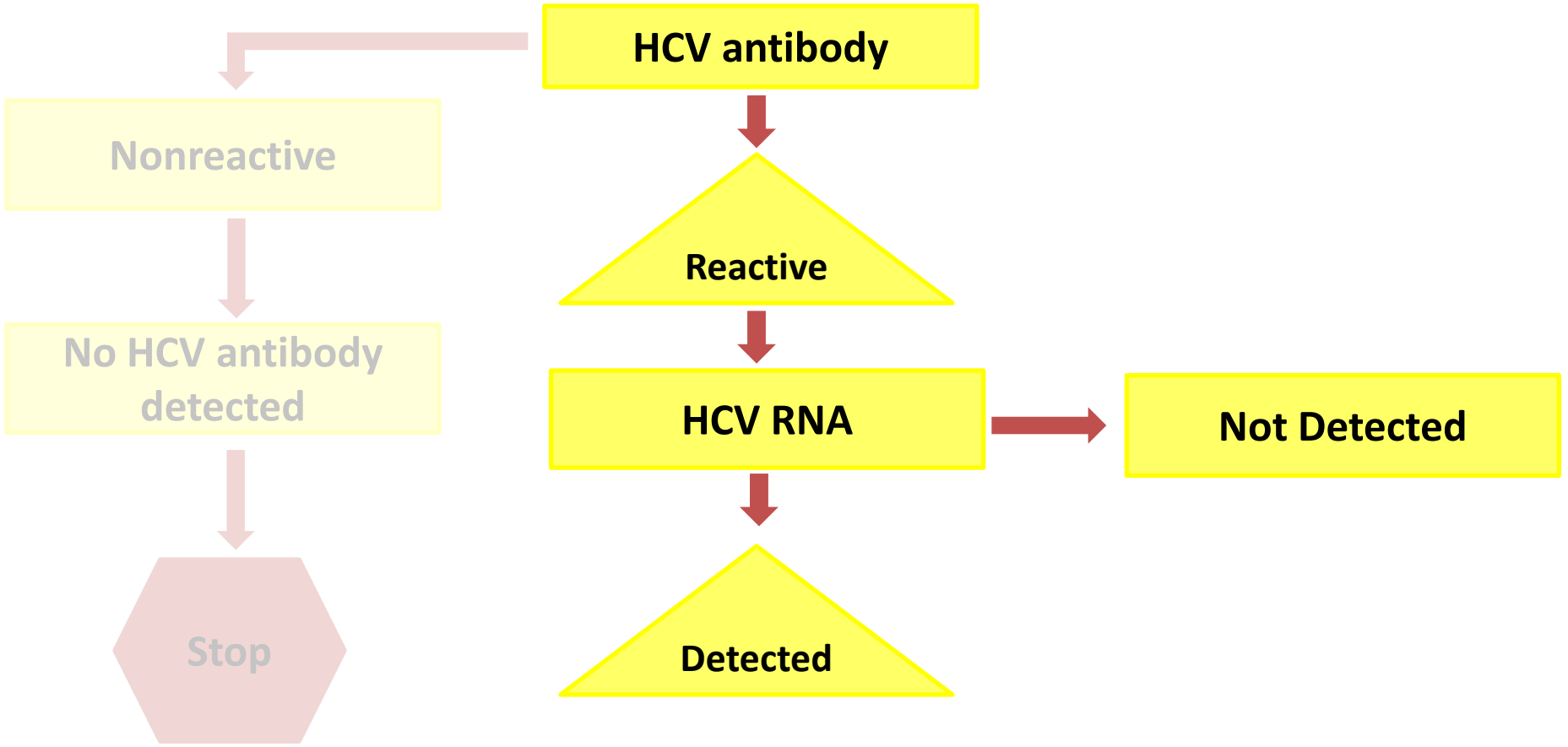
How to Diagnose Hepatitis C Infection



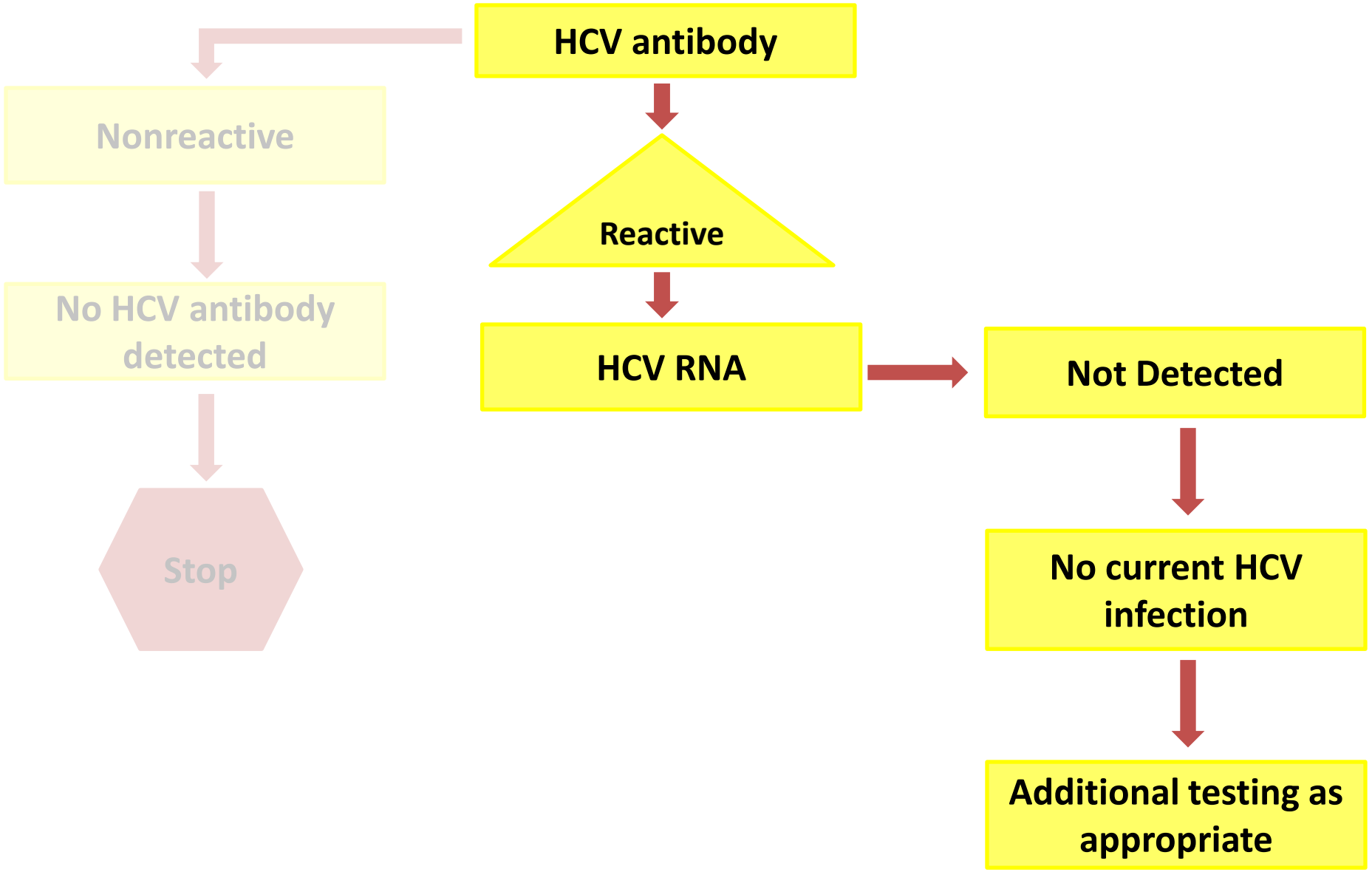
How to Diagnose Hepatitis C Infection



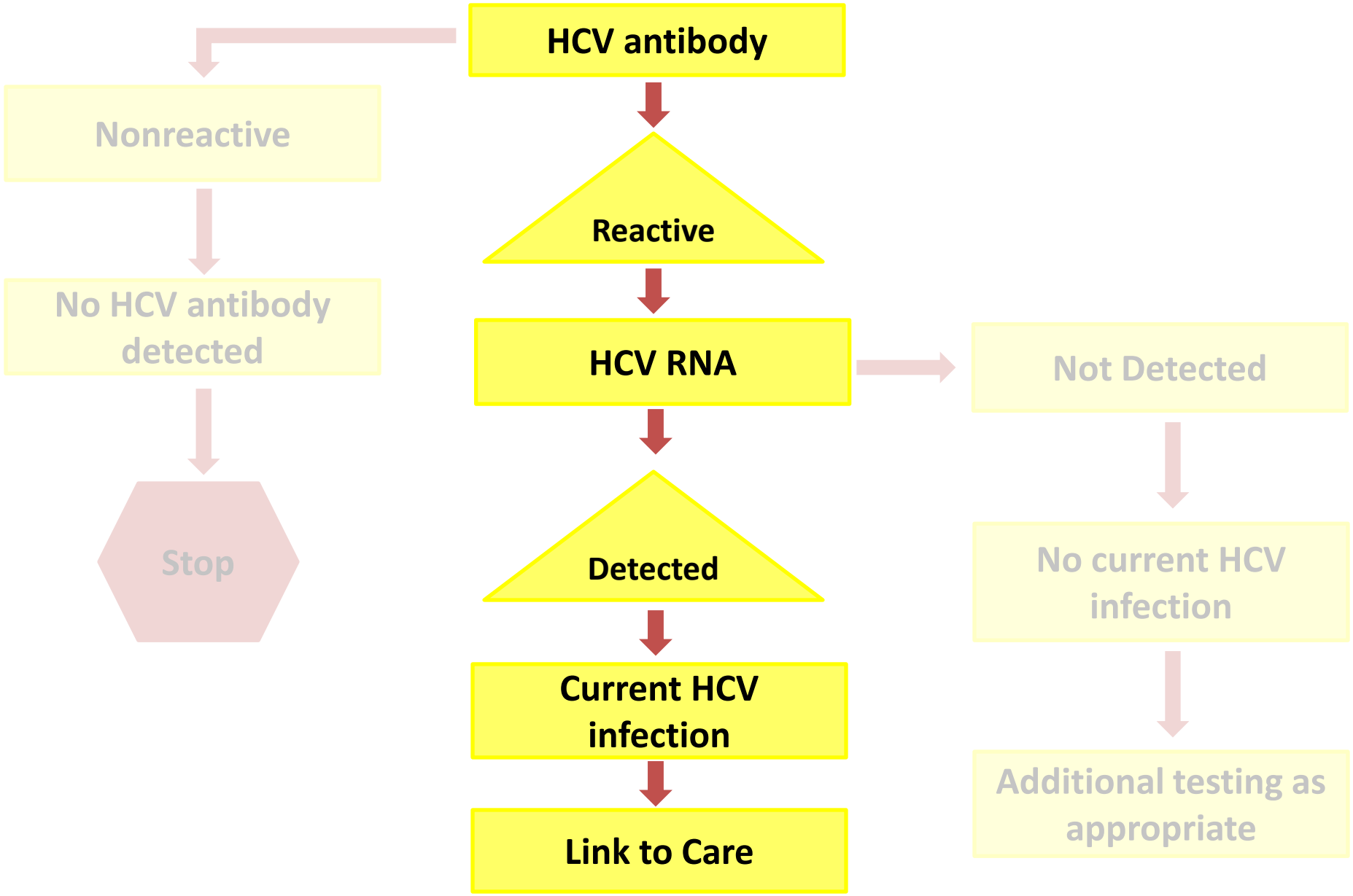
How to Diagnose Hepatitis C Infection



How to Diagnose Hepatitis C Infection



How to Diagnose Hepatitis C Infection



Vaccine Preventable Diseases 2016: Update on Fevers, Rashes, and Coughs

January 20, 2017

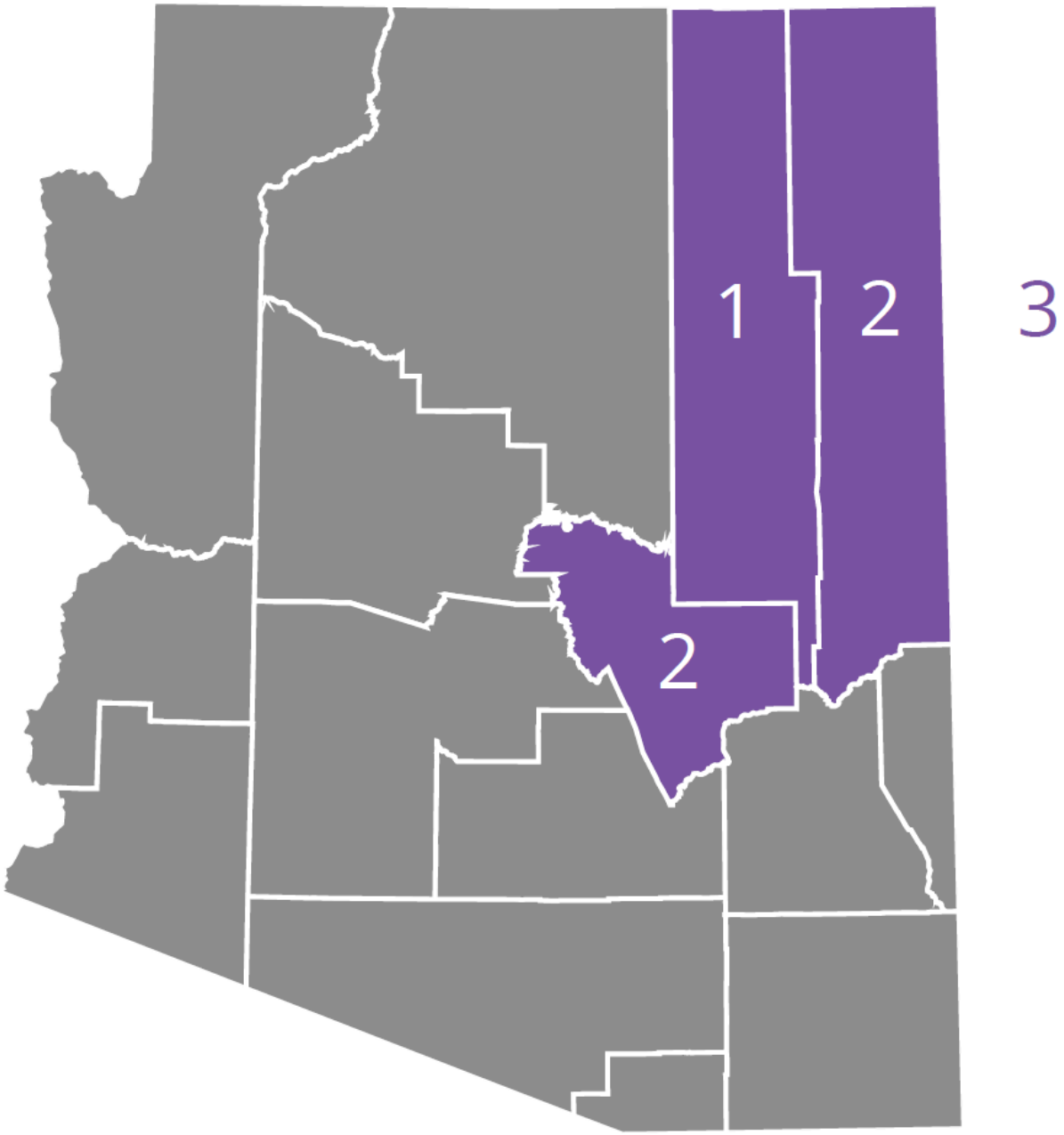
Presenting To

APIC Grand Canyon's State of the State | Phoenix, AZ

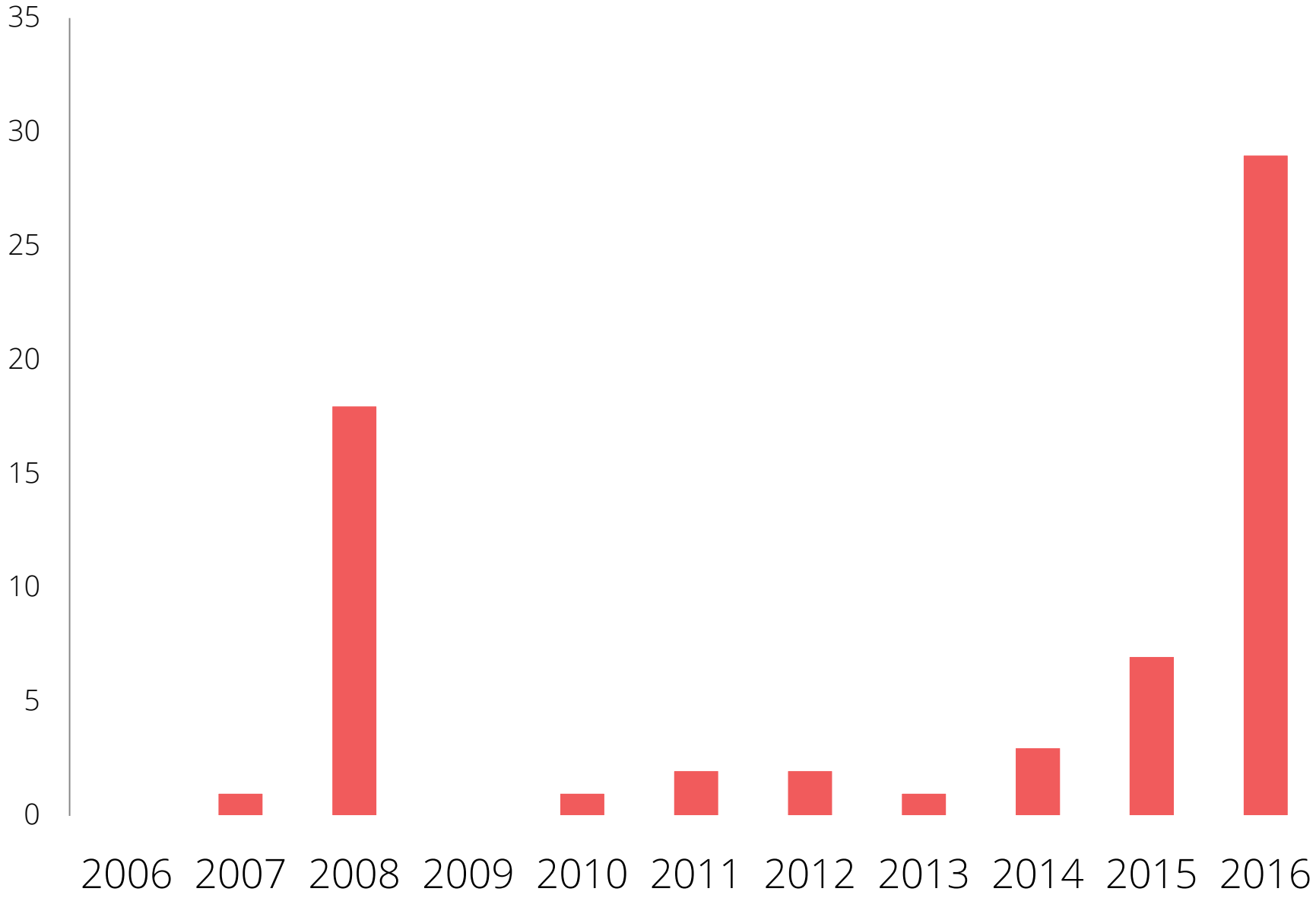
Susan Robinson, MPH | Vaccine Preventable Disease Epidemiologist

	2016	2015
Haemophilus influenzae Type B	5	3
Measles	29	7
Meningococcal Invasive Disease	3	5
Mumps	7	2
Pertussis	271	580
Tetanus	1	2
Varicella	276	270

* There were no cases of rubella, congenital rubella syndrome or polio reported to public health in 2016*



Haemophilus influenzae Type B


35
30
25
20
15
10
5
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016

Measles

May 25:

- Detainee taken to ED with symptoms compatible with measles. PCR positive at ASPHL by the end of that day

May 2016

August 2016

May 2016

August 2016

May 26:

- Employee is 2nd confirmed case. There were multiple community exposures including 2 different healthcare facilities and a casino.

May 27-31:

- Recommendations including infection control measures were sent over to the detention center.
- Pinal County public health opened their immunization clinics to help get the detention center staff vaccinated.
- HAN sent out to healthcare facilities and Measles Surveillance Toolkit updated

May 2016

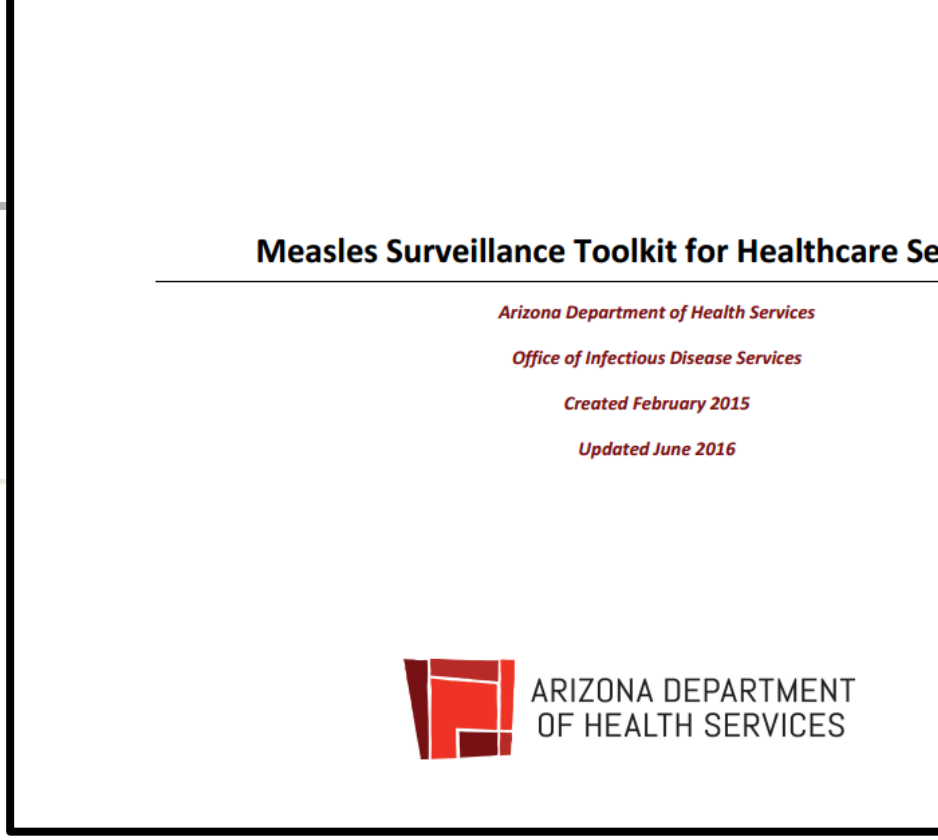
August 2016

May 27-31:

- Recommendations including infection control measures were sent over to the detention center.
- Pinal County public health opened their immunization clinics to help get the detention center staff vaccinated.
- HAN sent out to healthcare facilities and Measles Surveillance Toolkit updated

May 2016

ust 2016



Measles Surveillance Toolkit for Healthcare Settings

Arizona Department of Health Services

Office of Infectious Disease Services

Created February 2015

Updated June 2016

ARIZONA DEPARTMENT
OF HEALTH SERVICES

May 2016

August 2016

June 2:

- ADHS, Maricopa County and Pinal County continued to put out guidance for both the public and providers
- New community exposures were continually updated via StopTheSpreadAZ.org

June 16:

- A new exposure at the facility moves the date of the outbreak closure back 42 days

May 2016

August 2016

May 2016

August 2016

July 5:

- ID physician with ADHS goes to the facility to talk with the employees about the importance of vaccination

August 8:

- Outbreak ends after 42 days since the last exposure in the facility with no additional cases



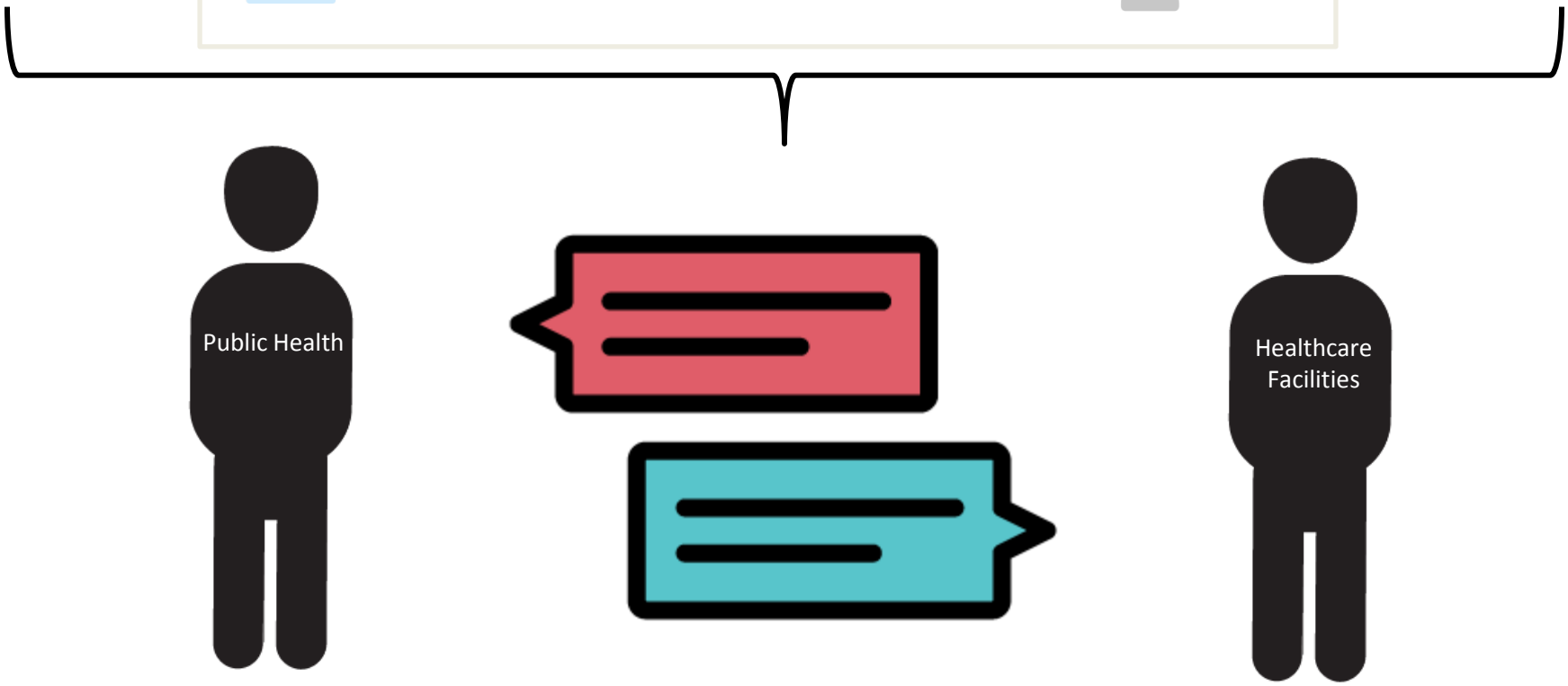

May 2016



August 2016

May 2016

August 2016



13

13

645

BEFORE

AFTER

Public Health Knew There Was a Measles Outbreak

70 %

30 %

Think it might be Measles?

Measles is in our County!

If you have ANY of these symptoms:
Cough, Runny Nose, Red eyes, or Fever OR RASH!

PUT A MASK ON and tell the receptionist right away.

Think it might be Measles?

Measles is in our County!

If you have ANY of these symptoms:
Cough, Runny Nose, Red eyes, or Fever OR RASH!

PUT A MASK ON and tell the receptionist right away.

Think it might be Measles?

Measles is in our County!

If you have ANY of these symptoms:
Cough, Runny Nose, Red eyes, or Fever OR RASH!

PUT A MASK ON and tell the receptionist right away.

Think it might be Measles?

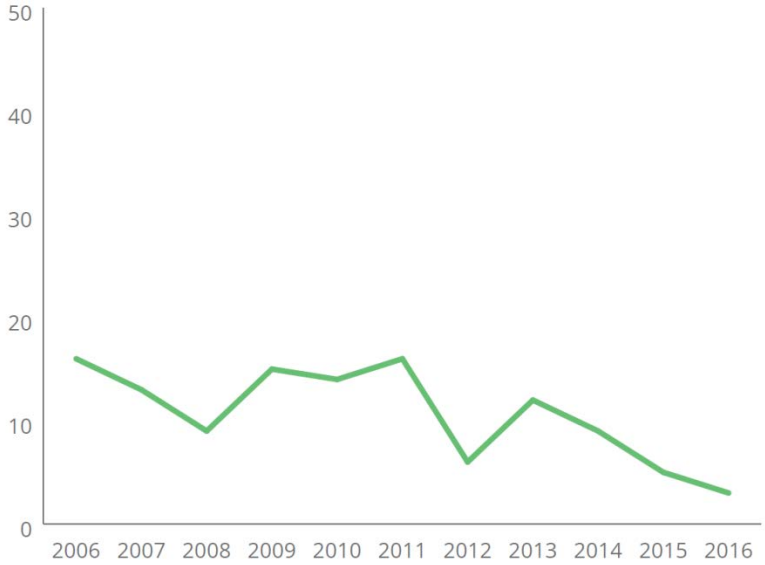
Measles is in our County!

If you have ANY of these symptoms:
Cough, Runny Nose, Red eyes, or Fever OR RASH!

PUT A MASK ON and tell the receptionist right away.

∅ Community Cases

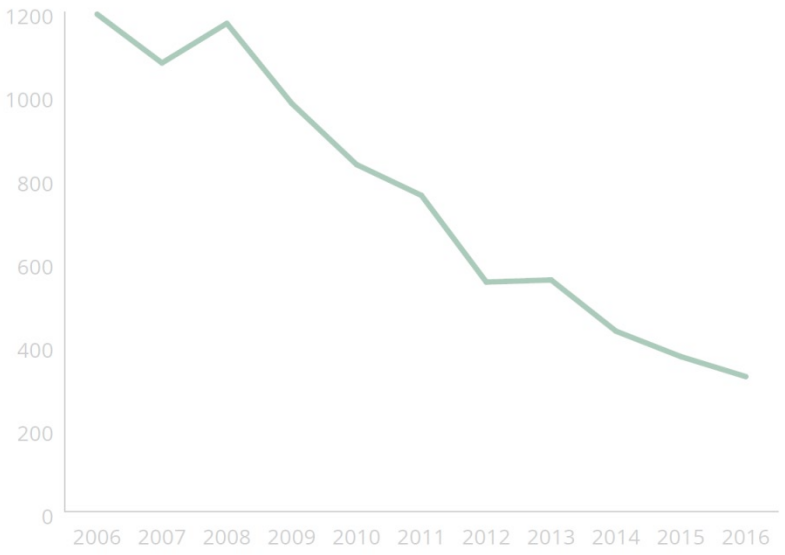
United States



Arizona

Meningococcal Disease

Trends of Meningococcal Disease

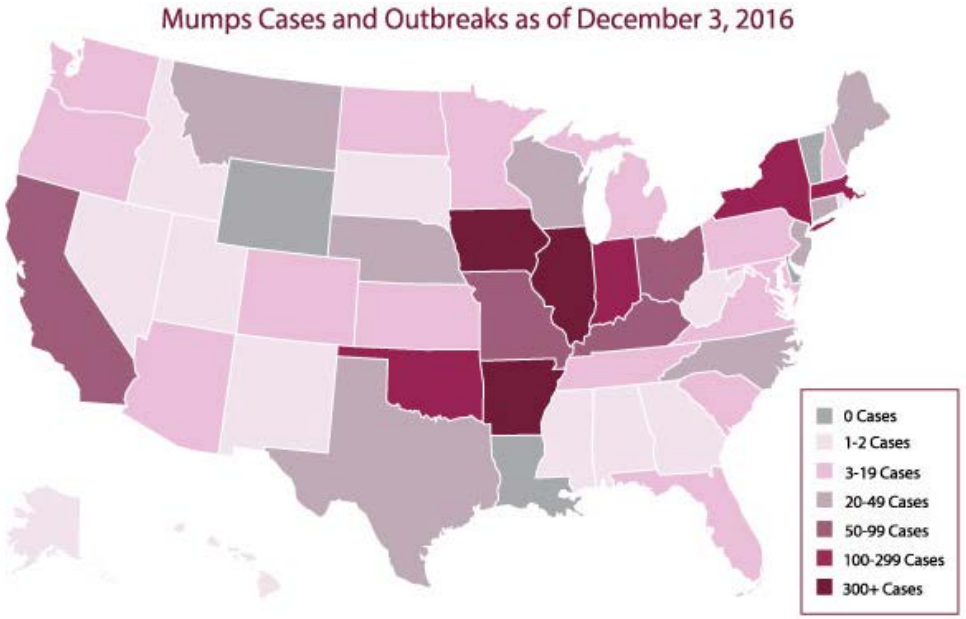


United States

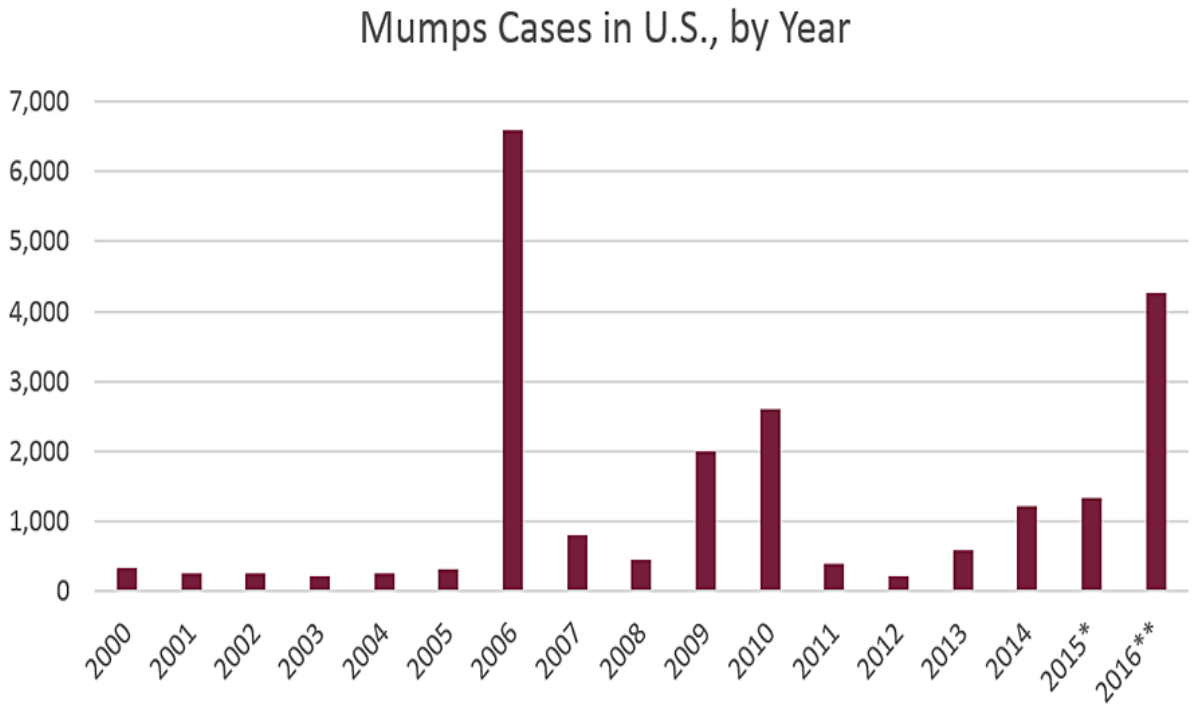
Arizona

Rapid identification and reporting of suspect meningococcal cases is crucial

Please contact public health when you have a suspect meningococcal case.



There have been several outbreaks related to school or college settings in 2016.



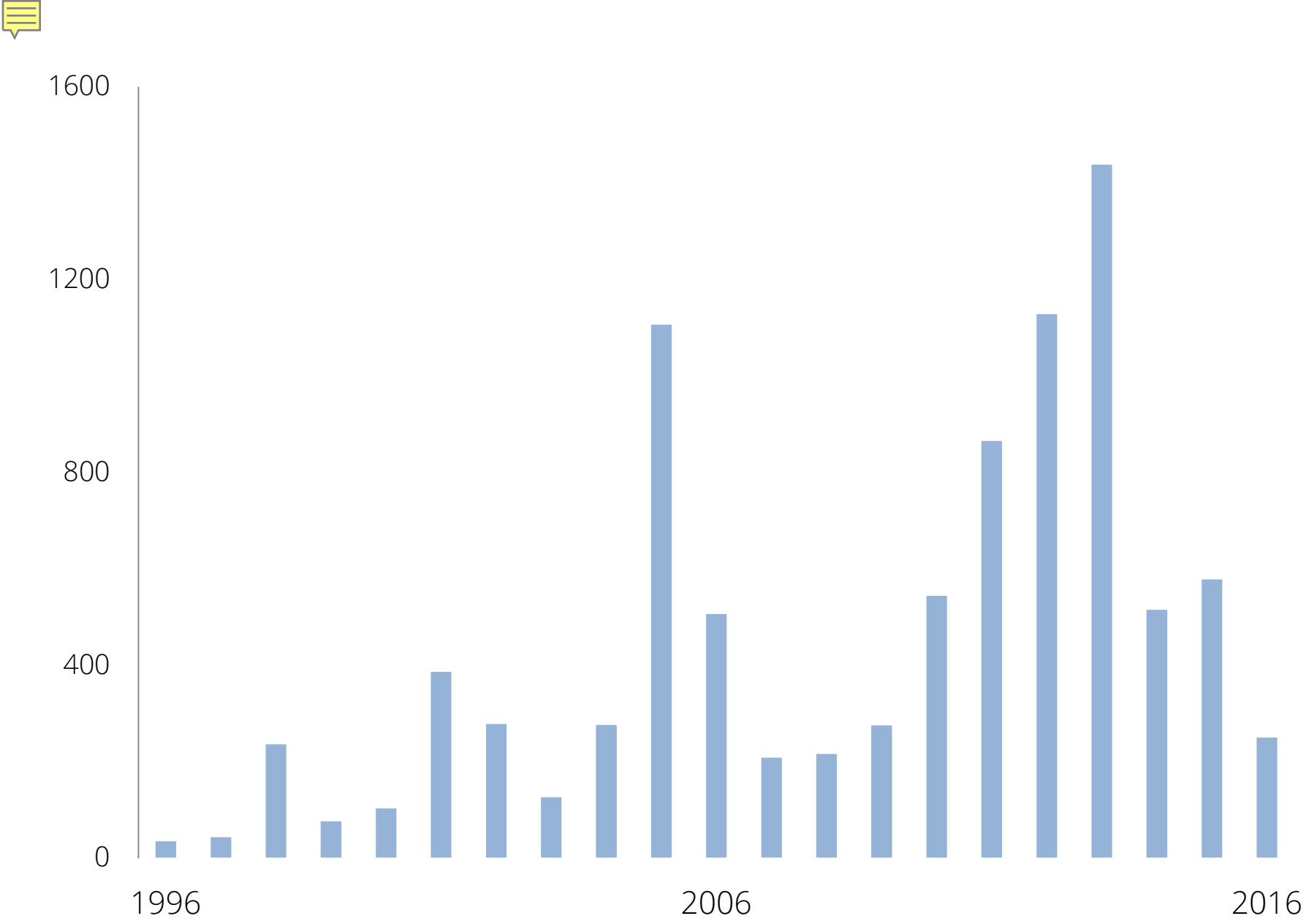
Mumps

Laboratory tests can be an important tool...

but should be interpreted with caution.

Possible considerations:

- Vaccination status of patient
- False negatives can be common in highly vaccinated populations
- Timing of specimen collection



Pertussis

45 % of infants reported with pertussis were hospitalized in 2016

Pregnant? Get Vaccinated!

Vaccines → Healthy Mom and Healthy Baby!

ARIZONA DEPARTMENT OF HEALTH SERVICES

What vaccines do I need?

- ***Tdap***: Protects babies from whooping cough, an extremely dangerous disease in young infants. Tdap also protects both of you against tetanus and diphtheria
- ***Yearly flu shot:*** Babies younger than 6 months can't get their own flu shot. In the fall and winter, vaccinating you during pregnancy gives defenses against the flu to both you and your baby.

Where do I get vaccinated?

Ask your doctor about immunizations and where to get them at your next appointment. Your county health department may know of locations where you can get vaccinated. There are also many pharmacies where you can get Tdap and the flu shot.

For more information, visit www.whyimmunize.org

Additional Resources:

- ADHS VPD Website
- CDC Pink Book
- CDC Manual for the Surveillance of Vaccine-Preventable Diseases

E-mail VPD@azdhs.gov with any questions

IDAZ

AZ Infectious Disease Resource

Download on the App Store

GET IT ON Google Play

THANK YOU

Susan Robinson | Vaccine Preventable Disease Epidemiologist

Susan.Robinson@azdhs.gov | 480-435-3929

azhealth.gov

@azdhs

facebook.com/azdhs

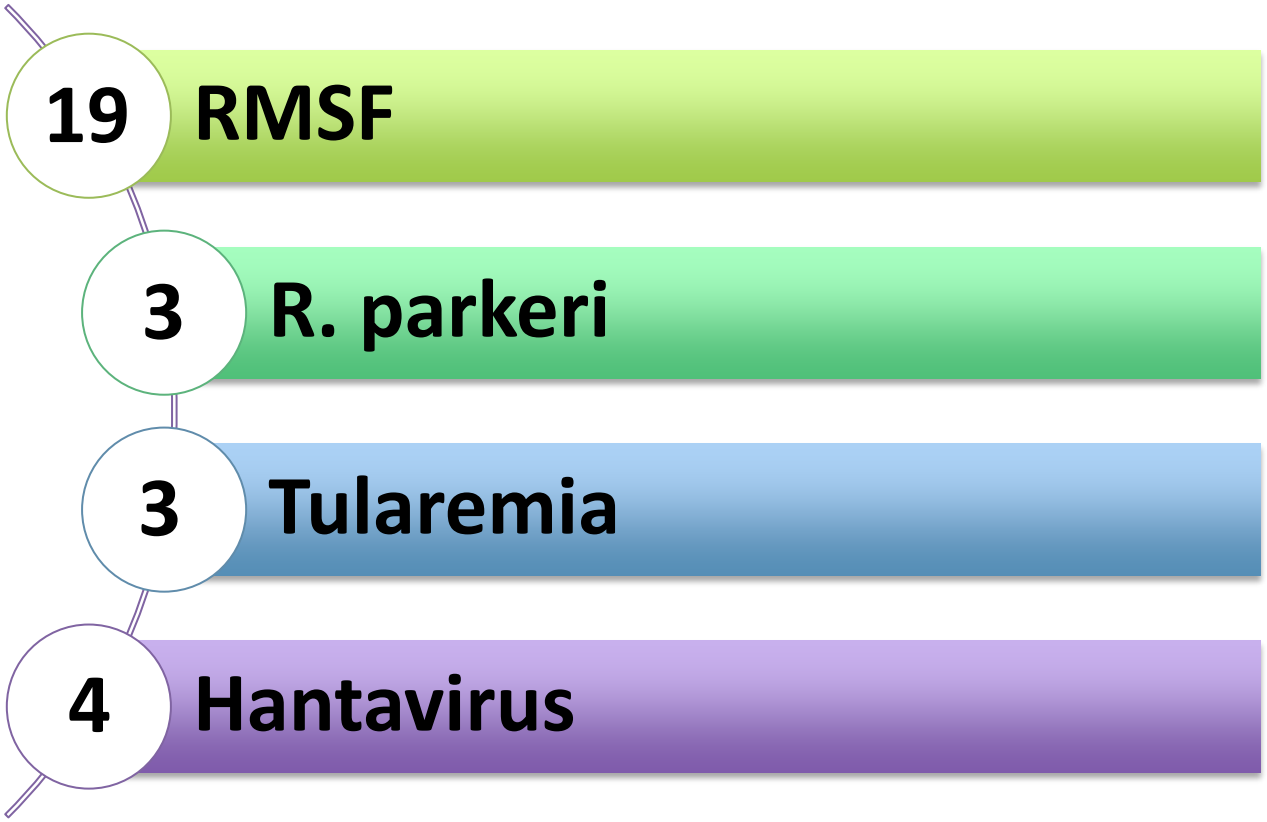
Tick-borne & Zoonotic Disease Updates

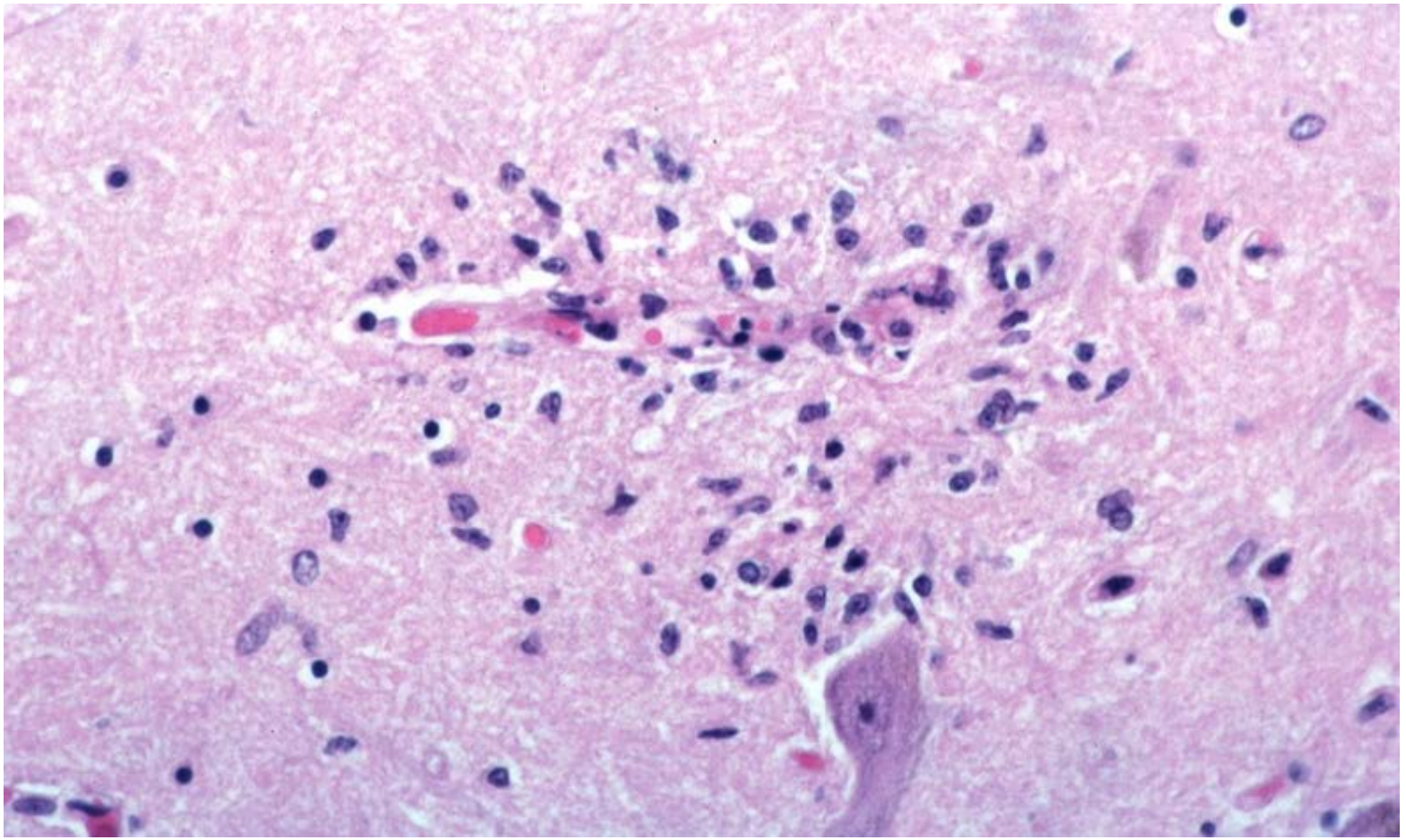
January 20, 2017

Presenting to APIC Grand Canyon State of the State
HSAG– Phoenix, AZ

Hayley Yaglom, MS, MPH | Epidemiologist

2016 at a Glance





Spotted Fever Group Rickettsia

- Fever
- Headache
- Abdominal pain
- Vomiting
- Respiratory signs
- Muscle pain

- Maculopapular rash*

Clinical Dilemma…and Solution

- In the United States, the correct diagnosis is missed in 60-85% on initial evaluation
- Therapeutic window for best outcome is narrow (first 5 days of illness)
- Half of all US deaths occur *within 8 days after illness onset*

Doxycycline saves lives!

Use it to treat suspected rickettsial infections in patients of all ages.

New research shows NO evidence of pediatric dental staining when used in short courses.

RICKETTSIA PARKERI RICKETTSIOSIS

ROCKY MOUNTAIN SPOTTED FEVER	***RICKETTSIA PARKERI* RICKETTSIOSIS**
Rhipicephalus sanguineus	*Amblyomma maculatum*
Severe symptoms	Mild symptoms
Rapidly progressive, severe or fatal if not treated	Less severe, no fatal cases
Dark necrotic scab (eschar) rarely identified at site of tick bite	Eschar frequently identified at site of tick bite
Doxycycline is the recommended and most effective treatment.	

Rickettsia: Take-home Messages

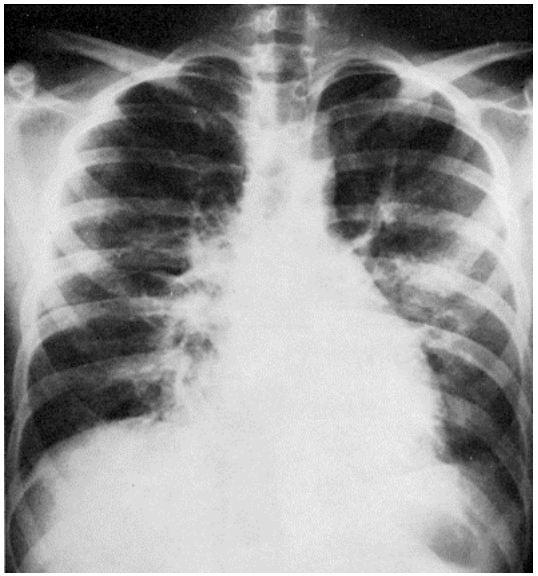
- Lab results don't help!
- Administer doxy!
- Ask about exposures!
- Report to public health!
- Convalescent titer to confirm!
- Prevention!

Plague

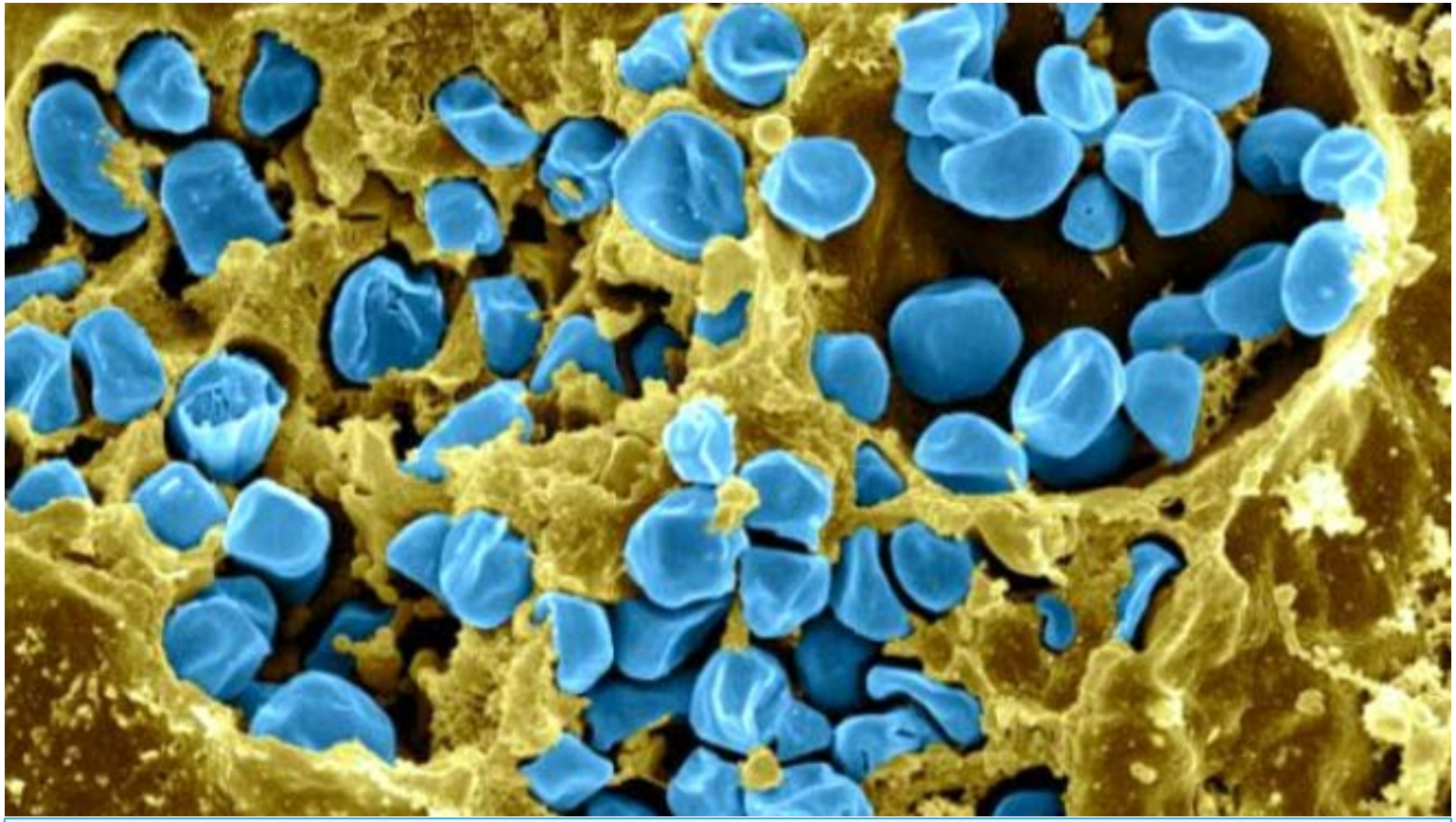
Bubonic

Septicemic

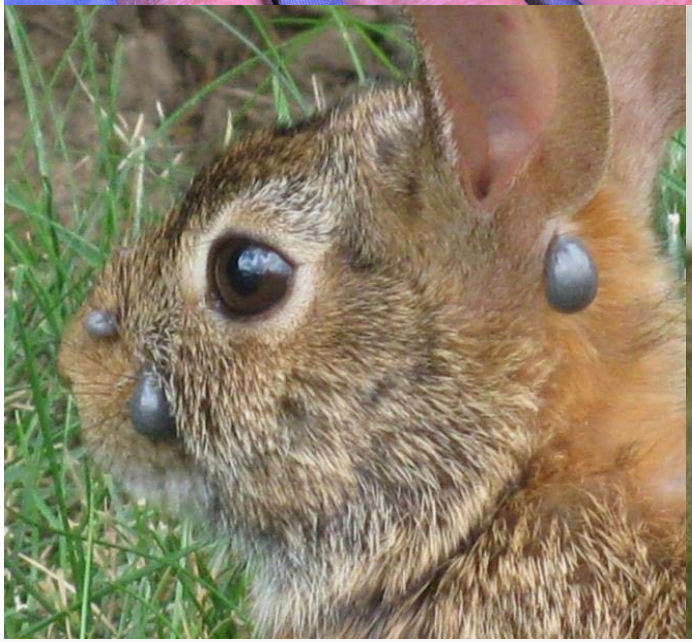
Pneumonic



Buboes



Tularemia



Plague/Tularemia: Take-home Messages

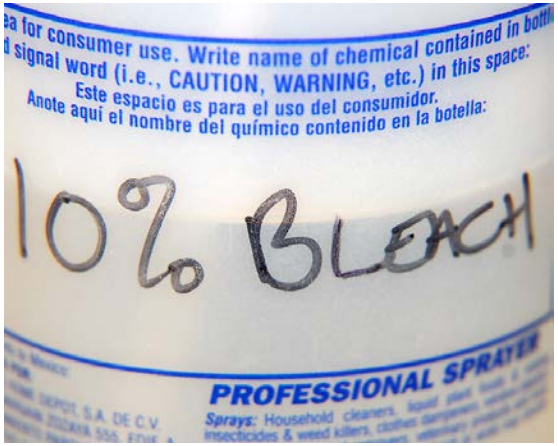
- Ask about exposures!
- Report to public health!
- Collect whole blood, lymph node aspirates, abscess swabs!
- Prevention!




Hantavirus

Hantavirus: Take-home Messages

- Ask about exposures!
- Report to public health!
- Collect serum!
- Prevention!



IDAZ

AZ Infectious Disease Resource

Receive **alerts** with public health updates

Search for **public clinics, FQHCs, and RHCs** in your area

Contact your local public health department with **1-click**

Look up infectious disease info, including **AZ specific statistics** and **testing recommendations**

Find **public health events and CME** in your area

Download for free today!

Download on the App Store

GET IT ON Google Play

Have questions, problems, or feedback? Reach out to us at IDAZ@azdhs.gov | www.azhealth.gov/idaz

THANK YOU

Hayley D. Yaglom, MS, MPH | Epidemiologist

Hayley.Yaglom@azdhs.gov | 602-542-2521

azhealth.gov

@azdhs

facebook.com/azdhs

INFLUENZA UPDATE 2016-2017

January 20, 2017

Presenting To

APIC Grand Canyon's State of the State | Phoenix, AZ

Rachel Perry | Cross-Cutting Epidemiologist

Trivalent Vaccine

A/California/7/2009 (**H1N1**)–like virus	**A**/Hong Kong/4801/2014 (**H3N2**)–like virus	**B**/Brisbane/60/2008 –like virus (**Victoria** lineage)

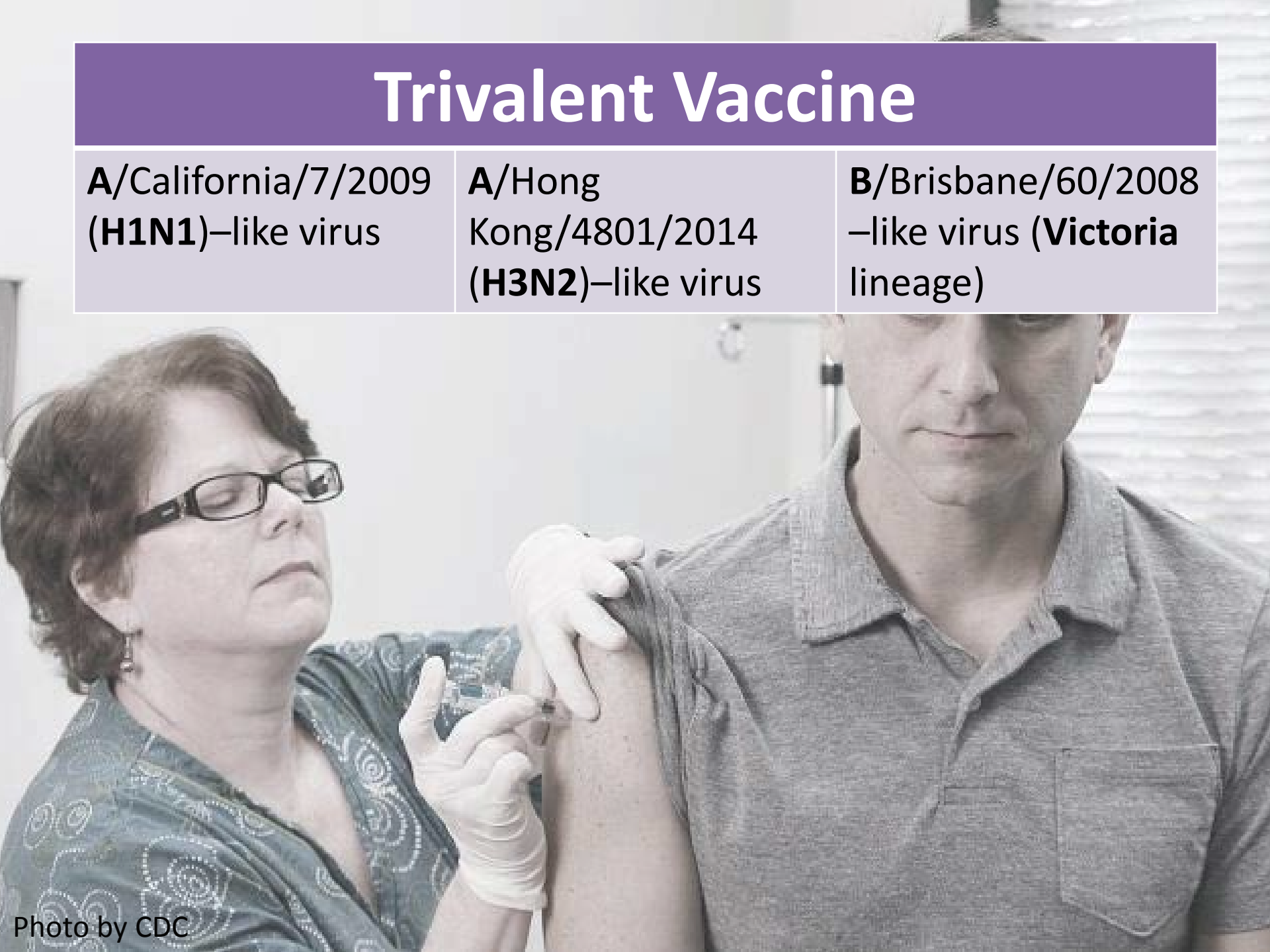


Photo by CDC

Quadrivalent Vaccine

A/California/7/2009 (**H1N1**)–like virus	**A**/Hong Kong/4801/2014 (**H3N2**)– like virus	**B**/Brisbane/60/2008–like virus (**Victoria** lineage)	**B**/Phuket/3073/2013–like virus (**Yamagata** lineage)

Photo by CDC


Who should receive the flu vaccine?
Photo by CDC

Who should receive the flu vaccine?

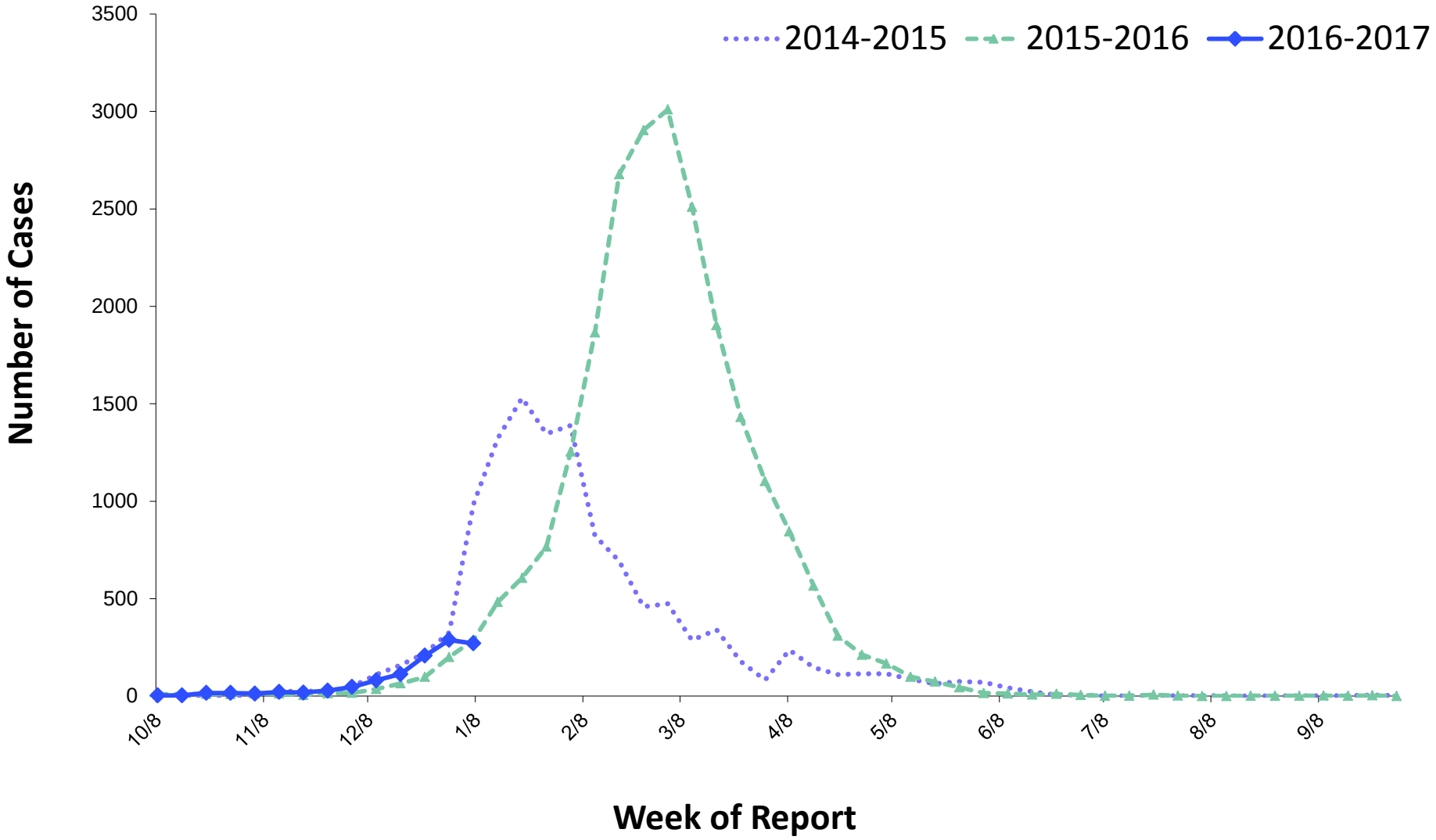
Photo by silvoassuncao / CC B

Photo by Eden, Janine and Jim / CC BY 2.0

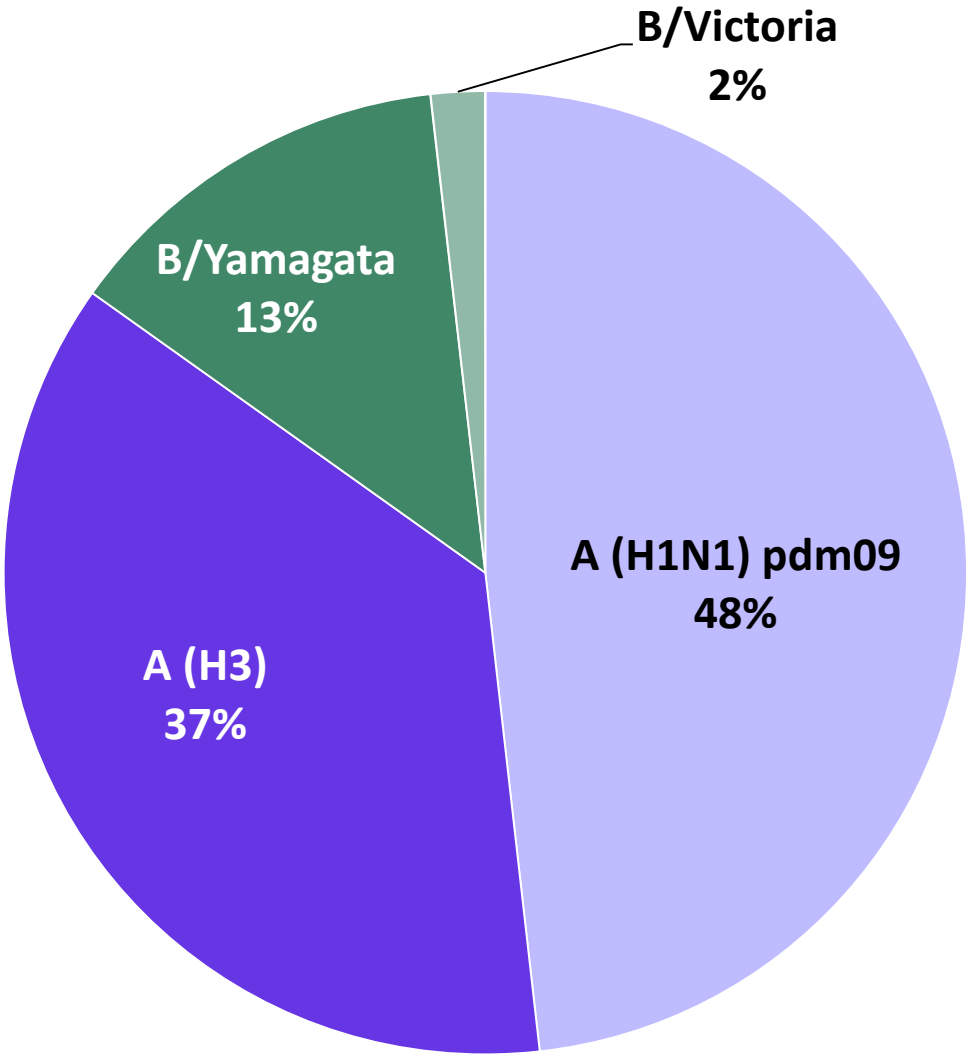
Photo by Ryan Ruppe / CC BY 2.0

Photo by CDC

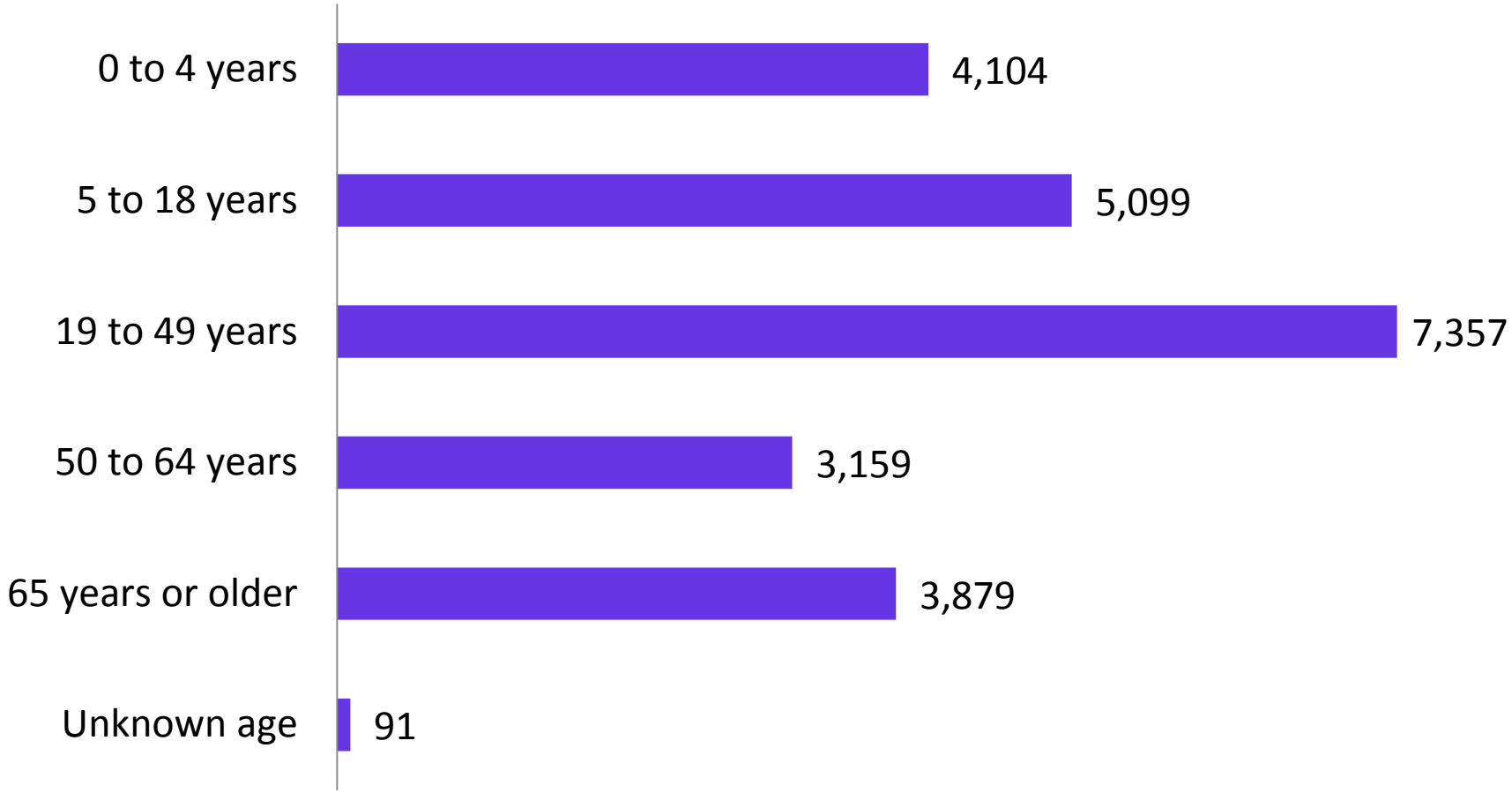
Number of Lab-Confirmed Influenza Cases Reported, by Week of Report, 2014-2017



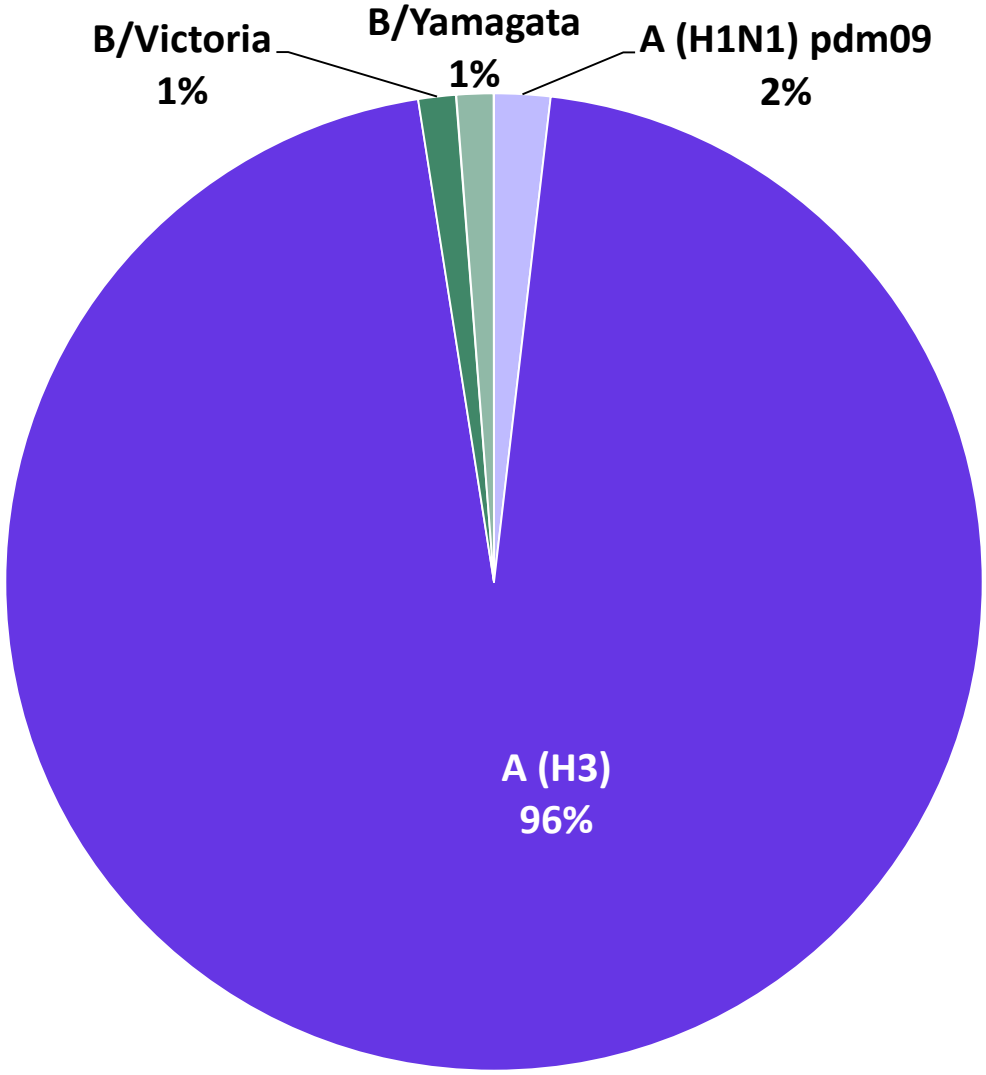
2015-2016 Season by Subtype



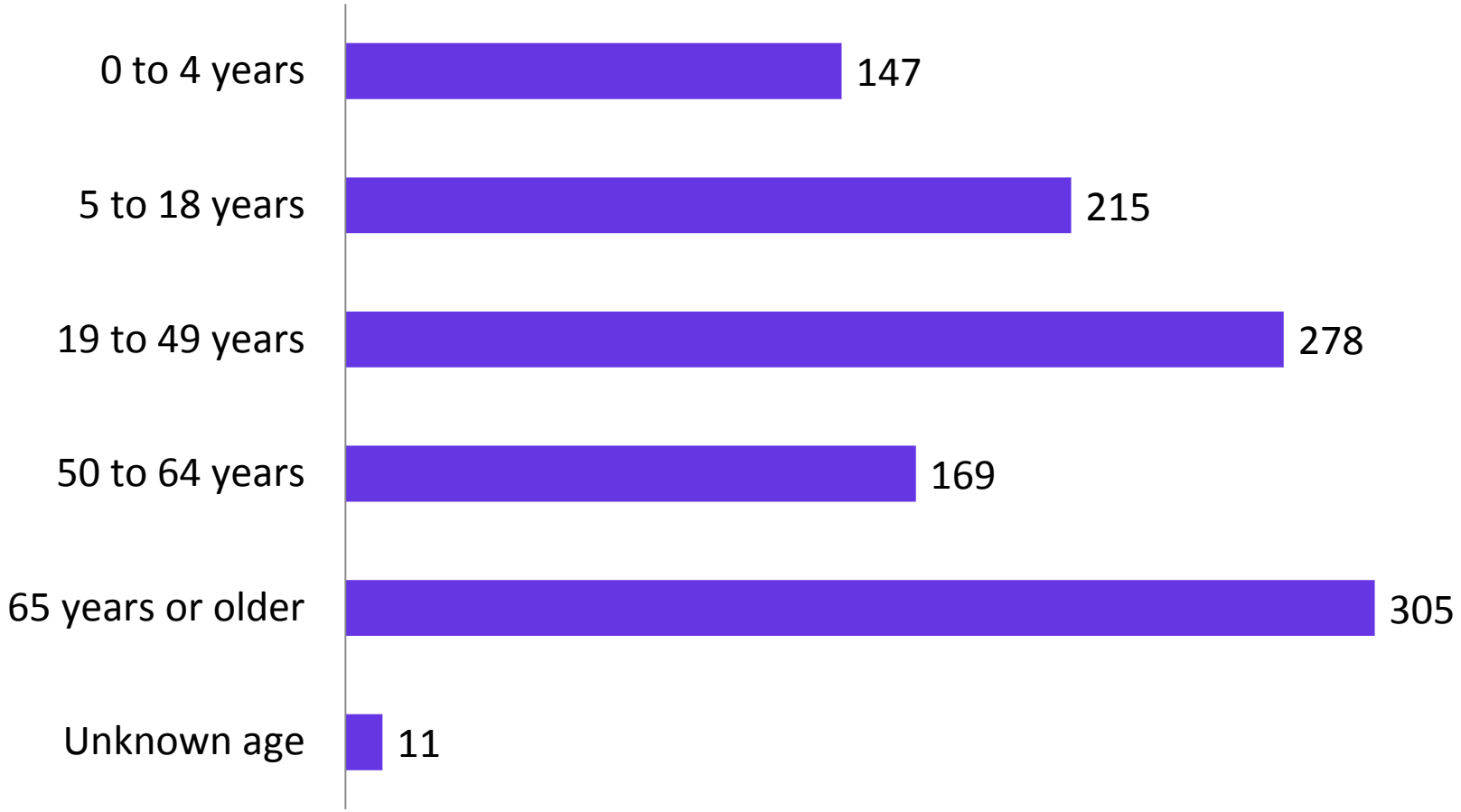
2015-2016 Season by Age



2016-2017 Season by Type



2016-2017 Season by Age



Reporting

- **Pediatric influenza-associated deaths – Provider reportable within 1 working day (A.A.C. R9-6-202)**

Reporting

- Pediatric influenza-associated deaths
- **Severely ill cases**

Reporting

- Pediatric flu associated deaths
- Severely ill cases
- **Travel-associated cases (international)**

Reporting

- Pediatric flu associated deaths
- Severely ill cases
- Travel-associated cases (international)
- **Cases with known animal exposure (i.e. swine, poultry)**

the **benefits** of **flu vaccination** 2015-2016

The estimated number of flu **illnesses prevented** by flu vaccination during the 2015-2016 season:

5 million

as many people use Denver International Airport in one month

The estimated number of flu **medical visits prevented** by vaccination during the 2015-2016 season:

2.5 million

equal to the population of Portland, Oregon

The estimated number of flu **hospitalizations prevented** by vaccination during the 2015-2016 season:

71,000

enough to fill every registered hospital bed in the state of Texas

DATA: Influenza Division program impact report 2015-2016, https://www.cdc.gov/flu/about/disease/2015-16.htm.

NCIRDig-607 | 12.06.2016

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

get **vaccinated**

www.cdc.gov/flu

I won't spread flu to my patients or my family.

Even healthy people can get the flu, and it can be serious.

Everyone 6 months and older should get a flu vaccine. This means you.

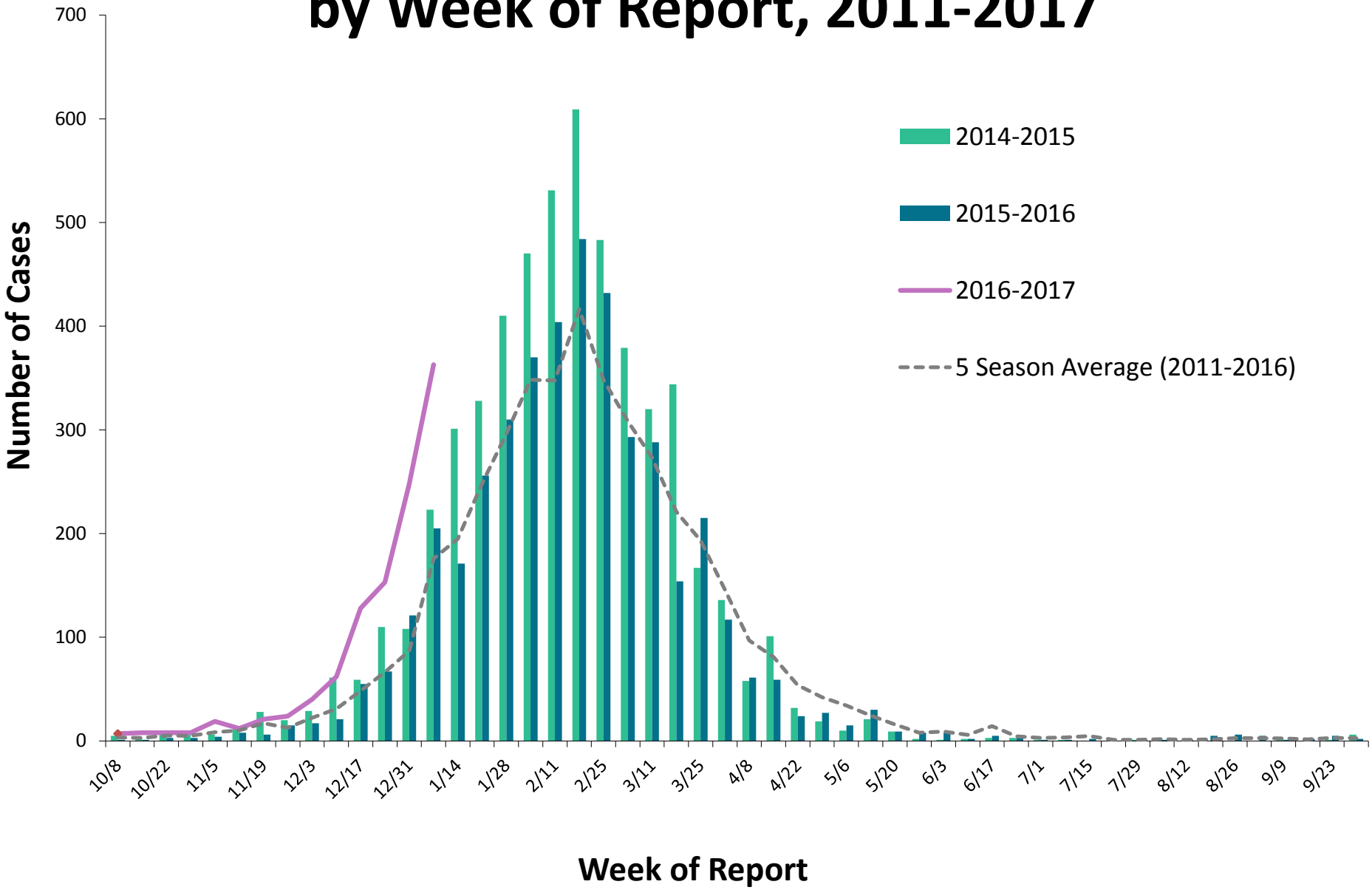
This season, protect yourself—and those around you—by getting a flu vaccine.

For more information, visit: **http://www.cdc.gov/flu**

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CS254717A

Number of Lab-confirmed RSV Cases Reported by Week of Report, 2011-2017



THANK YOU

Rachel Perry | Cross-Cutting Epidemiologist

Rachel.Perry@azdhs.gov | 602-364-4068

azhealth.gov

@azdhs

facebook.com/azdhs

Zika Virus Update

January 20, 2017

Presenting To

APIC Grand Canyon State of the State

Kara Tarter | Vector-borne & Zoonotic Disease Epidemiologist

What is Zika virus disease (Zika)?

Zika Virus: Timeline

1947: Zika Virus discovered in Uganda

1947-2006: Serologic evidence in African & Asian countries. Only 14 human cases documented

2007: Zika outbreak on Yap island in Micronesia

2013-2014: Continued spread in the Pacific Islands

2015: Zika arrives in Brazil

Zika Globally

CHIKUNGUNYA, DENGUE, or ZIKA: What is an imported case?

A person who was bitten by an infected mosquito while traveling away from home.

A person gets bitten by an infected mosquito while traveling.

Symptoms may begin 3–7 days after being bitten by an infected mosquito.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

For more information: www.cdc.gov/chikungunya • www.cdc.gov/dengue • www.cdc.gov/zika

CS262034-A

CHIKUNGUNYA, DENGUE, or ZIKA: What is local transmission?

A person who has not traveled recently gets bitten by an infected mosquito where they live, work, or play.

A mosquito bites a person who is sick. The mosquito gets infected.

Infected mosquitoes can then bite healthy people and spread the infection.

Within 3–7 days, the person may become sick. Other mosquitoes can bite the sick person, become infected, and bite more people.

Transmission

- Zika can be transmitted through:
  - Mosquito bites
  - From a pregnant woman to her fetus
  - Sexual contact
  - Blood transfusion

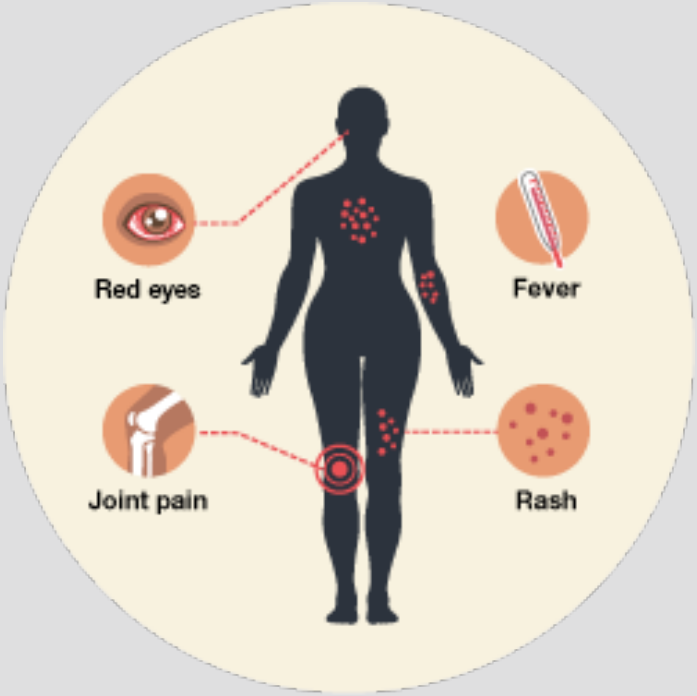
Aedes mosquito bites someone infected with the virus.

Aedes mosquito becomes infected and continues to spread the virus.

Aedes mosquito infected with the virus bites healthy people and the cycle continues.

Symptoms

- Only about 1 in 5 people infected with Zika will experience symptoms
- For symptomatic cases, more common symptoms are:
  - Maculopapular Rash
  - Fever
  - Joint Pain
  - Conjunctivitis



Congenital Zika Virus Syndrome

Pattern of birth defects described by:

- Severe microcephaly
- Decreased brain tissue with a specific pattern of brain damage
- Damage to the back of the eye
- Joints with limited range of motion, such as clubfoot
- Too much muscle tone restricting body movement after birth

Treatment

- No vaccines or specific treatment
- Treat symptoms:
  - Rest
  - Fluids
  - Acetaminophen

Recommendations: Prevention

- Pregnant women
  - Avoid traveling to areas with Zika
- All individuals
  - Avoid mosquitoes
  - Avoid unprotected sex

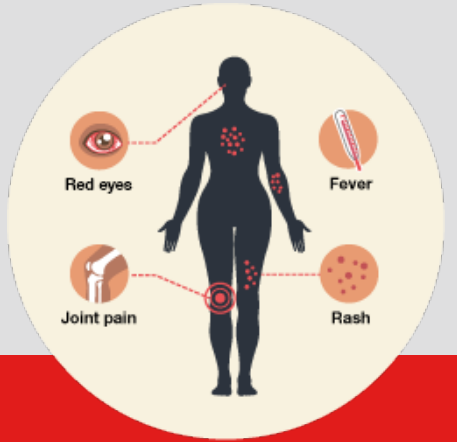
Recommendations: Evaluation

ALL Pregnant Women

- Evaluate for exposure at every visit
- Consider testing if there is potential exposure (travel/sexual)

Symptomatic Individuals

- Ask about travel history
- Include Zika, Dengue, and Chikungunya on differential



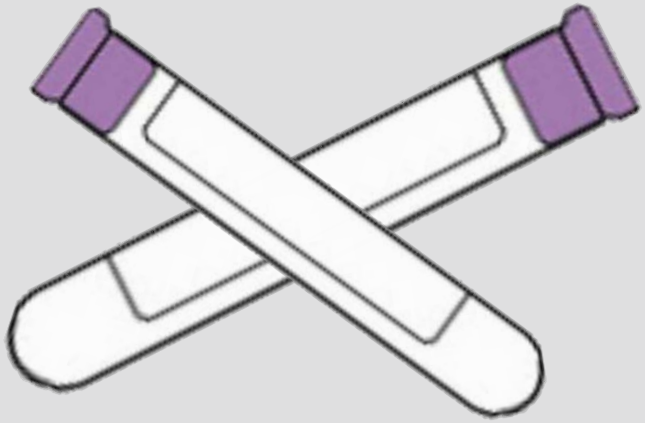
Recommendations: Testing

PCR Testing

- Serum: 7 days
- Urine: 14 days
- Whole blood: 14 days

IgM Testing

- Serum: 2-12 weeks



Time frames are days/weeks since symptom onset or exposure. Exposure can be defined as date of return from travel or last unprotected sexual contact with someone who traveled.

Recommendations: Testing Contact Local Public Health

County Name	Phone Number	County Name	Phone Number
Apache County	928-337-4364	Mohave County	928-753-0714
Cochise County	520-432-9400	Navajo County	928-524-4750
Coconino County	928-679-7272	Pima County	520-724-7770
Gila County	928-402-8811	Pinal County	520-866-7325
Graham County	928-428-1962	Santa Cruz County	520-375-7900
Greenlee County	928-865-2601	Yavapai County	928-771-3134
La Paz County	928-669-1100	Yuma County	928-317-4550
Maricopa County	602-506-6767		

Kara Tarter, MPH

Kara.Tarter@azdhs.gov | vbzd@azdhs.gov

www.azhealth.gov/zika | www.cdc.gov/zika

Healthcare-Associated Infection Program: A Review of 2016

Office of Infectious Disease Services
Arizona Department of Health Services

Healthcare-Associated Infection (HAI) Staff

www.preventHAIaz.gov

- Eugene Livar, MD
  - HAI Program Manager
  - Eugene.Livar@azdhs.gov

- Rachana Bhattarai, BVSc & AH, MS
  - HAI Epidemiologist
  - Rachana.Bhattarai@azdhs.gov

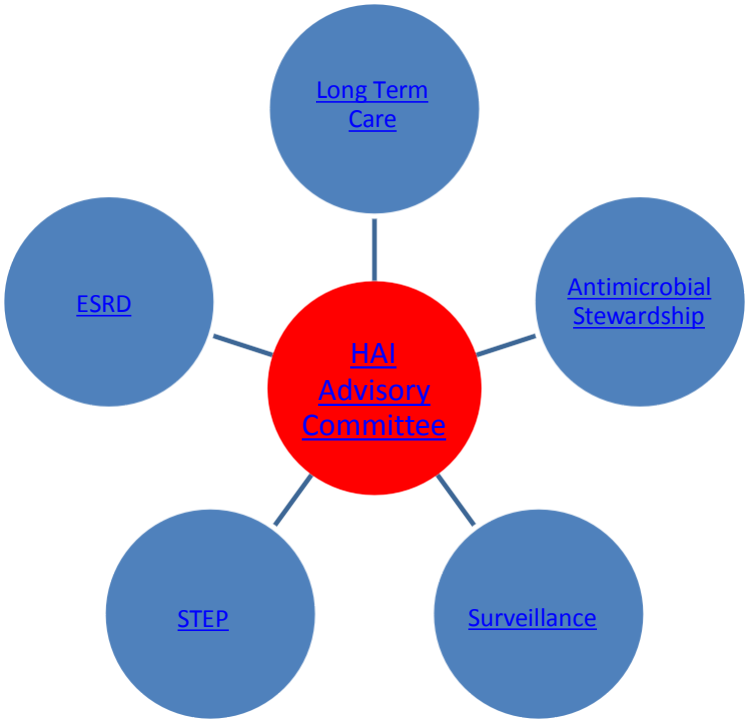
- Geoff Granseth, MPH
  - HAI Epidemiologist
  - Geoffrey.Granseth@azdhs.gov

- Kasia Golenko, MPH
  - HAI Epidemiologist
  - Catherine.Golenko@azdhs.gov

HAI Advisory Committee and Subcommittees

Arizona Needs You!

- Help Arizona:
  - Reduce the number and impact of HAIs
  - Standardize best practices
  - Educate the public and healthcare providers
  - Proactively address emerging HAI issues
  - Contact HAI@azdhs.gov if interested in joining



Click on one to view the website!

2016 HAI Outbreaks

51 outbreak in HCFs

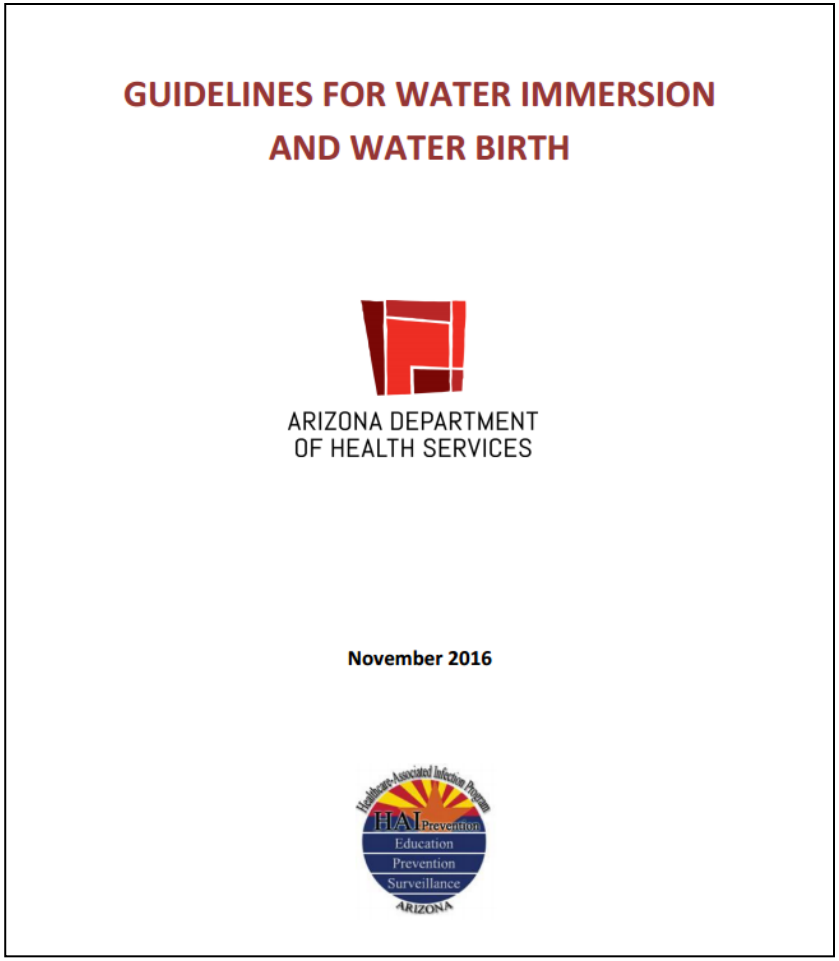
- 67% GI Illness
- 16% Respiratory
- 12% Lice and Mites
- 6% Other*

*Includes MRSA, *C. difficile*, Hepatitis C

Outbreak Setting	Frequency	Percentage
Assisted Living	26	51
Long-Term Care Facility	15	29
Hospital	5	10
Rehab Facility	3	6
Outpatient Clinic	2	4

Midwife Specific Legionellosis Resources

- Water Birth Guidelines
  - Recommended Criteria for the Use of Water Immersion
  - Contraindications for Entering the Pool
- Water Immersion
  - Management of Second & Third Stage
  - Newborn Resuscitation
  - Reasons for Leaving the Pool
- Pool Setup and Cleaning Recommendations
  - Recommended Birth Pool and Components
  - Recommended Pools
  - Pool Management
  - Preparation
  - Quality Assurance
  - Birth Pool Documentation Logs
- Midwife Safety



http://www.azdhs.gov/documents/licensing/special/midwives/training/guidelines-for-water-immersion-water-birth.pdf

Midwife Specific Legionellosis Infographic

http://www.azdhs.gov/documents/licensing/special/midwives/training/legionella-infographic.pdf

Public Health Based Guidance

How To Conduct *Legionella* Investigation

Healthcare-Associated Infections Program

OIDS/ADHS

ARIZONA DEPARTMENT OF HEALTH SERVICES

Health and Wellness for all Arizonans

Arizona's Infection Prevention Assessment Survey 2016

- Arizona healthcare facilities were surveyed in 2016 to assess infection control practices, infrastructure and outbreak reporting
- Results provided a snapshot of infection prevention capacity in healthcare facilities throughout the state
- Used to identify gaps and focus pointed interventions based on the findings

EMS Regions

- Predefined geographical areas of EMS System
- Selected for simplicity and anonymity

Regions were categorized based on self-reported responses as shown below:

	100%	**(Excellent)**
	90-99%	**(Good)**
	75-89%	**(Average)**
	0-74%	**(Needs Improvement)**

Demographics of EMS Regions

Demographics	Arizona	Central	Northern	Southeastern	Western
Hospitals Surveyed	86	49	15	15	7
Hospitals Responded (Percent)	68 (79)	41 (84)	10 (67)	11 (73)	6 (86)
Acute Care Hospitals	54	38	5	7	4
Critical Access Hospitals*	14	3	5	4	2
Median Bedsize (Mean)	123 (169)	188 (207)	40 (67)	100 (123)	140 (160)
Median #Beds/IP (Mean)	109 (114)	138 (133)	29 (47)	83 (96)	140 (127)
# of Hospitals with Primary IP with CIC status (Percent)**	36 (55)	26 (67)	2 (20)	5 (50)	3 (50)
Has a Clinical Pharmacist with ID training (Percent)	26 (38)	17 (41)	5 (50)	1 (9)	3 (50)

* ASP Data missing from 2 hospitals (1 each in central and northern regions)

** Missing CIC data from 3 Hospitals (2 in central region and 1 in southeastern region)

10 Core Concepts

1. Notify public health about outbreaks
2. Internal Validation of NHSN data
3. Clinical Pharmacist with Infectious Disease (ID) training
4. Fiscal support for infection prevention and control program
5. Mandatory influenza vaccination program
6. Competency-based training program for proper hand hygiene
7. Competency-based training program for environmental cleaning
8. 7 core elements of Antibiotic Stewardship Programs (ASPs)
9. Physician/Nurse Champion for *Clostridium difficile* infection (CDI)
10. Drug Diversion Prevention Program

Summary of Core Concepts by Region

Core Question	Arizona	Central	Northern	Southeastern	Western
1. Notification of Outbreaks	88%	80%	100%	100%	100%
2. Validation of NHSN	49%	45%	57%	57%	60%
3. ID Pharmacist	38%	41%	50%	9%	50%
4. Fiscal support for IPC	81%	83%	90%	64%	83%
5. Mandatory Flu Vaccine	81%	90%	70%	64%	67%
6. Competency-based training for hand hygiene	40%	24%	50%	82%	50%
7. Competency-based training for environmental cleaning	75%	76%	60%	82%	83%
8. 7 Core elements of ASP	33%	28%	67%	27%	33%
9. Physician and/or Nurse champion for CDI	63%	59%	80%	55%	83%
10. Drug Diversion Prevention Program	18%	15%	30%	9%	33%

Summary of Core Concepts by Bedsize

Core Question	Arizona	CAH	50 or Less	51-200	200 +
1. Notification of Outbreaks	88%	100%	91%	91%	82%
2. Validation of NHSN	49%	40%	30%	45%	52%
3. ID Pharmacist	38%	21%	22%	43%	50%
4. Fiscal support for IPC	81%	71%	74%	78%	91%
5. Mandatory Flu Vaccine	81%	71%	65%	87%	91%
6. Competency-based training for hand hygiene	40%	79%	57%	43%	18%
7. Competency-based training for environmental cleaning	75%	71%	61%	83%	82%
8. 7 Core elements of ASP	33%	25%	19%	39%	41%
9. Physician and/or Nurse champion for CDI	63%	79%	70%	57%	64%
10. Drug Diversion Prevention Program	18%	14%	17%	22%	14%

Conclusions

- 6 of the 10 Core Concepts fell into the ‘needs improvement’ category during analysis
- The following 3 areas were prioritized by the HAI Program as areas for immediate attention:
  - Validation of NHSN Data
  - Competency-based training for hand hygiene
  - 7 core elements of ASP

7 Core Elements of ASP

1. **Leadership Commitment**: Dedicate necessary human, financial and IT resources
2. **Accountability**: Appoint a single leader responsible for program outcomes
3. **Drug Expertise**: Appointing a single pharmacist leader responsible for working to improve antibiotic use
4. **Actions**: Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment
5. **Tracking**: Monitor antibiotic prescribing and resistance patterns
6. **Reporting**: Regular report information on antibiotic use and resistance to doctors, nurses and relevant staff
7. **Education**: Educate clinicians about resistance and optimal prescribing

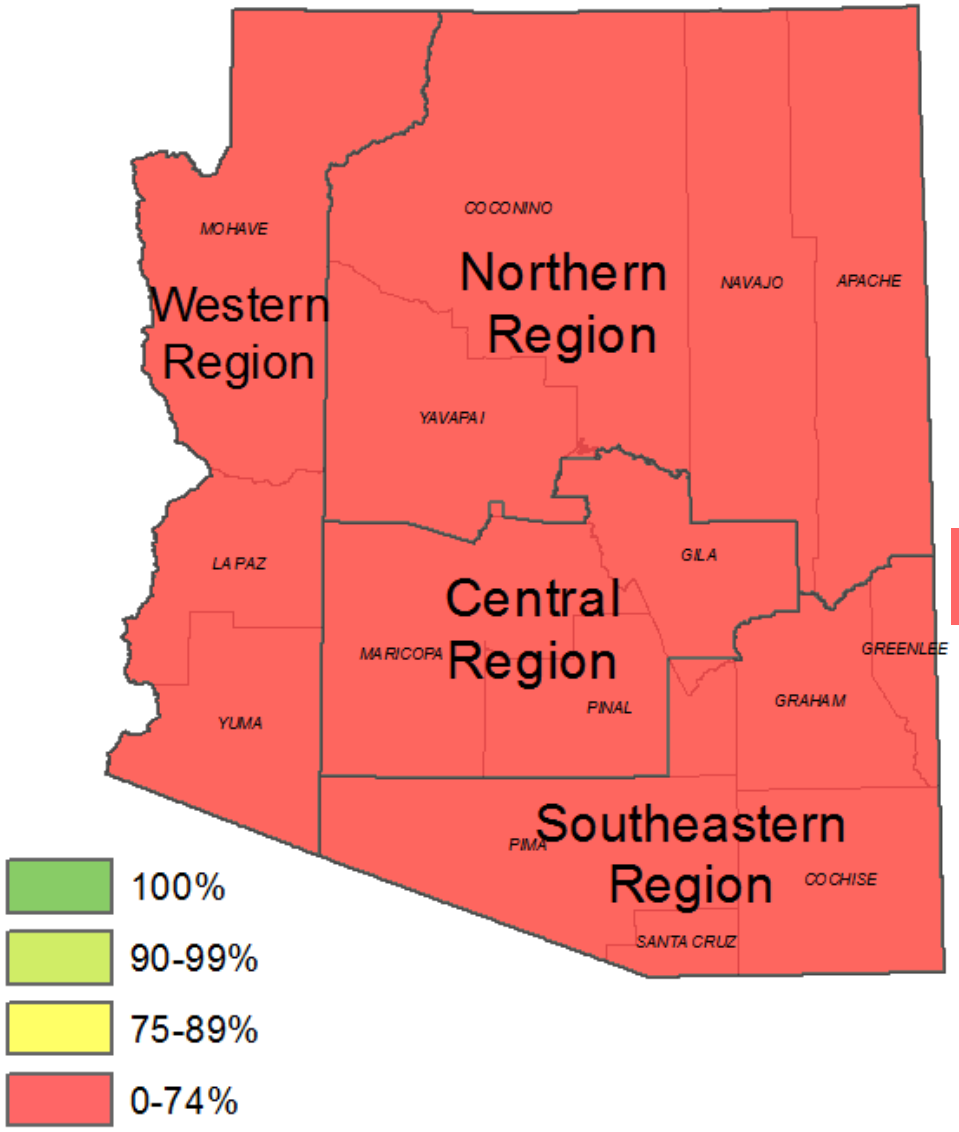
Summary of 7 Core Elements of ASP by Region

Core Element	Arizona	Central	Northern	Southeastern	Western
1.Leadership Commitment	68%	70%	78%	64%	50%
2. Accountability	61%	65%	67%	55%	33%
3. Drug Expertise	79%	83%	78%	73%	67%
4. Action	85%	88%	89%	82%	67%
5. Tracking	82%	80%	89%	82%	83%
6. Reporting	48%	45%	78%	36%	50%
7. Education	61%	55%	78%	64%	67%

Summary of 7 Core Elements of ASP by Bedsize

Core Element	Arizona	CAH	50 or less	51-200	200 +
1.Leadership Commitment	68%	42%	43%	74%	86%
2. Accountability	61%	50%	48%	57%	77%
3. Drug Expertise	79%	67%	76%	70%	91%
4. Action	85%	75%	81%	78%	95%
5. Tracking	82%	75%	76%	78%	91%
6. Reporting	48%	50%	43%	52%	50%
7. Education	61%	58%	48%	65%	68%

7 Core Elements of ASPs



Met all 7 core elements of ASP based on responses to questions regarding antibiotic stewardship.

Arizona (n=66): 33%

Region	Positive Response
Central (n=41)	28%
Northern (n=10)	67%
Southeastern (n=11)	27%
Western (n=6)	33%

For Complete slide sets visit:

Arizona's Infection Prevention Assessment Survey 2016

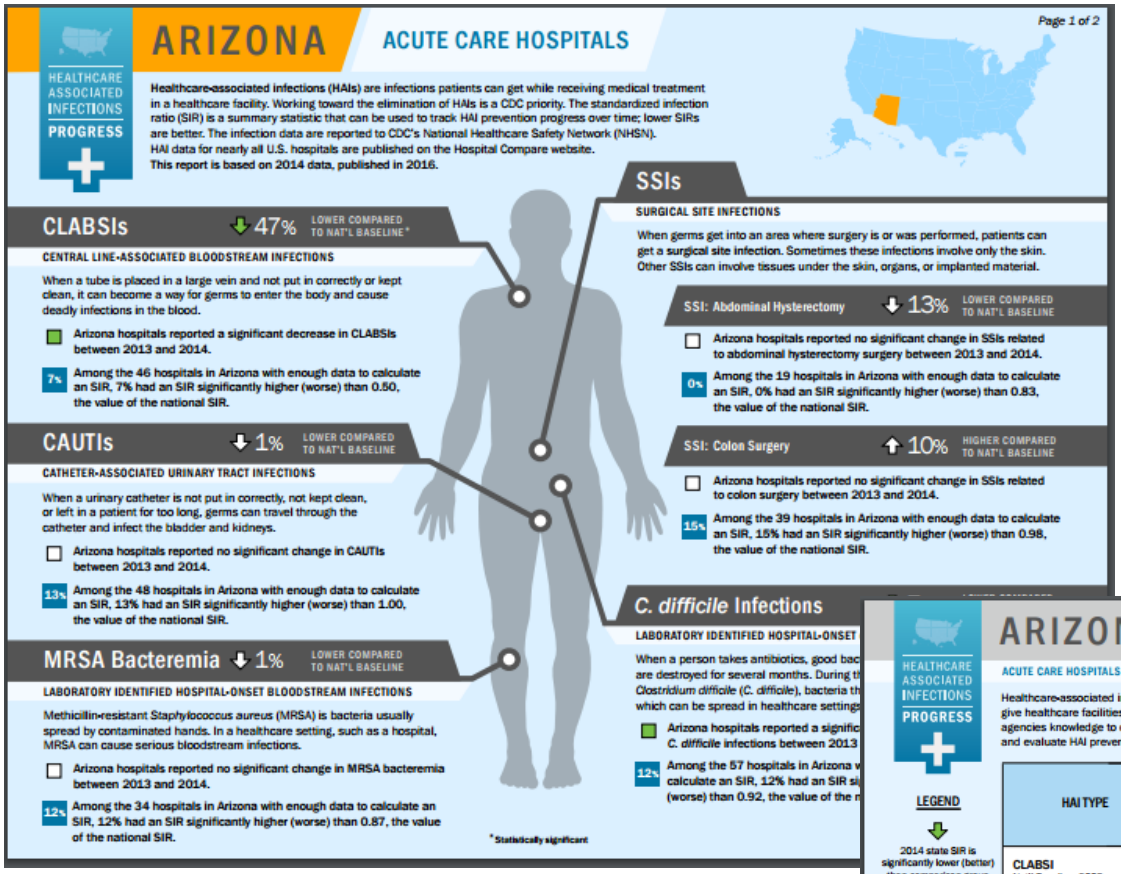
As part of the Epidemiology and Laboratory Capacity (ELC) Ebola Supplement Activity A, the HAI Program was tasked with assessing infection control practices, infrastructure and outbreak reporting in various healthcare settings across the state. With the assistance of the HAI Advisory Committee, detailed surveys were created for acute care hospitals, long-term care facilities, and hemodialysis facilities. The surveys were administered in early 2016 via an email with a link to an electronic survey through Qualtrics, and the results provided a snapshot of infection prevention capacity throughout the state. A detailed analysis was conducted on each healthcare setting, and the major results were displayed in slide sets. The slide sets are:

- 10 Core Concepts – Acute Care Hospitals
- 7 Core Elements of Antibiotic Stewardship Programs (ASPs) – Acute Care Hospitals
- 10 Core Concepts – Long-Term Care Facilities
- 7 Core Elements of Antibiotic Stewardship Programs (ASPs) – Long-Term Care Facilities
- 10 Areas for Interventions – Hemodialysis Facilities

http://azdhs.gov/preparedness/epidemiology-disease-control/healthcare-associated-infection/advisory-committee/index.php#surveillance

2017 HAI Progress Report

- Will be published in Spring 2017 (based on 2015 data)
- Report will be in a different format this year
  - No longer have the state arrow page and state fact sheet
  - Main focus will be on excel data tables
  - Will include new 2015 baseline
  - VAE will be included this year
- Will still include data explanation and talking points



Page 1 of 2

ARIZONA

ACUTE CARE HOSPITALS

HEALTHCARE ASSOCIATED INFECTIONS PROGRESS

Healthcare-associated infections (HAIs) are infections patients can get while receiving medical treatment in a healthcare facility. Working toward the elimination of HAIs is a CDC priority. The standardized infection ratio (SIR) is a summary statistic that can be used to track HAI prevention progress over time; lower SIRs are better. The infection data are reported to CDC's National Healthcare Safety Network (NHSN). HAI data for nearly all U.S. hospitals are published on the Hospital Compare website. This report is based on 2014 data, published in 2016.

CLABSIs — ↓ 47% LOWER COMPARED TO NAT'L BASELINE*

CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS

When a tube is placed in a large vein and not put in correctly or kept clean, it can become a way for germs to enter the body and cause deadly infections in the blood.

- Arizona hospitals reported a significant decrease in CLABSIs between 2013 and 2014.
- 7% Among the 46 hospitals in Arizona with enough data to calculate an SIR, 7% had an SIR significantly higher (worse) than 0.50, the value of the national SIR.

CAUTIs — ↓ 1% LOWER COMPARED TO NAT'L BASELINE

CATHETER-ASSOCIATED URINARY TRACT INFECTIONS

When a urinary catheter is not put in correctly, not kept clean, or left in a patient for too long, germs can travel through the catheter and infect the bladder and kidneys.

- Arizona hospitals reported no significant change in CAUTIs between 2013 and 2014.
- 13% Among the 48 hospitals in Arizona with enough data to calculate an SIR, 13% had an SIR significantly higher (worse) than 1.00, the value of the national SIR.

MRSA Bacteremia — ↓ 1% LOWER COMPARED TO NAT'L BASELINE

LABORATORY IDENTIFIED HOSPITAL-ONSET BLOODSTREAM INFECTIONS

Methicillin-resistant *Staphylococcus aureus* (MRSA) is bacteria usually spread by contaminated hands. In a healthcare setting, such as a hospital, MRSA can cause serious bloodstream infections.

- Arizona hospitals reported no significant change in MRSA bacteremia between 2013 and 2014.
- 12% Among the 34 hospitals in Arizona with enough data to calculate an SIR, 12% had an SIR significantly higher (worse) than 0.87, the value of the national SIR.

SSIs

SURGICAL SITE INFECTIONS

When germs get into an area where surgery is or was performed, patients can get a surgical site infection. Sometimes these infections involve only the skin. Other SSIs can involve tissues under the skin, organs, or implanted material.

SSI: Abdominal Hysterectomy — ↓ 13% LOWER COMPARED TO NAT'L BASELINE

- Arizona hospitals reported no significant change in SSIs related to abdominal hysterectomy surgery between 2013 and 2014.
- 0% Among the 19 hospitals in Arizona with enough data to calculate an SIR, 0% had an SIR significantly higher (worse) than 0.83, the value of the national SIR.

SSI: Colon Surgery — ↑ 10% HIGHER COMPARED TO NAT'L BASELINE

- Arizona hospitals reported no significant change in SSIs related to colon surgery between 2013 and 2014.
- 15% Among the 39 hospitals in Arizona with enough data to calculate an SIR, 15% had an SIR significantly higher (worse) than 0.98, the value of the national SIR.

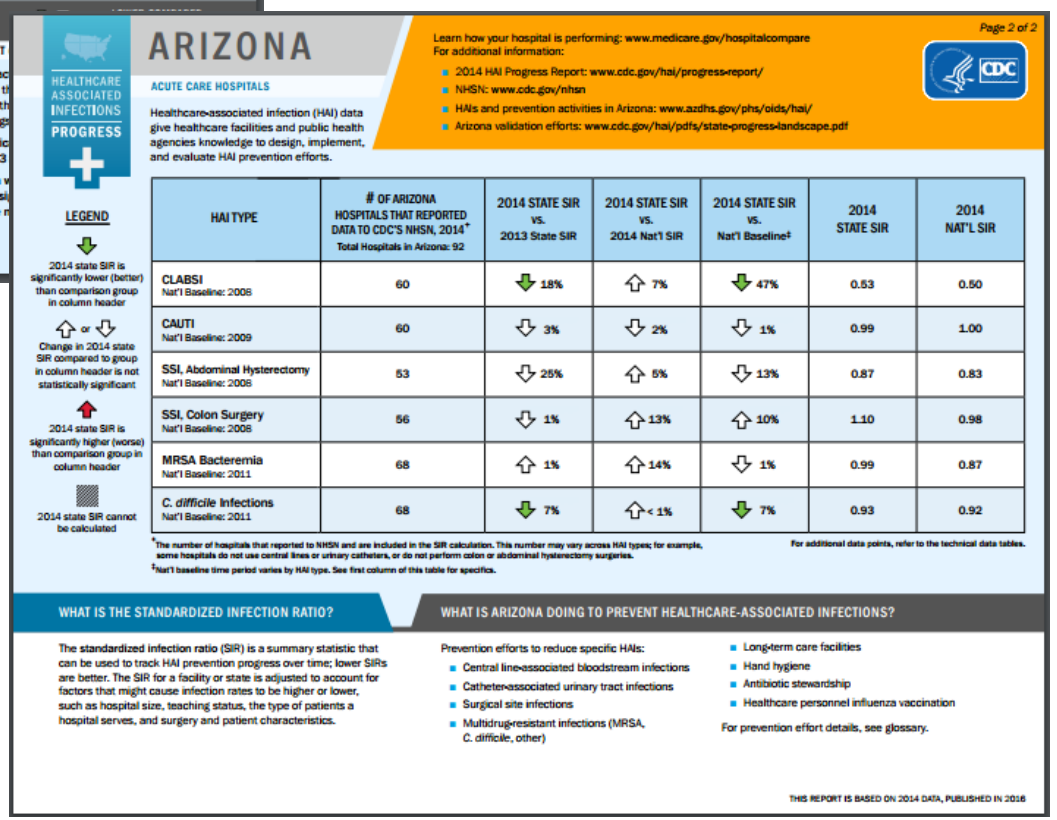
C. difficile Infections

LABORATORY IDENTIFIED HOSPITAL-ONSET

When a person takes antibiotics, good bac
are destroyed for several months. During t
Clostridium difficile (*C. difficile*), bacteria th
which can be spread in healthcare setting

- Arizona hospitals reported a signific
C. difficile infections between 2013
- 12% Among the 57 hospitals in Arizona v
calculate an SIR, 12% had an SIR si
(worse) than 0.92, the value of the n

*Statistically significant



Page 2 of 2

ARIZONA

HEALTHCARE ASSOCIATED INFECTIONS PROGRESS

ACUTE CARE HOSPITALS

Healthcare-associated infection (HAI) data give healthcare facilities and public health agencies knowledge to design, implement, and evaluate HAI prevention efforts.

Learn how your hospital is performing: www.medicare.gov/hospitalcompare
For additional information:
- 2014 HAI Progress Report: www.cdc.gov/hai/progress-report/
- NHSN: www.cdc.gov/nhsn
- HAIs and prevention activities in Arizona: www.azdhs.gov/phs/oids/hai/
- Arizona validation efforts: www.cdc.gov/hai/pdfs/state-progress-landscape.pdf

CDC

LEGEND

- ↓ 2014 state SIR is significantly lower (better) than comparison group in column header
- ↑ or ↓ Change in 2014 state SIR compared to group in column header is not statistically significant
- ↑ 2014 state SIR is significantly higher (worse) than comparison group in column header
- ■ 2014 state SIR cannot be calculated

HAI TYPE	# OF ARIZONA HOSPITALS THAT REPORTED DATA TO CDC'S NHSN, 2014* Total Hospitals in Arizona: 92	2014 STATE SIR vs. 2013 State SIR	2014 STATE SIR vs. 2014 Nat'l SIR	2014 STATE SIR vs. Nat'l Baseline†	2014 STATE SIR	2014 NAT'L SIR
CLABSI Nat'l Baseline: 2008	60	↓ 18%	↑ 7%	↓ 47%	0.53	0.50
CAUTI Nat'l Baseline: 2009	60	↓ 3%	↓ 2%	↓ 1%	0.99	1.00
SSI, Abdominal Hysterectomy Nat'l Baseline: 2008	53	↓ 25%	↑ 5%	↓ 13%	0.87	0.83
SSI, Colon Surgery Nat'l Baseline: 2008	56	↓ 1%	↑ 13%	↑ 10%	1.10	0.98
MRSA Bacteremia Nat'l Baseline: 2011	68	↑ 1%	↑ 14%	↓ 1%	0.99	0.87
C. difficile Infections Nat'l Baseline: 2011	68	↓ 7%	↑ < 1%	↓ 7%	0.93	0.92

*The number of hospitals that reported to NHSN and are included in the SIR calculation. This number may vary across HAI types; for example, some hospitals do not use central lines or urinary catheters, or do not perform colon or abdominal hysterectomy surgeries.

†Nat'l baseline time period varies by HAI type. See first column of this table for specifics.

For additional data points, refer to the technical data tables.

WHAT IS THE STANDARDIZED INFECTION RATIO?

The standardized infection ratio (SIR) is a summary statistic that can be used to track HAI prevention progress over time; lower SIRs are better. The SIR for a facility or state is adjusted to account for factors that might cause infection rates to be higher or lower, such as hospital size, teaching status, the type of patients a hospital serves, and surgery and patient characteristics.

WHAT IS ARIZONA DOING TO PREVENT HEALTHCARE-ASSOCIATED INFECTIONS?

Prevention efforts to reduce specific HAIs:
- Central line-associated bloodstream infections
- Catheter-associated urinary tract infections
- Surgical site infections
- Multidrug-resistant infections (MRSA, *C. difficile*, other)
- Long-term care facilities
- Hand hygiene
- Antibiotic stewardship
- Healthcare personnel influenza vaccination

For prevention effort details, see glossary.

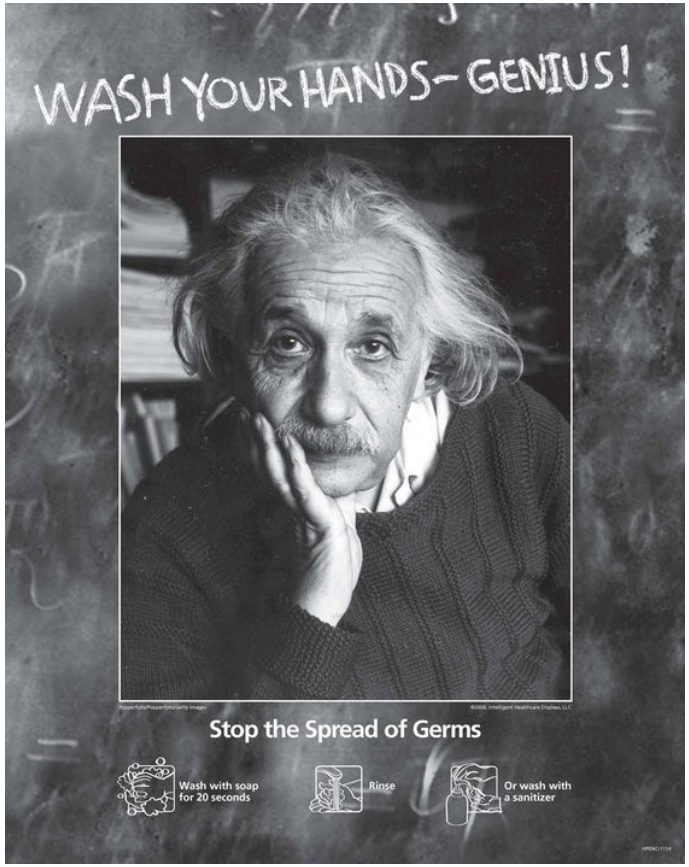
THIS REPORT IS BASED ON 2014 DATA, PUBLISHED IN 2016

These will no longer be included!

- The HAI Program will be working with the HAI Advisory Committee's Surveillance Subcommittee to create an Arizona specific document

Questions or Concerns?

- Please feel free to contact the HAI Program
  - Eugene Livar
    - Eugene.Livar@azdhs.gov
  - Rachana Bhattarai
    - Rachana.Bhattarai@azdhs.gov
  - Geoff Granseth
    - Geoffrey.Granseth@azdhs.gov
  - Catherine “Kasia” Golenko
    - Catherine.Golenko@azdhs.gov



https://www.pinterest.com/pin/266486502921061539/

Arizona Department of Health Services
STD Control Update

Ryan Kreisberg, MPH
January 20, 2017
APIC Meeting
Health Services Advisory Group

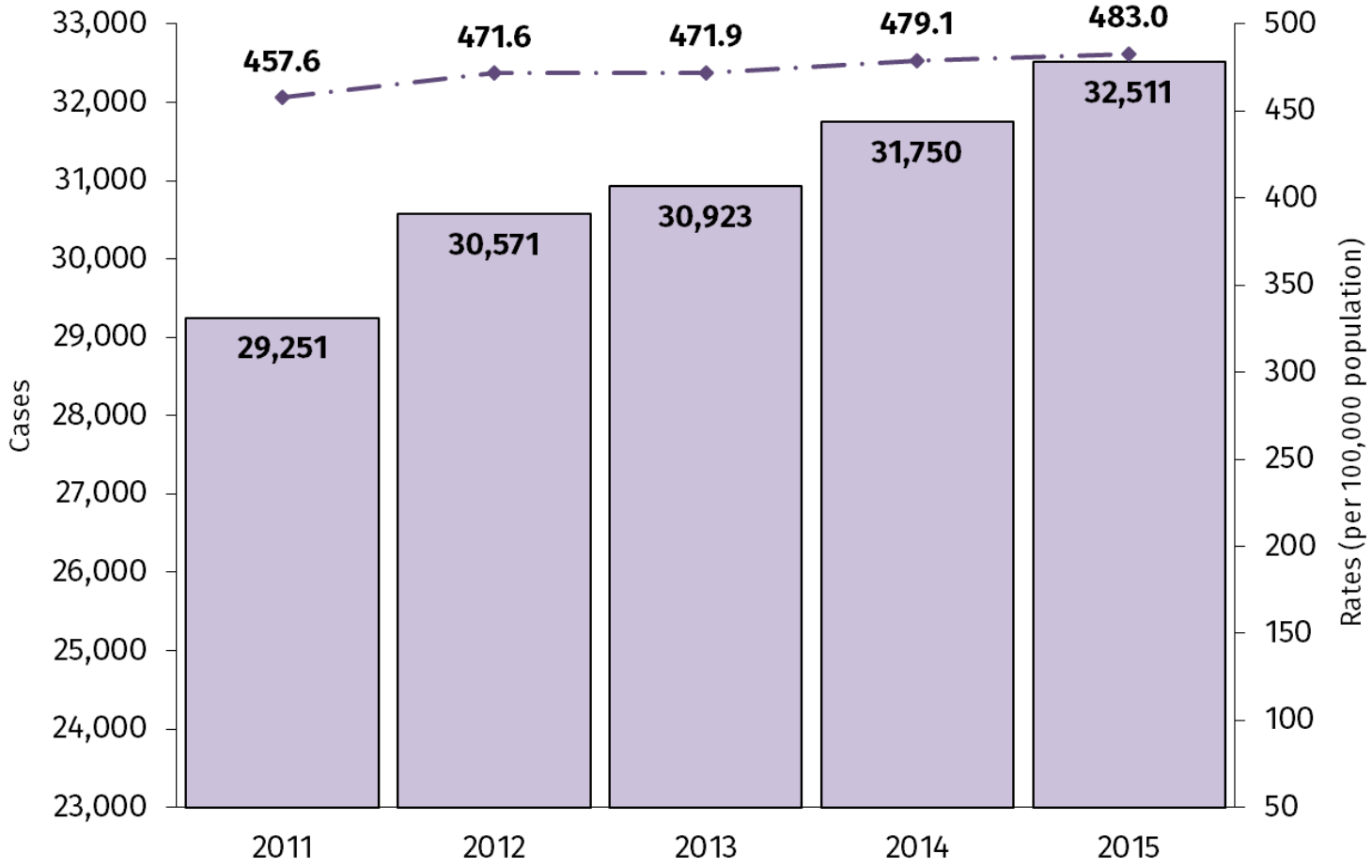
Objectives

- Review the epidemiology of reportable sexually transmitted diseases in the state of Arizona
- Review the importance of STD treatment and prevention at the clinical level
- Review reporting opportunities for clinicians

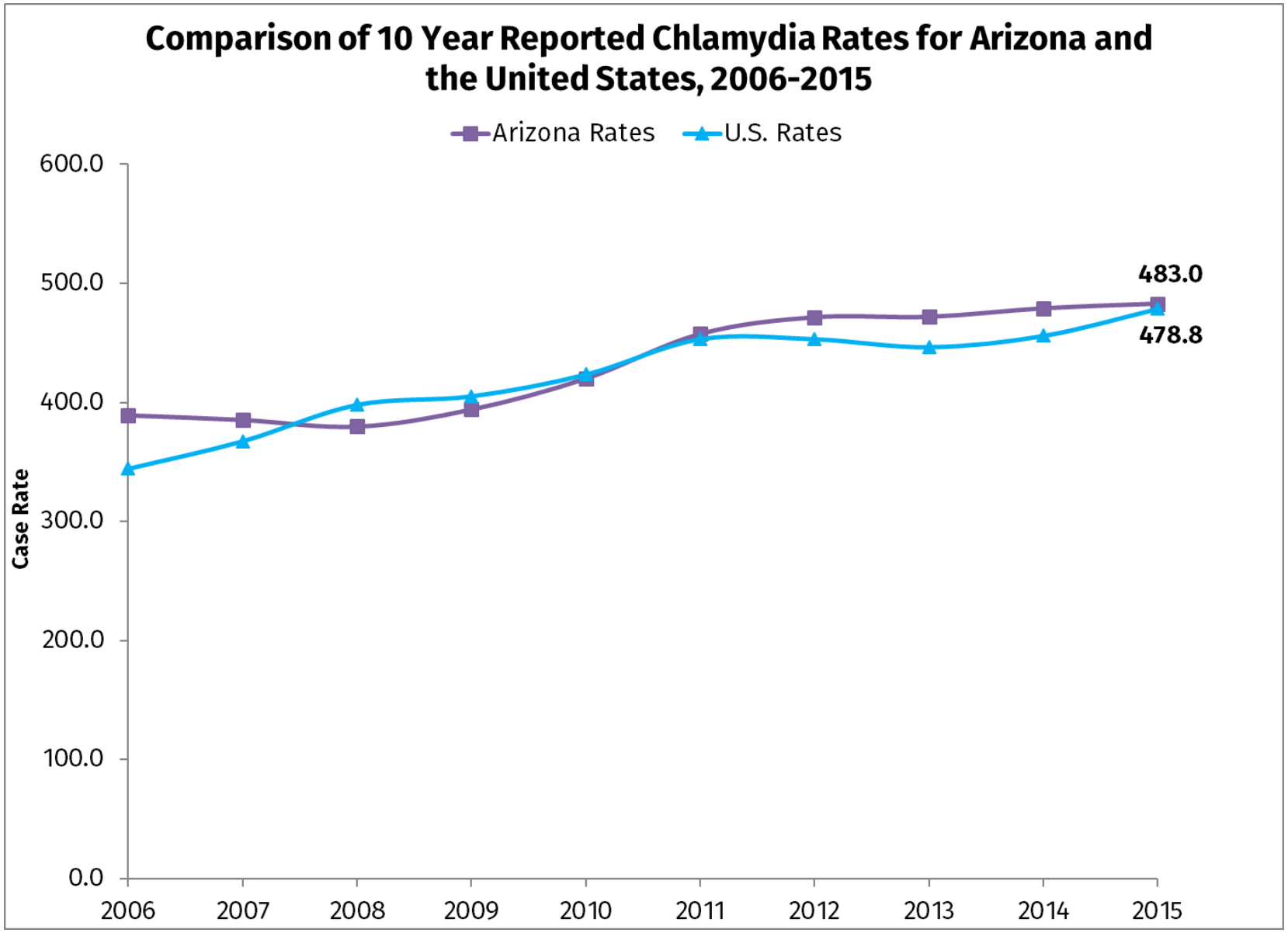
Today's Items

- Trends in chlamydia, gonorrhea and syphilis infections in Arizona, 2011-2015
- Preliminary numbers for 2016
- Treatment of STDs

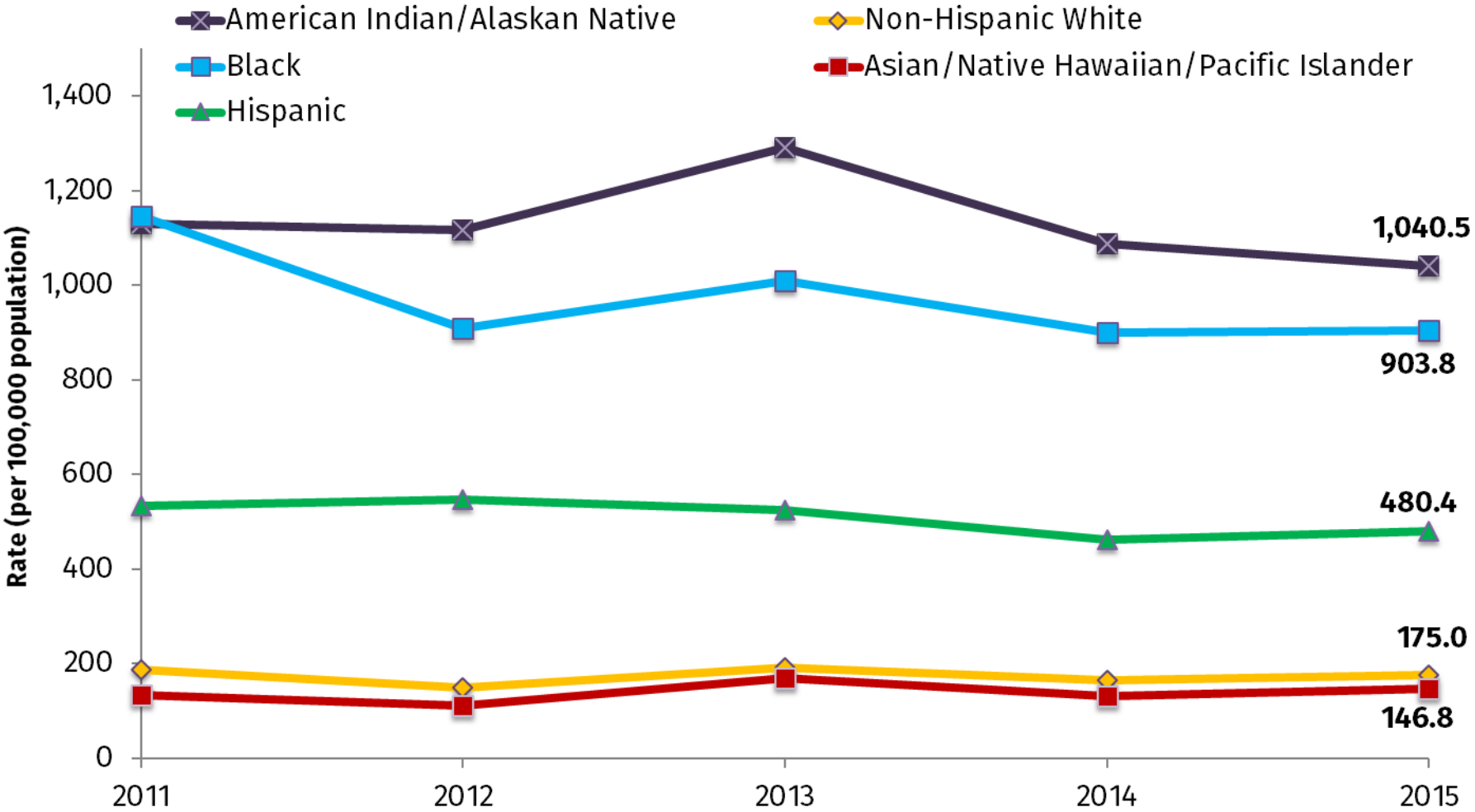
Chlamydia Cases and Case Rates, Arizona 2011-2015



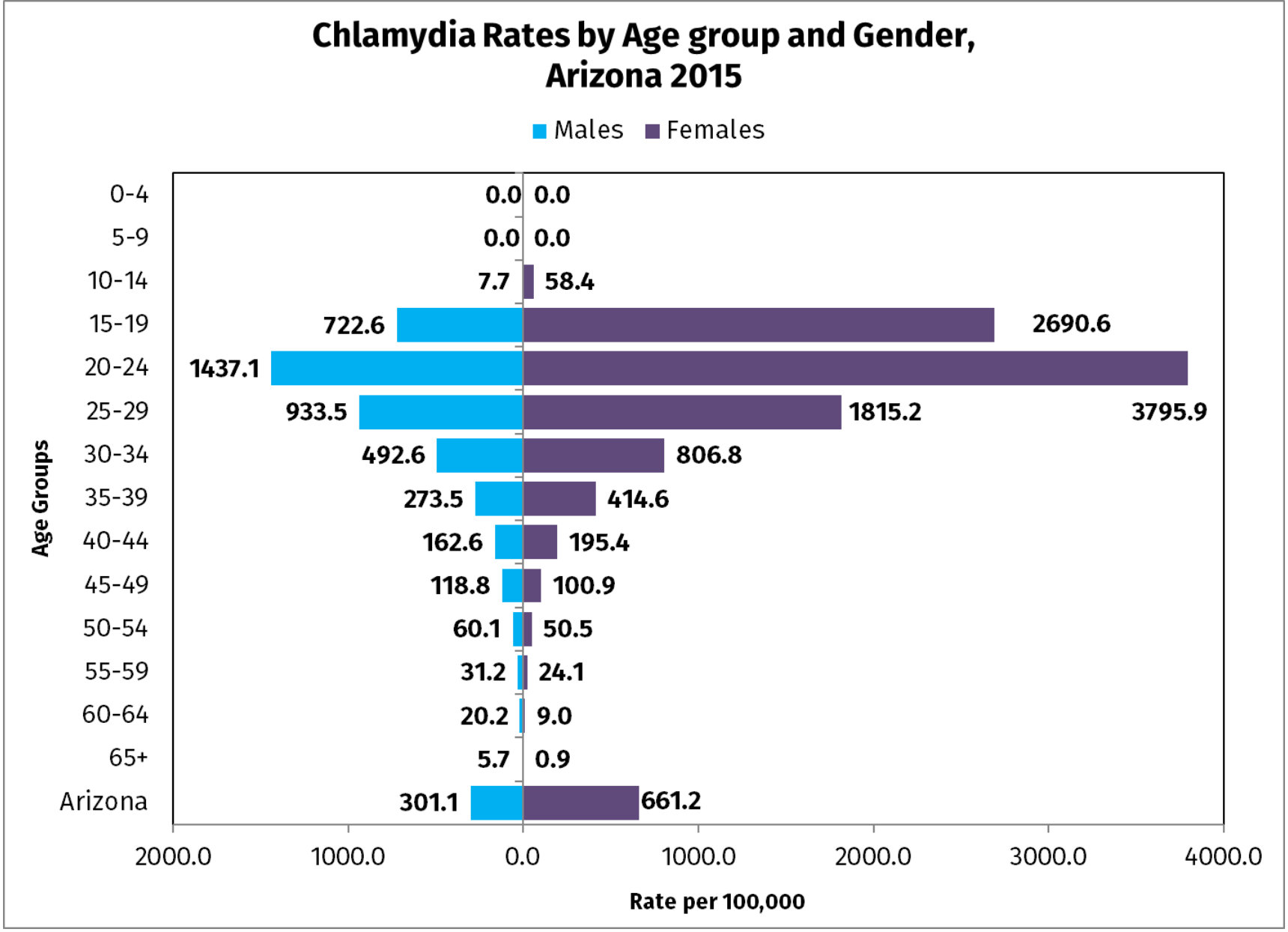
Data is provisional and subject to change.
* 2014 CDC bridged data used for 2015 case rate population denominators.


Comparison of 10 Year Reported Chlamydia Rates for Arizona and the United States, 2006-2015
Arizona Rates
U.S. Rates
Case Rate
600.0
500.0
400.0
300.0
200.0
100.0
0.0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
483.0
478.8

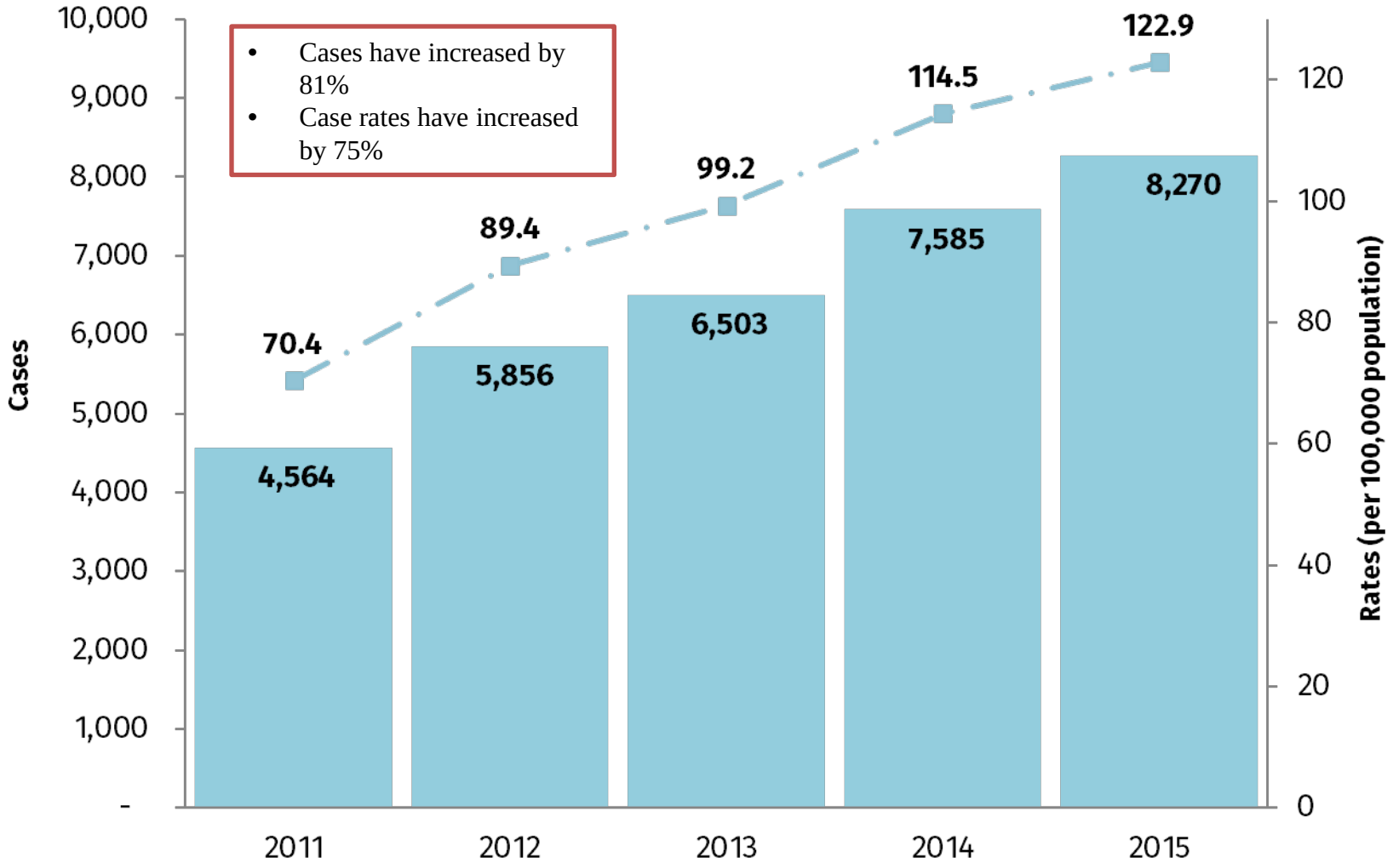
Chlamydia Case Rates by Race/Ethnicity*, Arizona 2011-2015



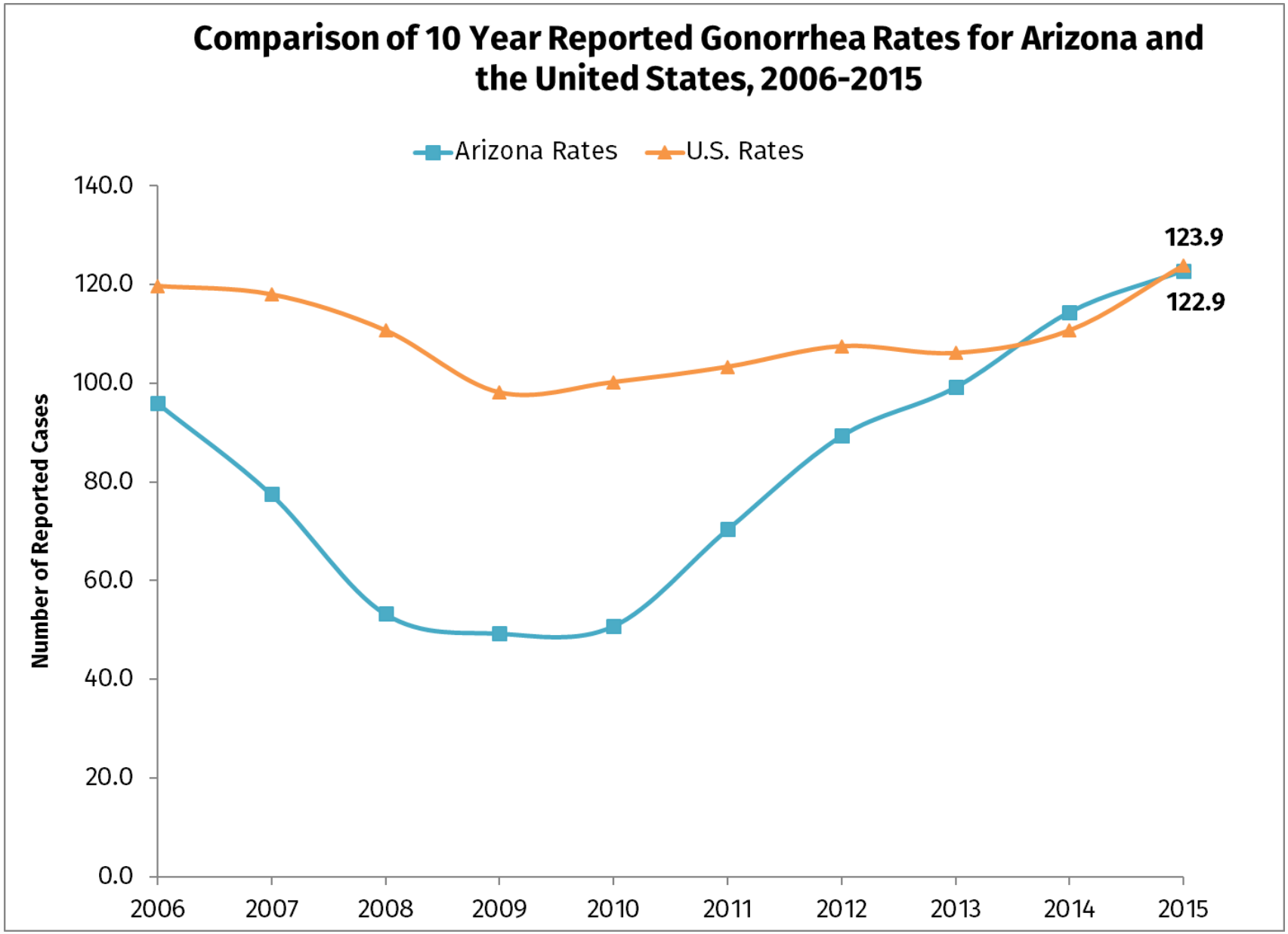
Data is provisional and subject to change.
2014 CDC bridged data used for 2015 case rate population denominators.
* Due to data collection limitations, race/ethnicity rate data may be skewed


Chlamydia Rates by Age group and Gender, Arizona 2015
Males
Females
Age Groups
0-4
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65+
Arizona
0.0
0.0
0.0
0.0
7.7
58.4
722.6
2690.6
1437.1
933.5
1815.2
3795.9
492.6
806.8
273.5
414.6
162.6
195.4
118.8
100.9
60.1
50.5
31.2
24.1
20.2
9.0
5.7
0.9
301.1
661.2
2000.0
1000.0
0.0
1000.0
2000.0
3000.0
4000.0
Rate per 100,000

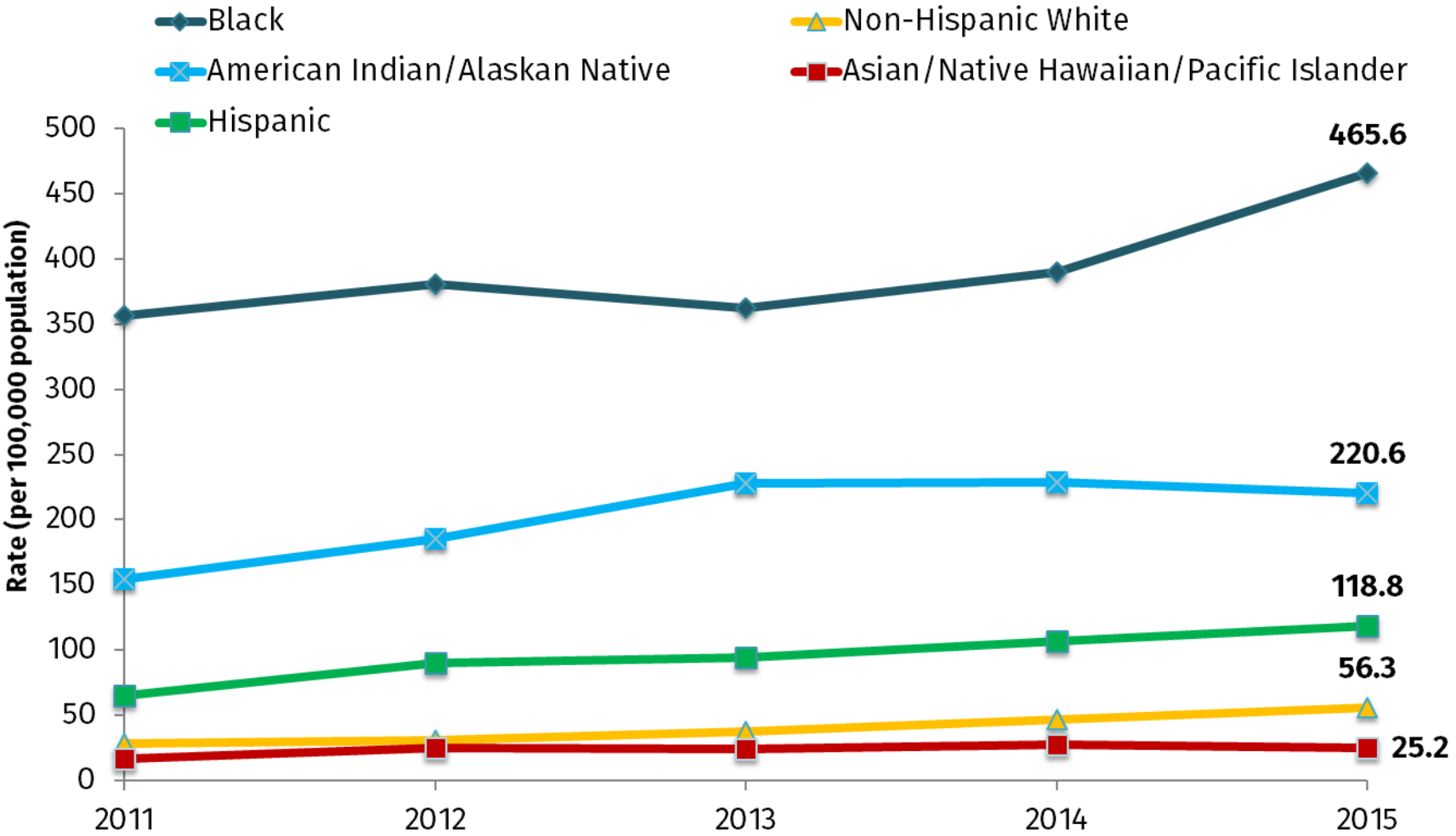
Gonorrhea Cases and Rates, Arizona 2011-2015



Data is provisional and subject to change.
*2014 CDC bridged data used for 2015 case rate population denominators.

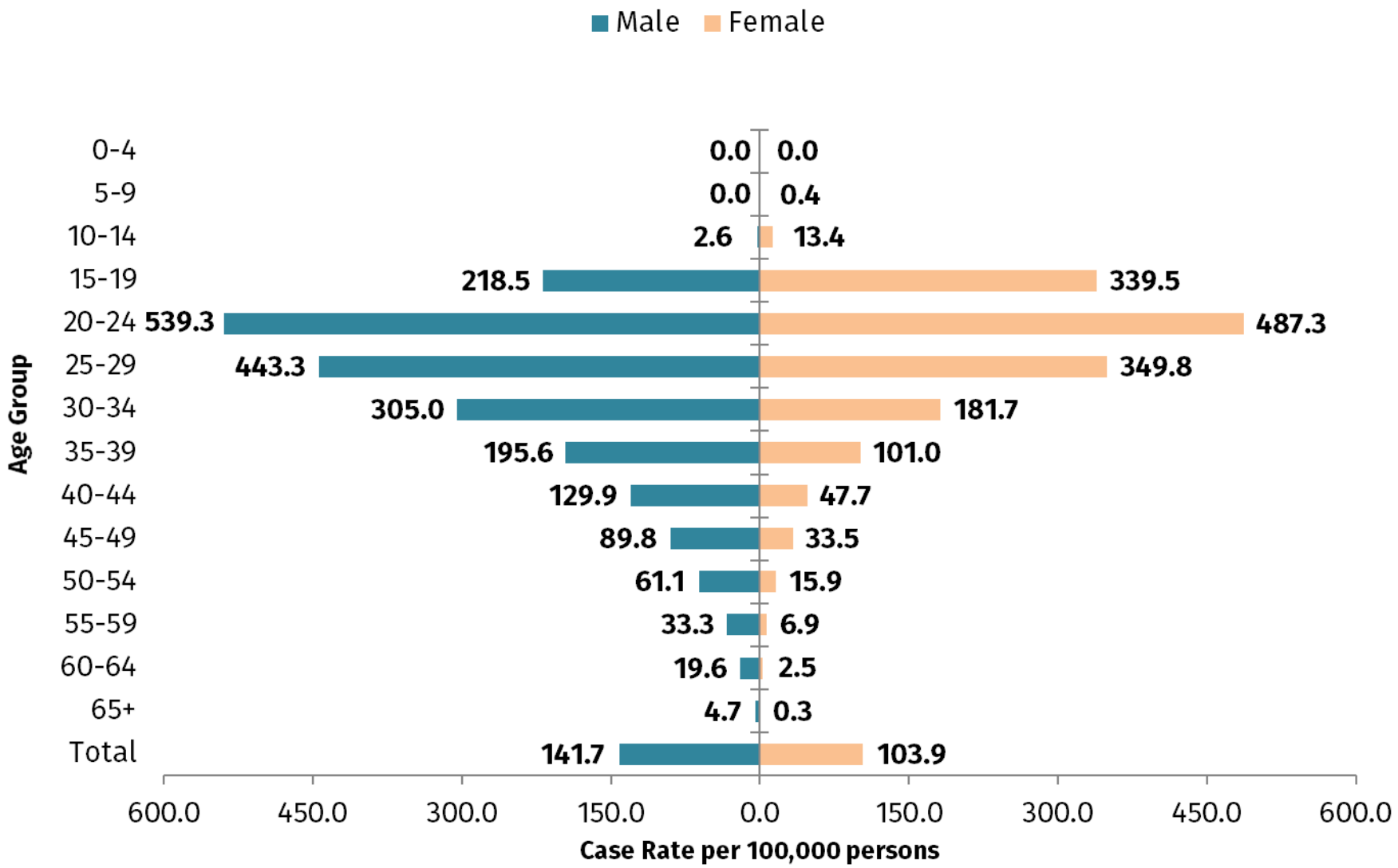

Comparison of 10 Year Reported Gonorrhea Rates for Arizona and the United States, 2006-2015
Arizona Rates
U.S. Rates
Number of Reported Cases
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
123.9
122.9

Gonorrhea Case Rates by Race/Ethnicity*, Arizona 2011-2015

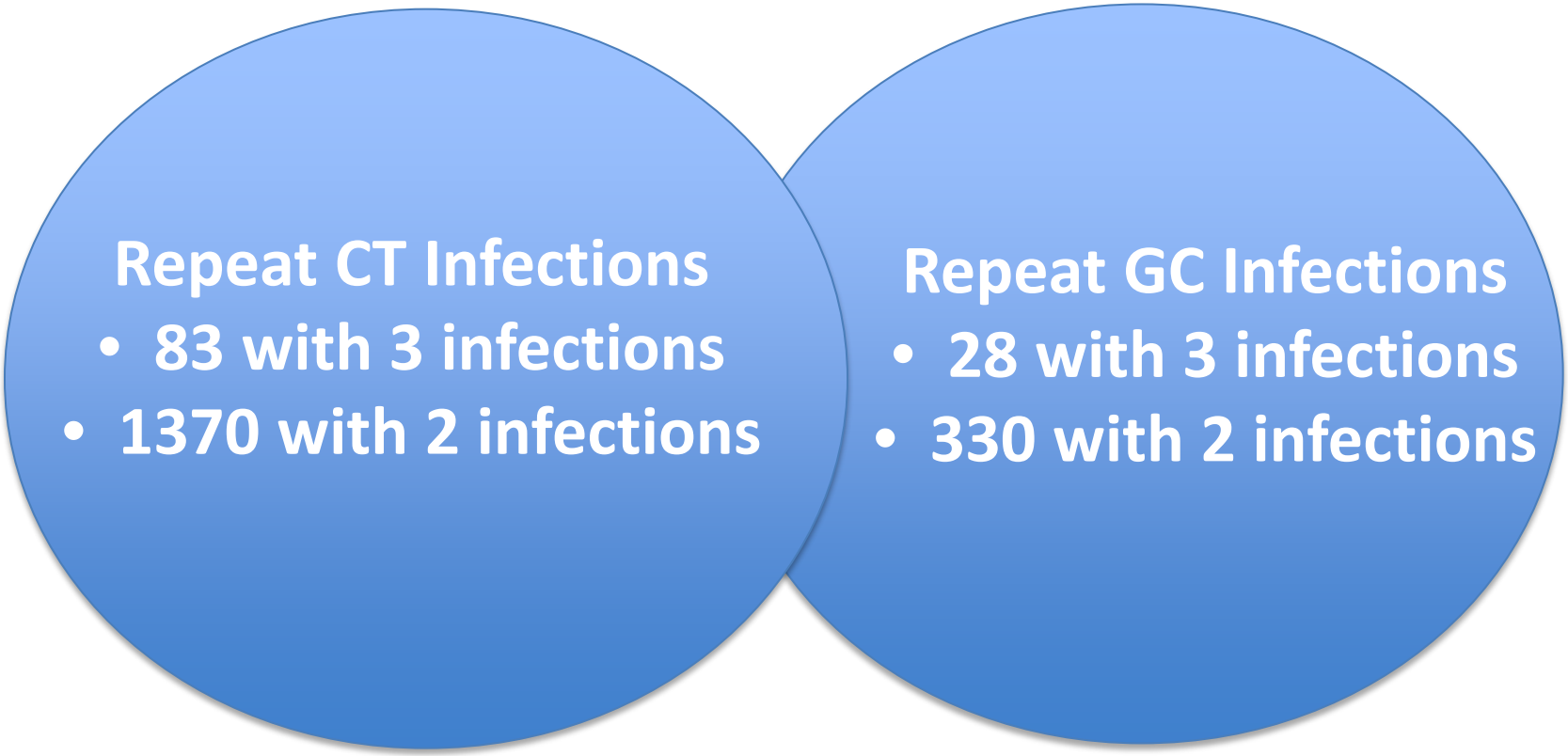


Data is provisional and subject to change.
2014 CDC bridged data used for 2015 case rate population denominators.
*Due to data collection limitations, race/ethnicity data may be skewed.

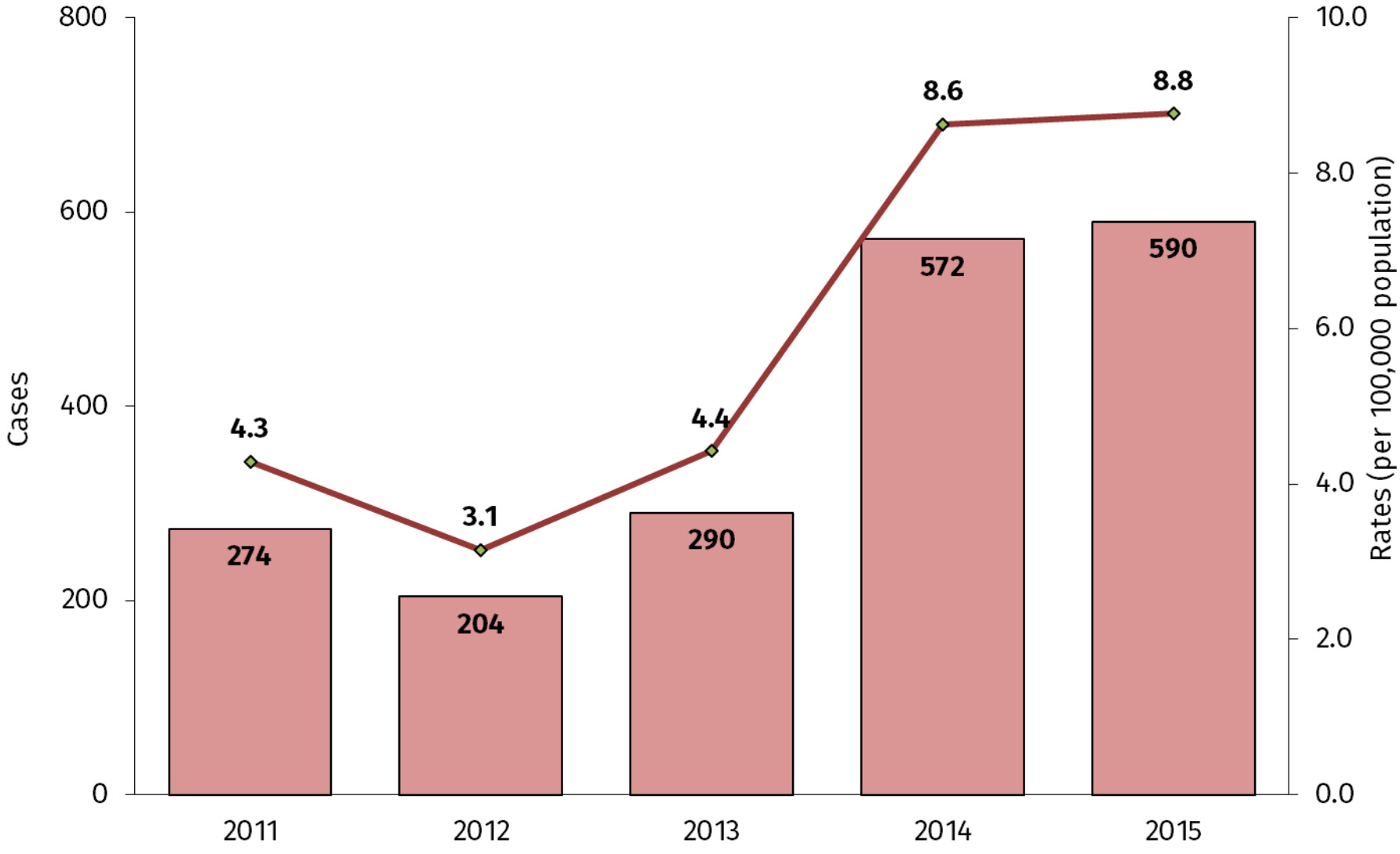
Gonorrhea Rates by Age Group and Gender, Arizona 2015



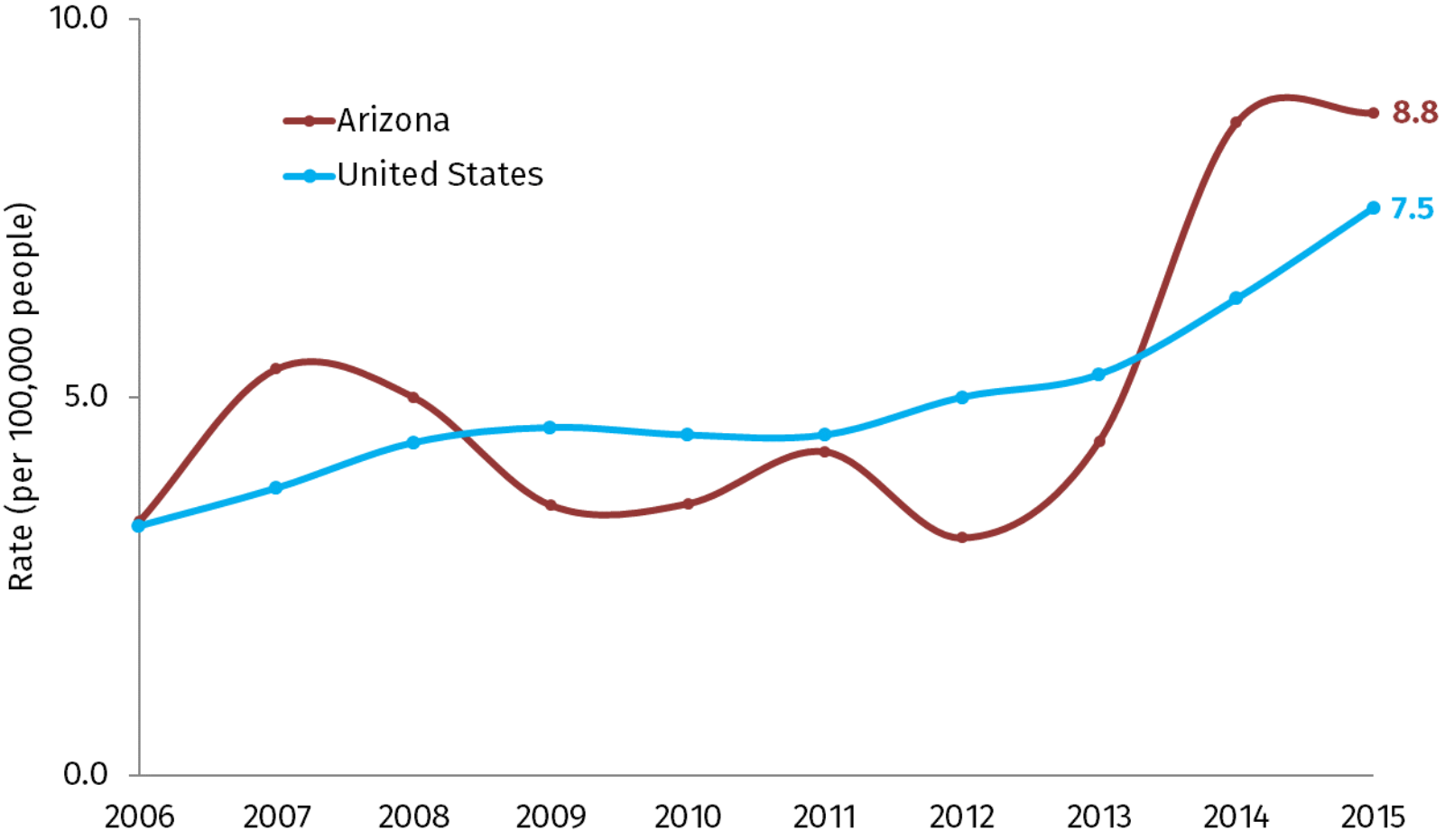
Repeat Infections



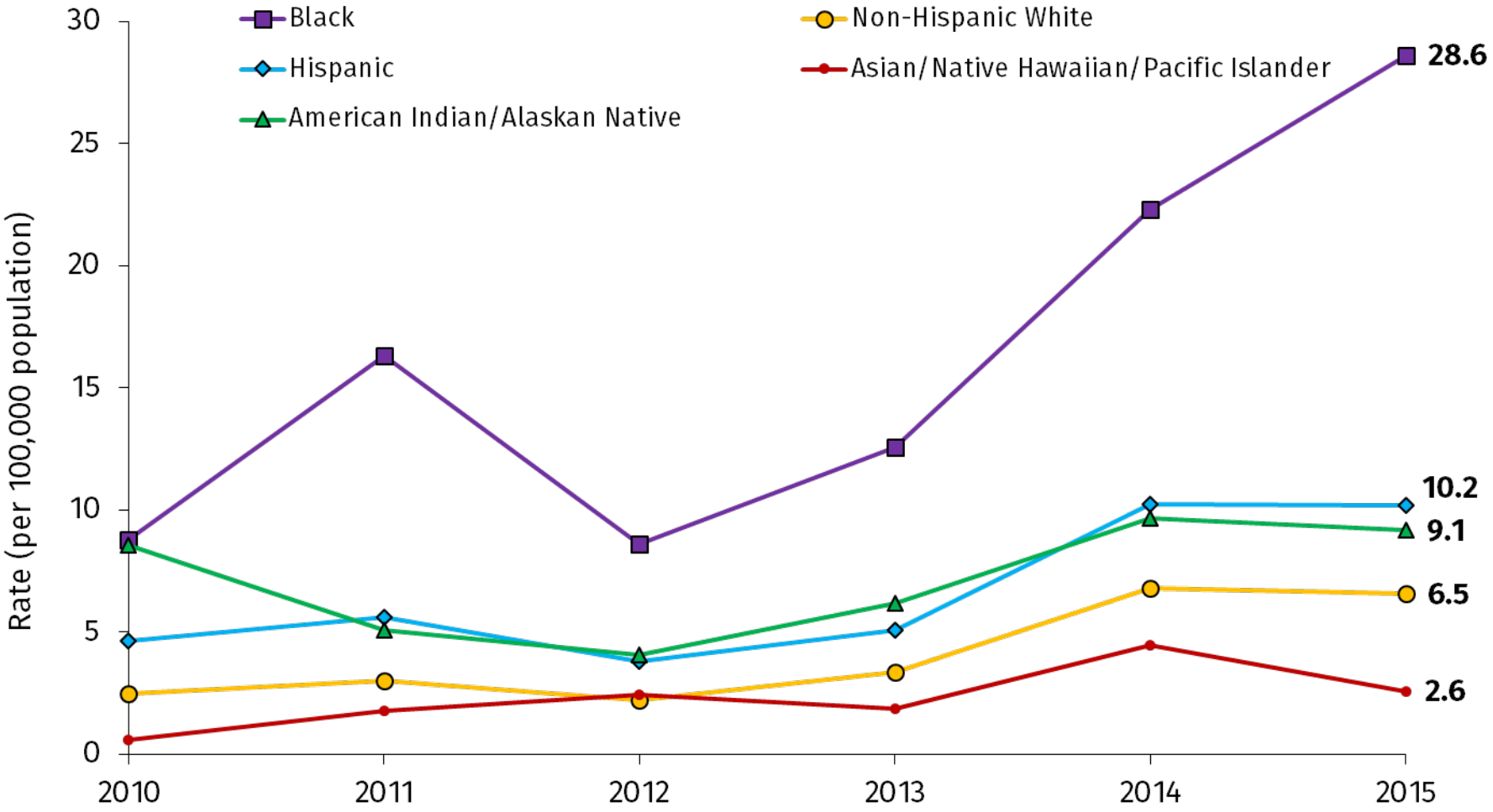
Primary and Secondary Syphilis, Arizona 2011-2015



Primary and Secondary Syphilis Rates per 100,000 in the United States and Arizona, 2006 - 2015

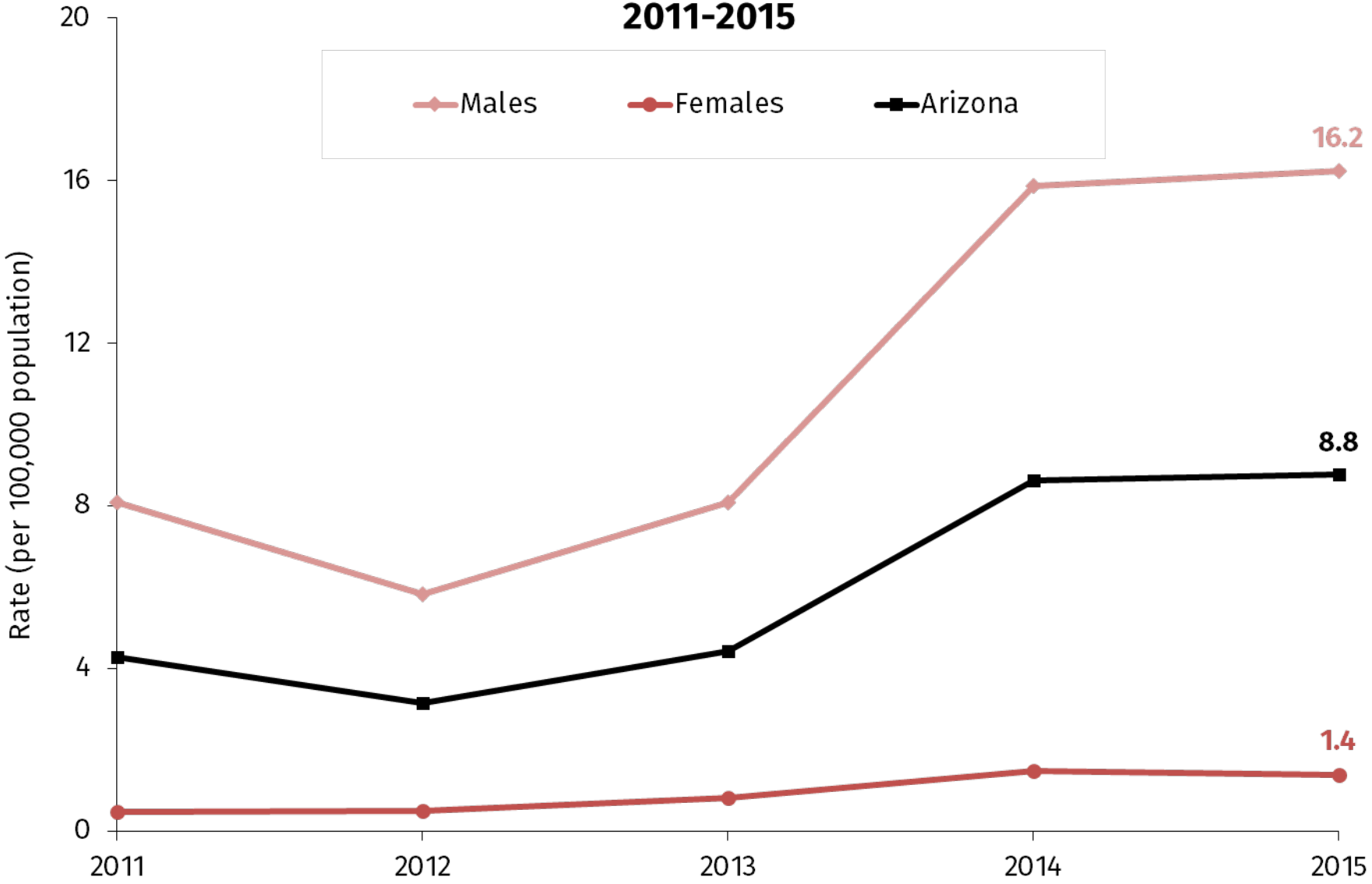


Primary and Secondary Syphilis Case Rates by Race/ Ethnicity*, Arizona 2010 - 2015

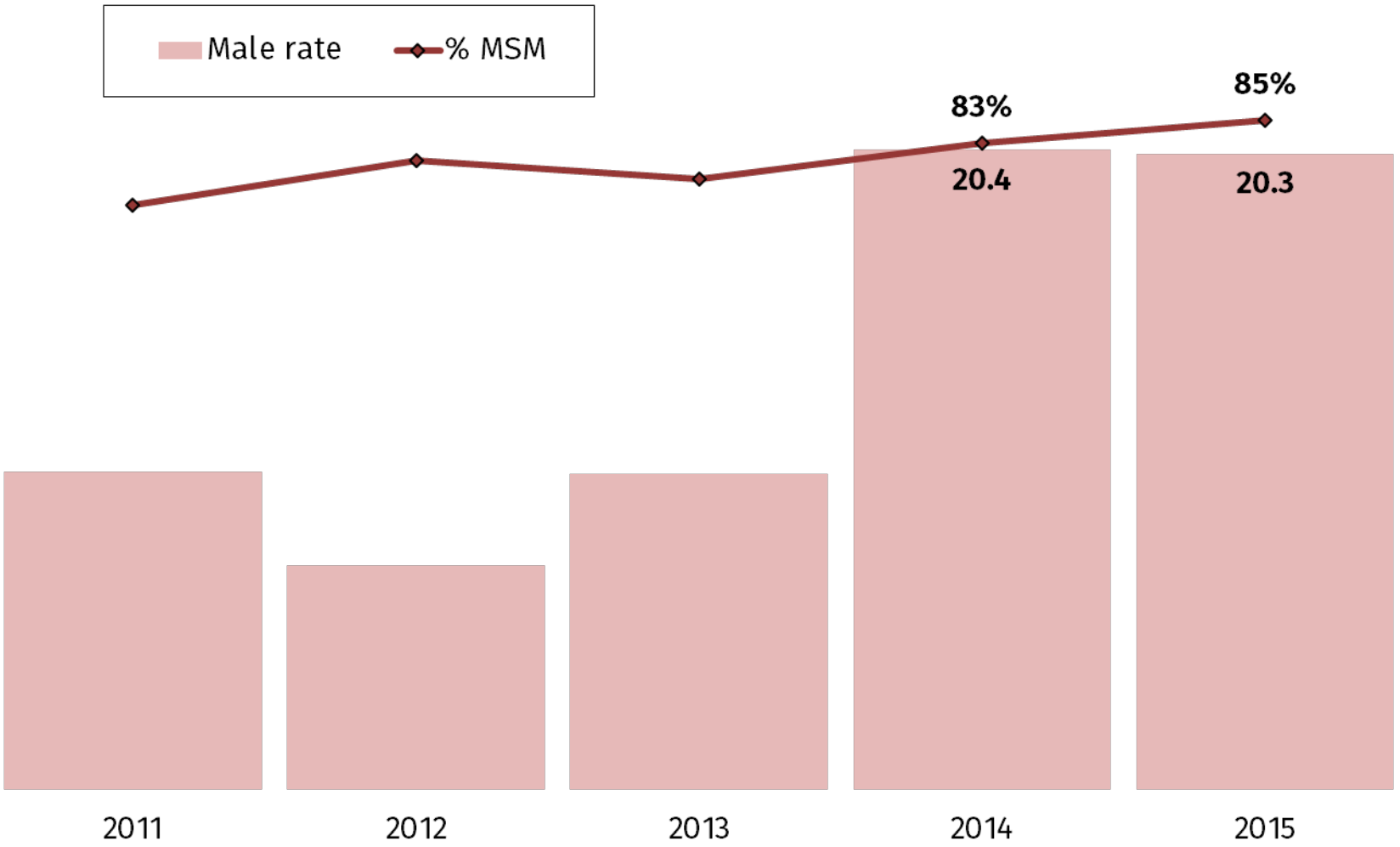


Data is provisional and subject to change.
2014 CDC bridged data used for 2015 case rate population denominators.
* Due to data collection limitations, race/ethnicity rate data may be skewed

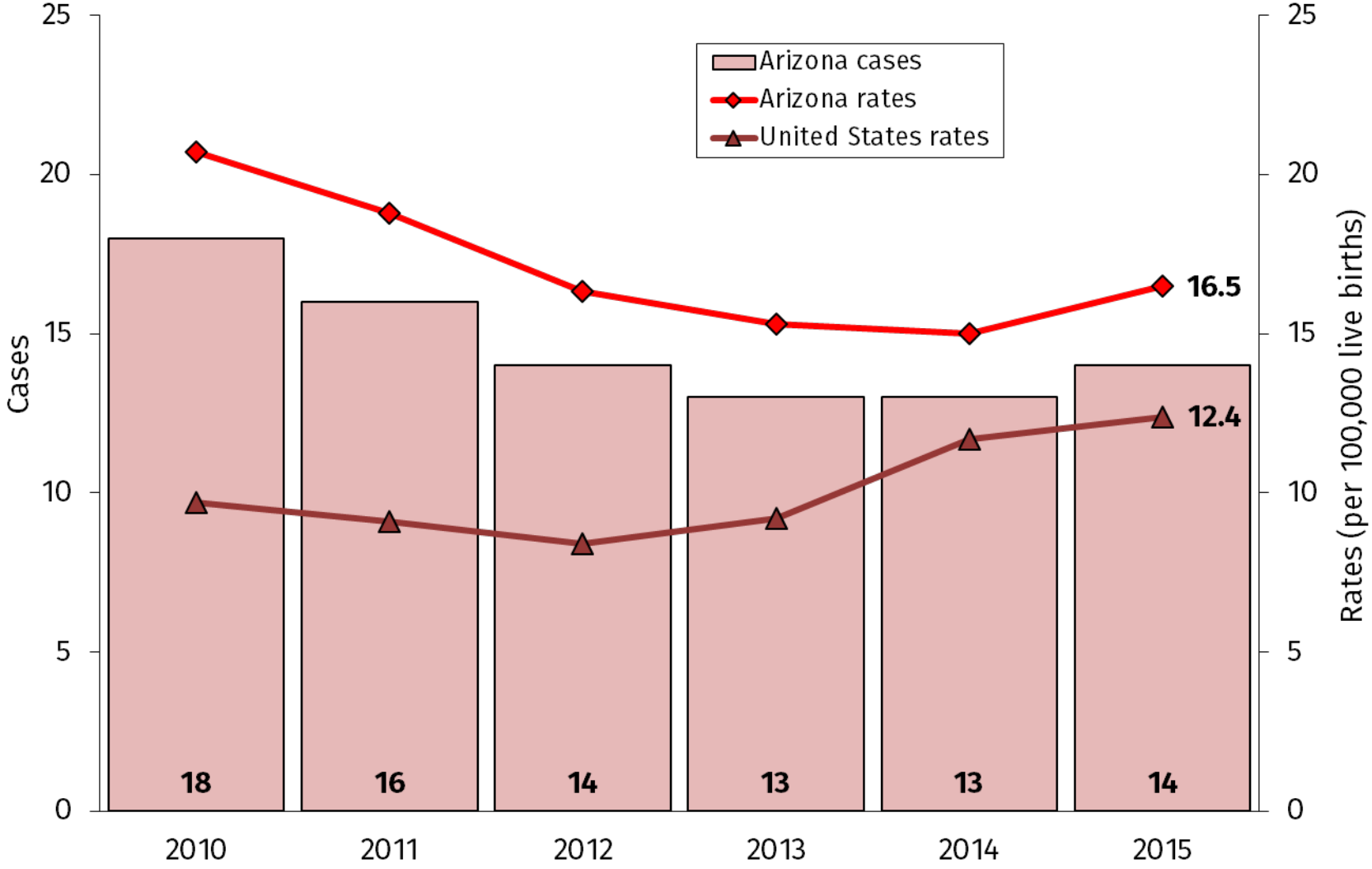
Primary and Secondary Syphilis Case Rates by Gender, Arizona 2011-2015



Rate per 100,000 of Primary and Secondary Syphilis Cases among Males and the Percentage of Male Cases that Identify as MSM, Maricopa and Pima Counties, 2011-2015



Congenital Syphlis Cases and Case Rates per 100,000 Live Births by Birth Year, Arizona and United States 2010-2015



Treating Chlamydia in AZ

CDC Recommended Regimens

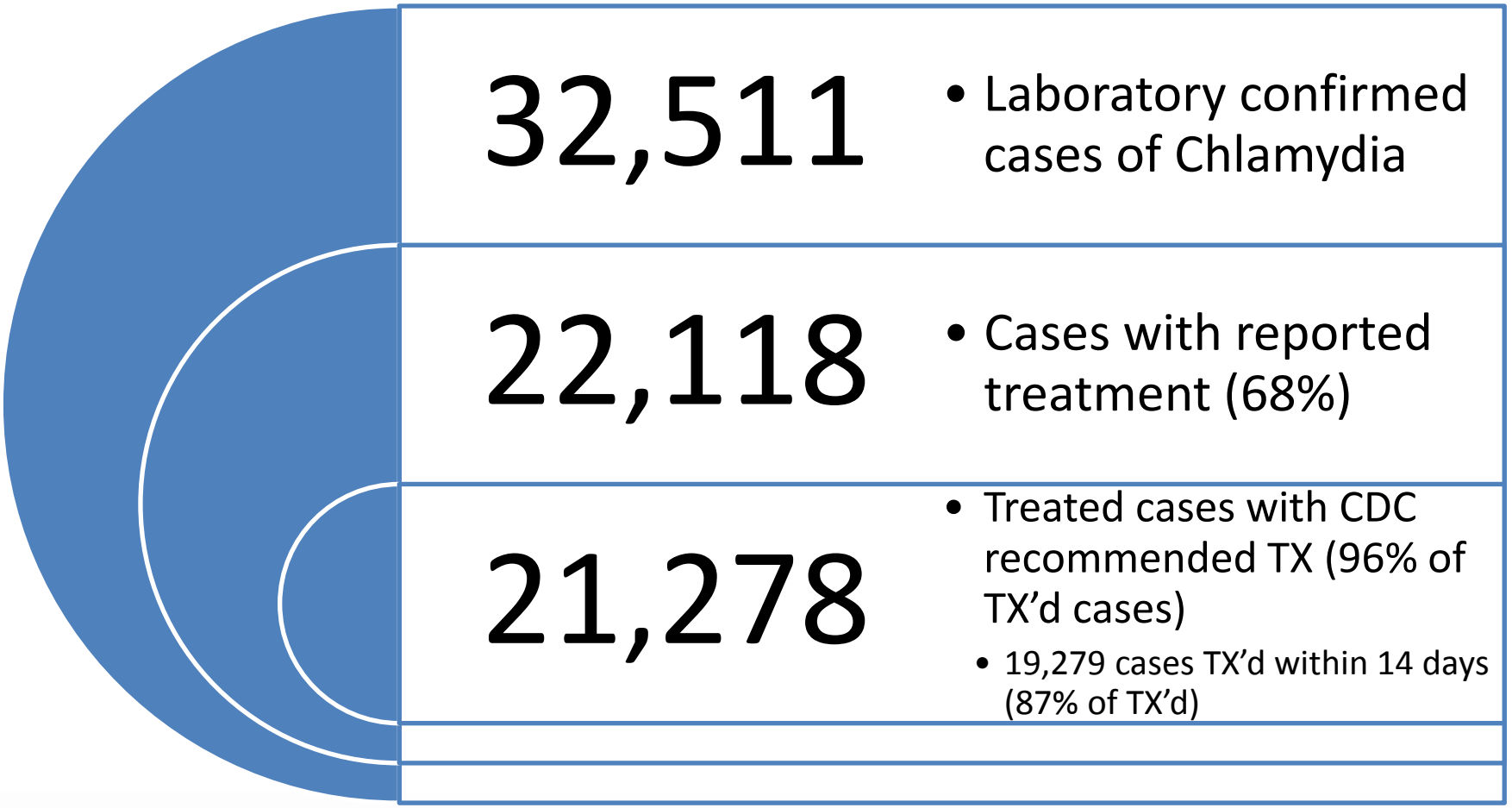
- **Azithromycin** 1g

OR

- **Doxycycline** 100mg bid/7 days

Full CDC guidelines can be found at: http://www.cdc.gov/std/tg2015/

Treatment of Reported Chlamydia Cases, Arizona 2015



Treating Gonorrhea in AZ

CDC Recommended Regimen

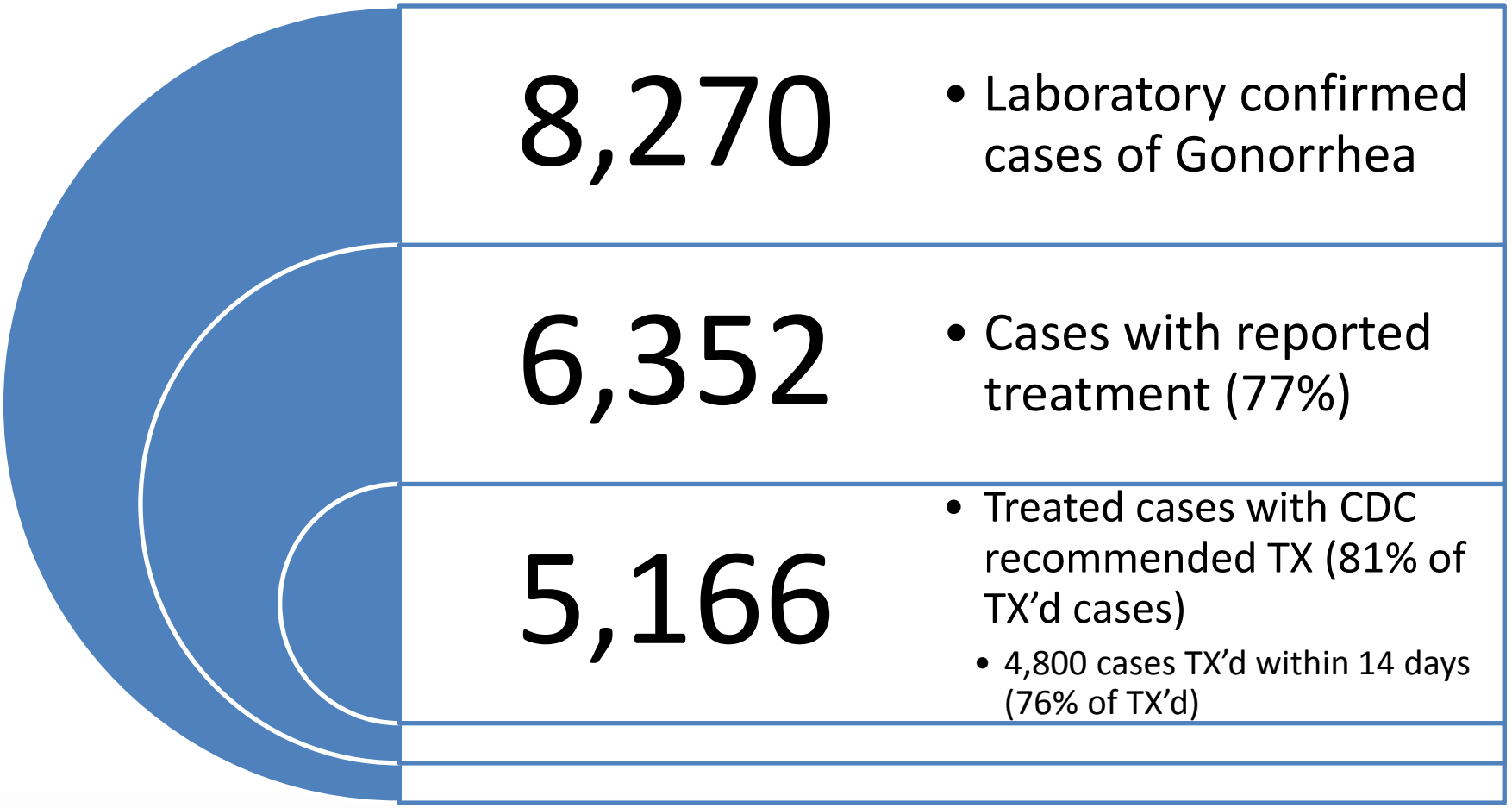
Ceftriaxone (Rocephin) 250mg IM

PLUS

Azithromycin 1g

Full CDC guidelines can be found at: http://www.cdc.gov/std/tg2015/

Treatment of Reported Gonorrhea Cases, Arizona 2015



Questions? Concerns?

Please feel free to contact us (ADHS STD Control Program) with any questions you have regarding:

- STD Reporting
- STD Treatment
- Partner Services Referrals

THANK YOU!

Ryan Kreisberg | Senior Epidemiologist

ryan.kreisberg@azdhs.gov | 602-364-4761

azhealth.gov

@azdhs

facebook.com/azdhs

HIV Epidemiology in Arizona

Victoria Hansen, MS
HIV Surveillance Epidemiologist, ADHS

Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

In the US...

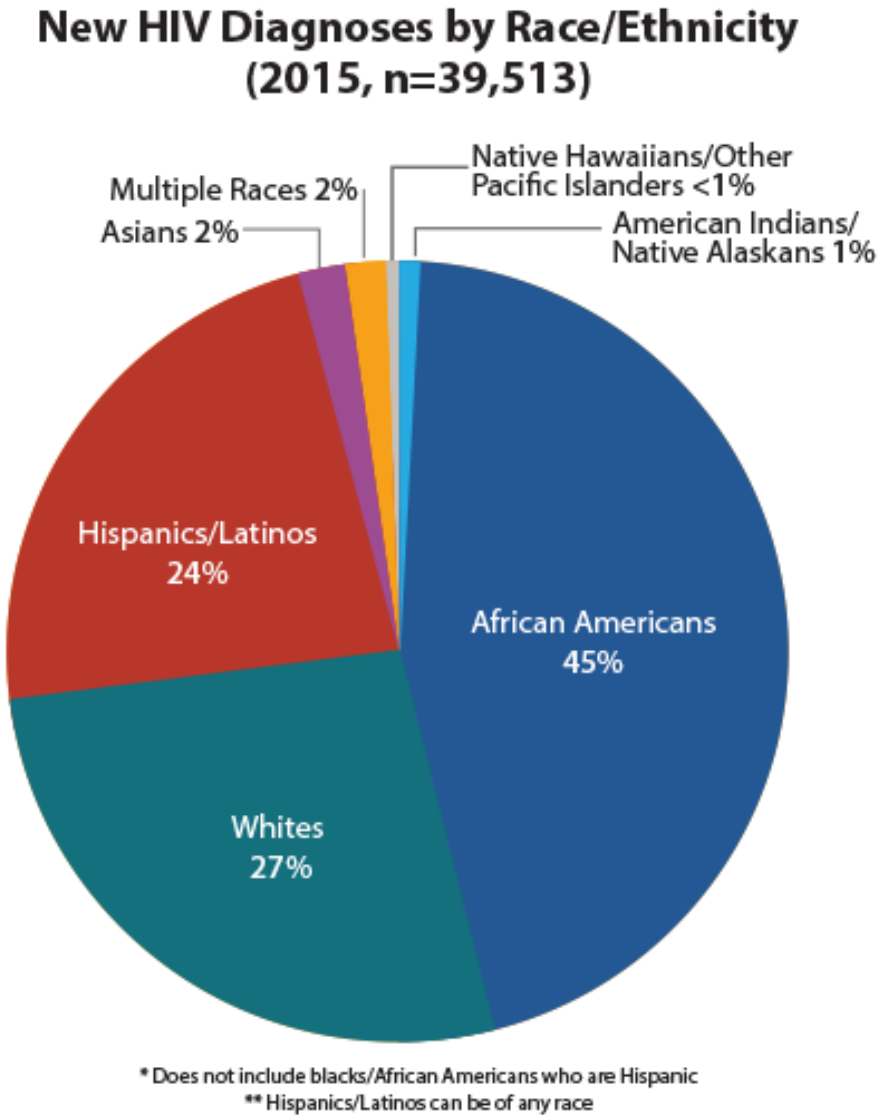
39,513 people were diagnosed with HIV in 2015,

1.2 million people were living with HIV at the end of 2013,

6,721 people died from HIV and AIDS in 2014

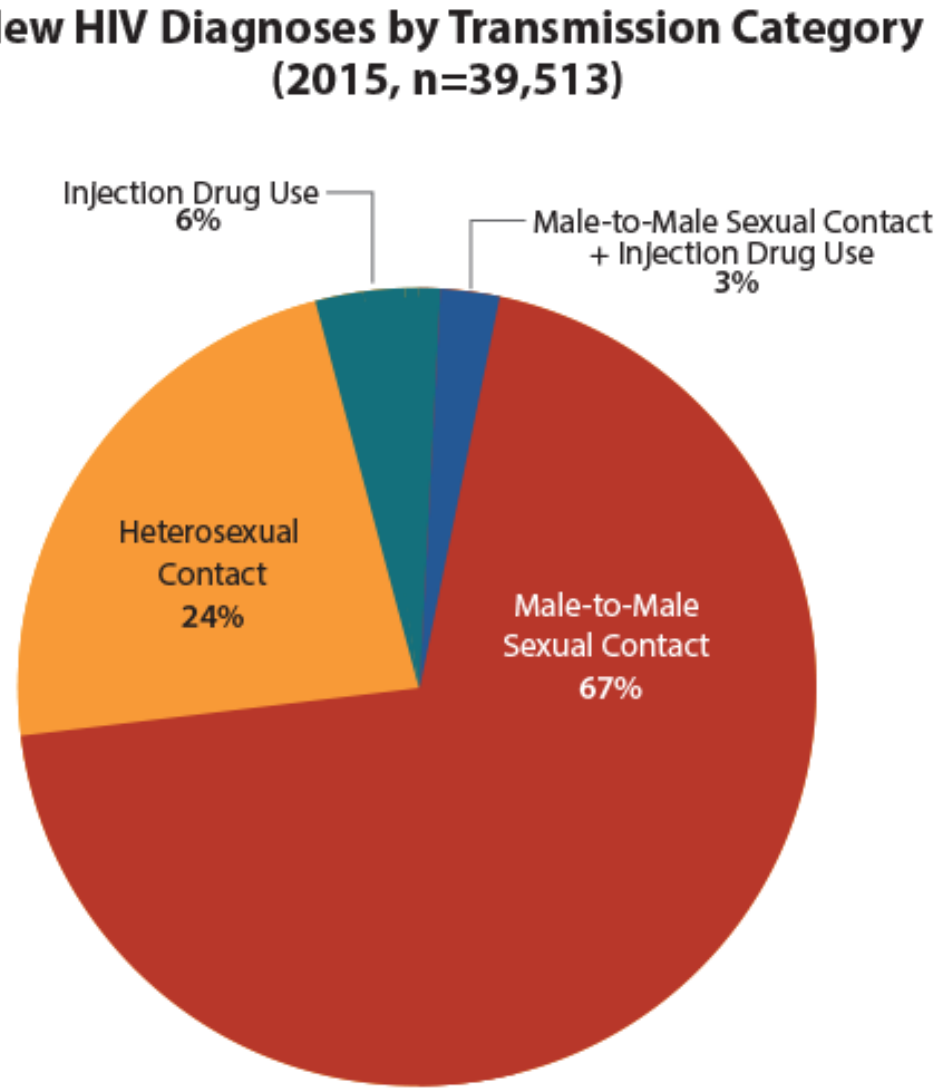
Source: https://www.cdc.gov/hiv/basics/statistics.html

In the US…



Source: https://www.cdc.gov/hiv/basics/statistics.html

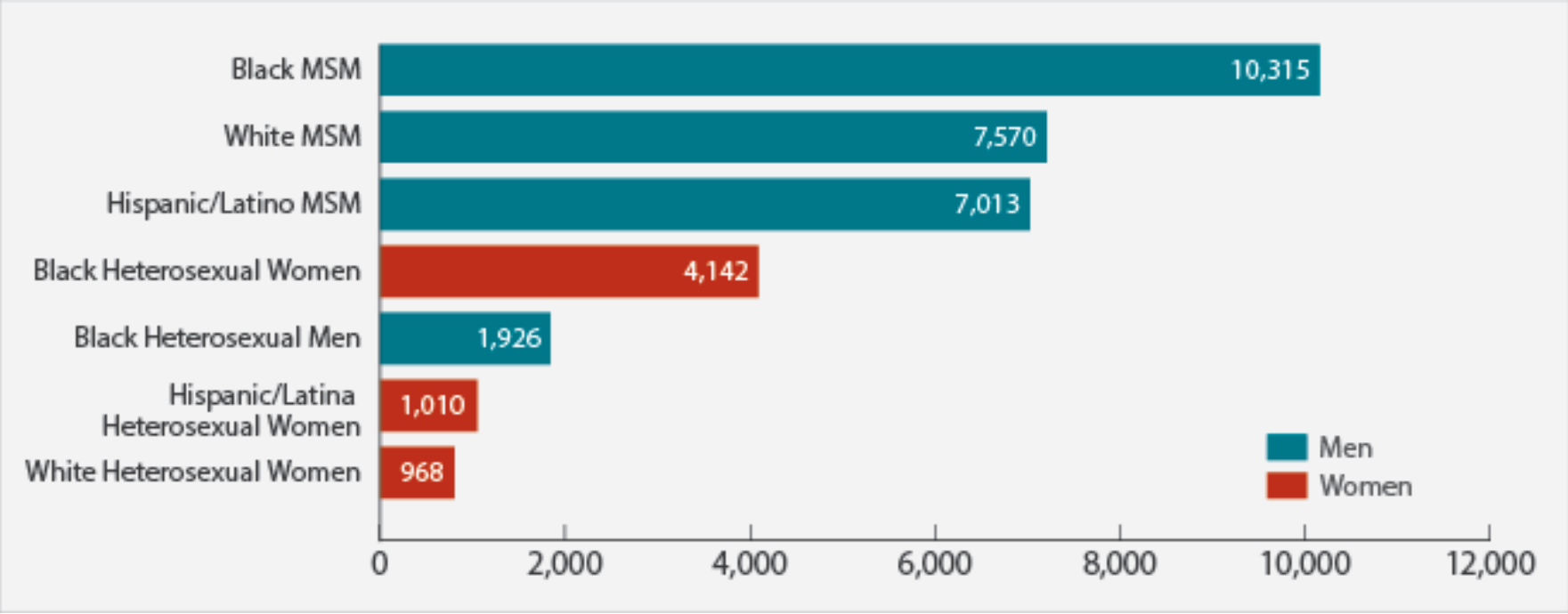
In the US…



Source: https://www.cdc.gov/hiv/basics/statistics.html

In the US…

New HIV Diagnoses in the United States for the Most-Affected Subpopulations, 2015



Source: https://www.cdc.gov/hiv/statistics/overview/ataglance.html

Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

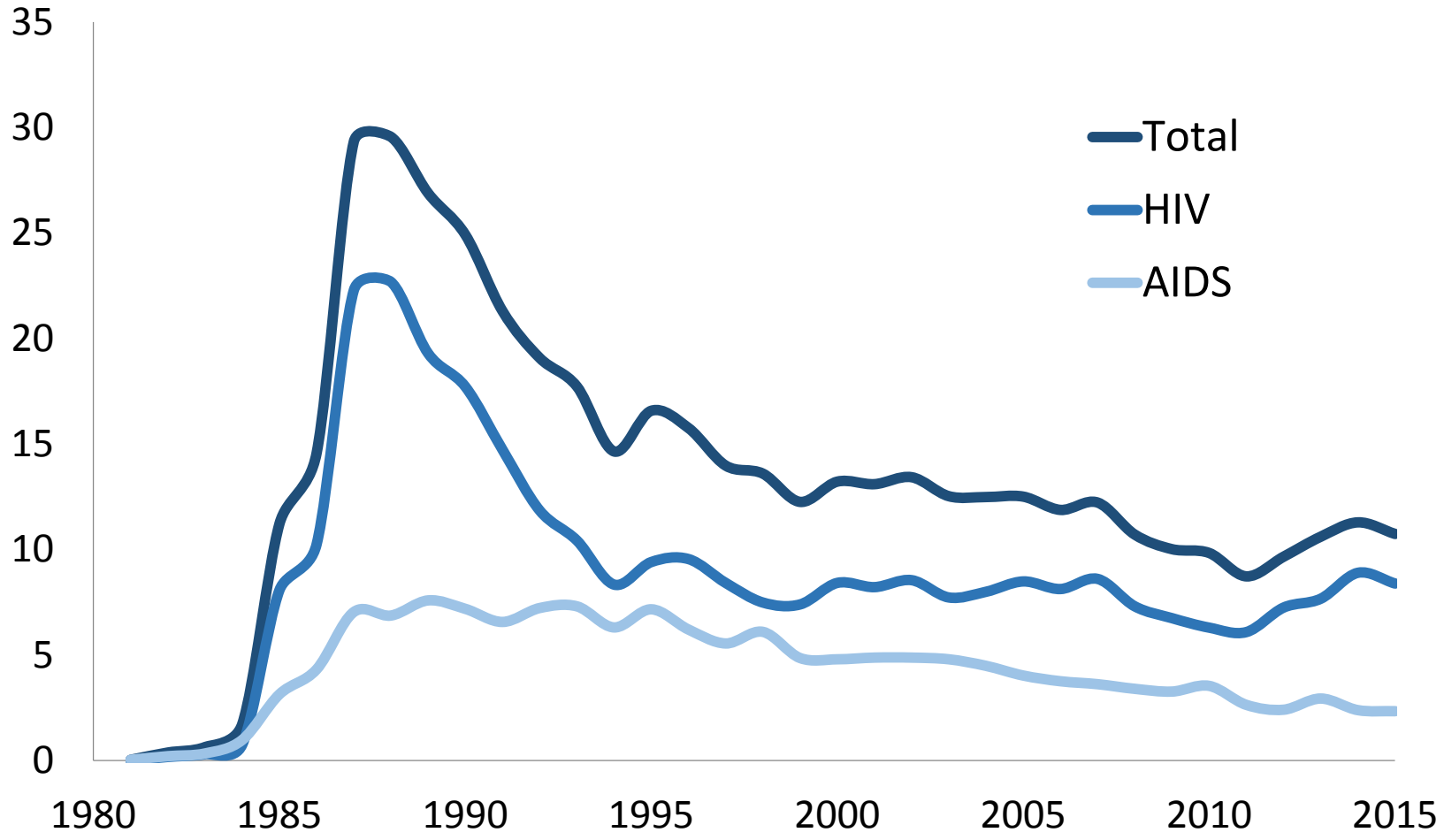
In 2015...

719 Arizonans were diagnosed with HIV,

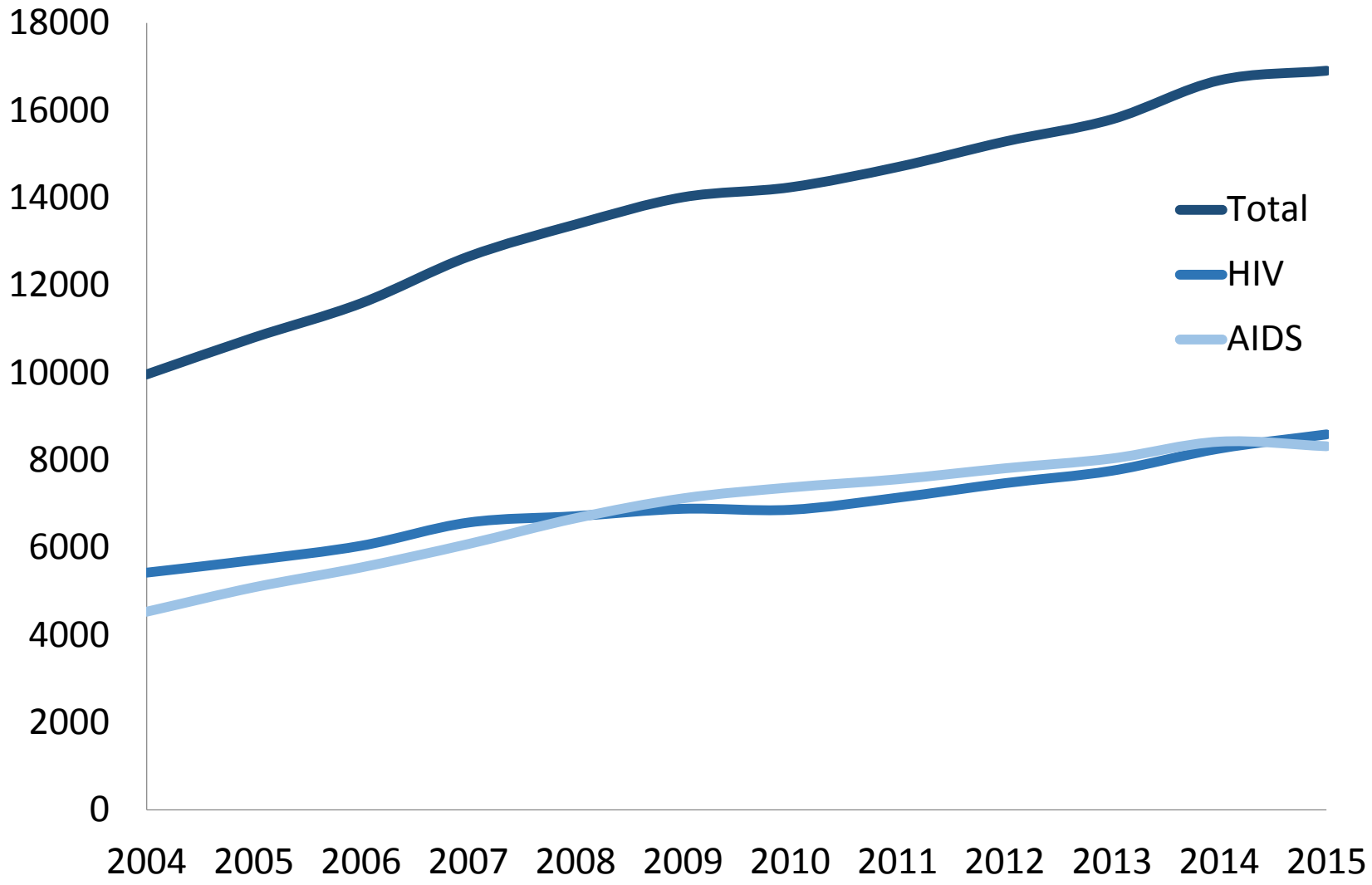
17,349 were living with HIV,

196 died from HIV and AIDS

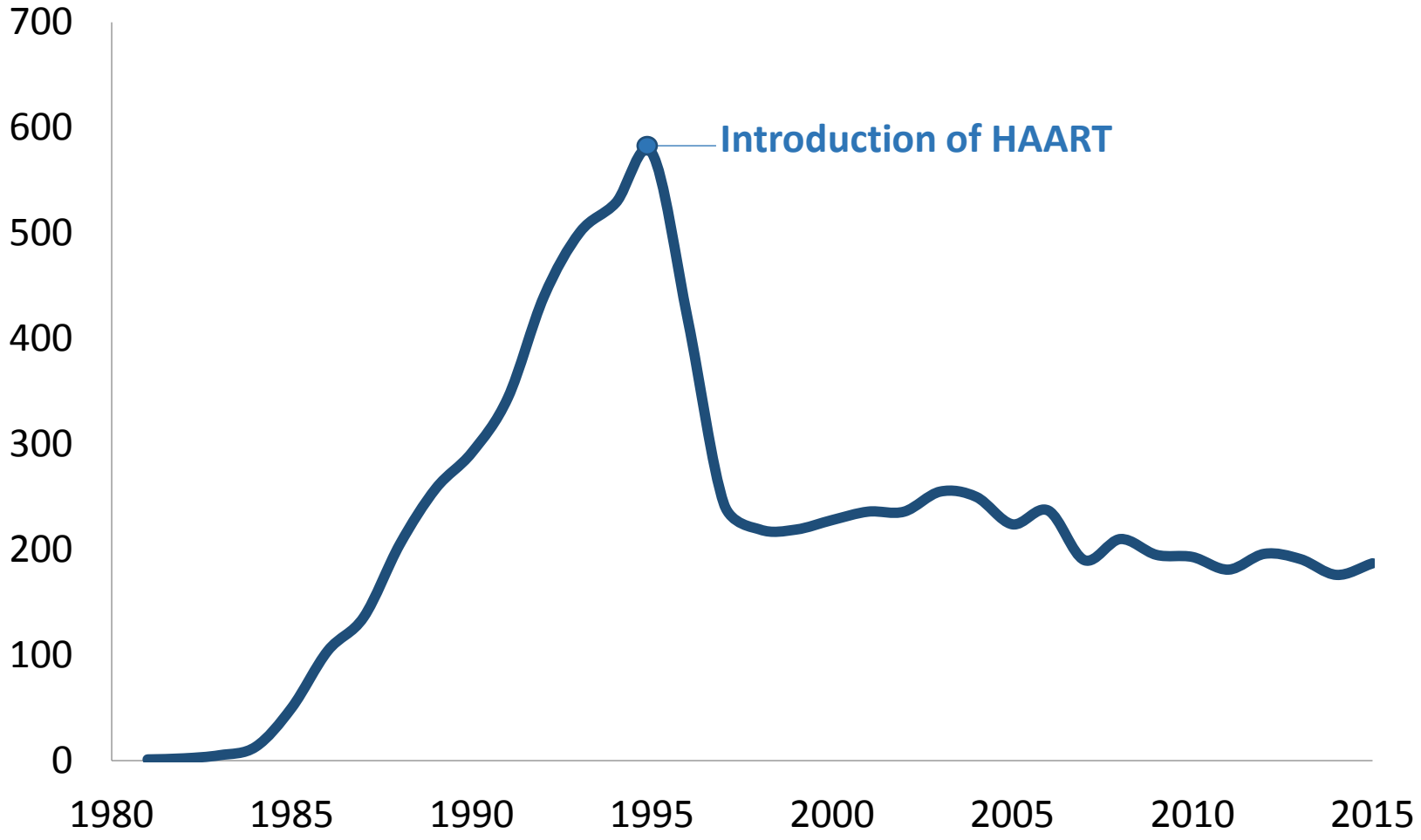
HIV/AIDS incidence rate per 100,000, 1980-2015



Arizona HIV/AIDS prevalence counts, 2004-2015



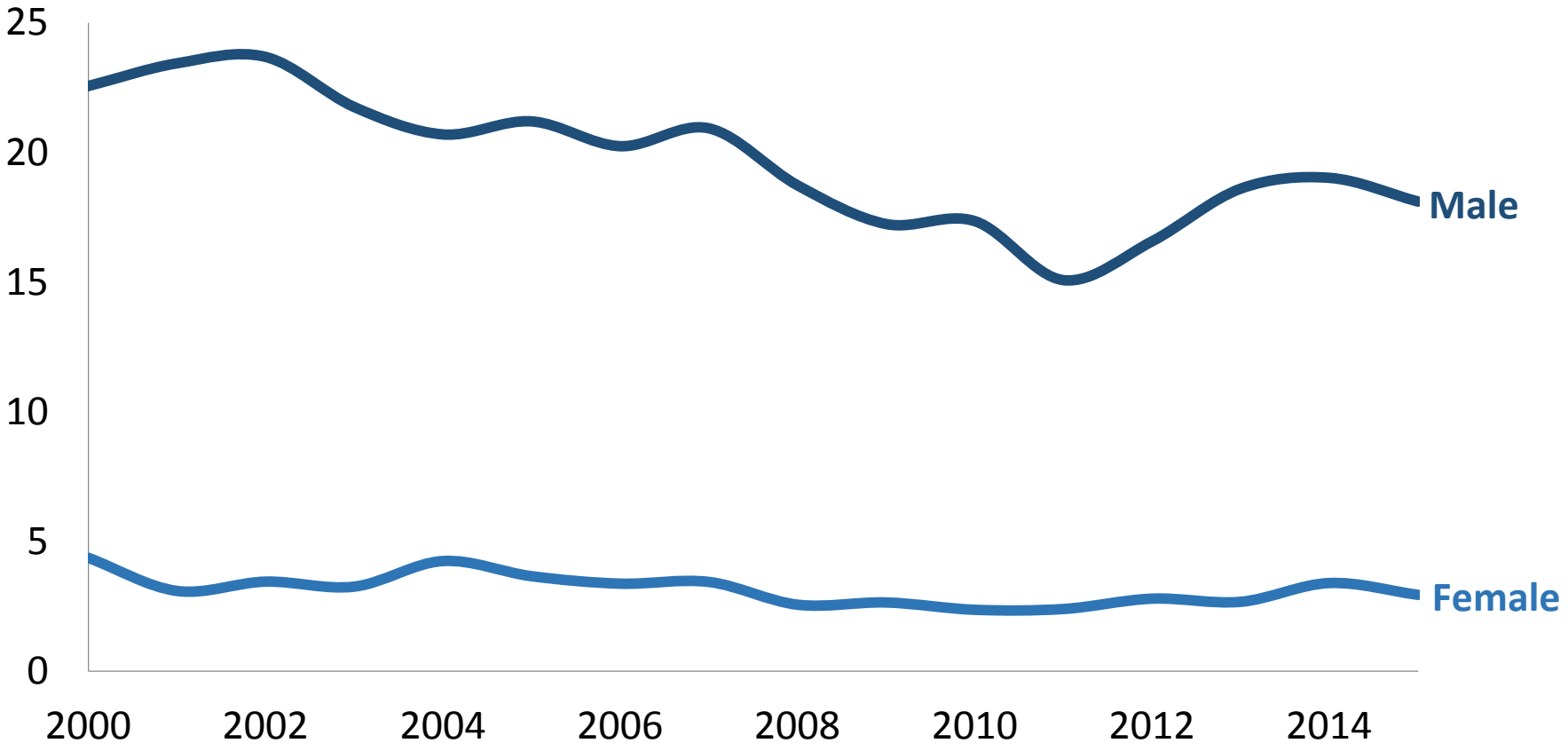
Arizona HIV/AIDS deaths, 1980-2015



Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

Arizona HIV/AIDS incidence rate per 100,000 by sex, 2000-2015

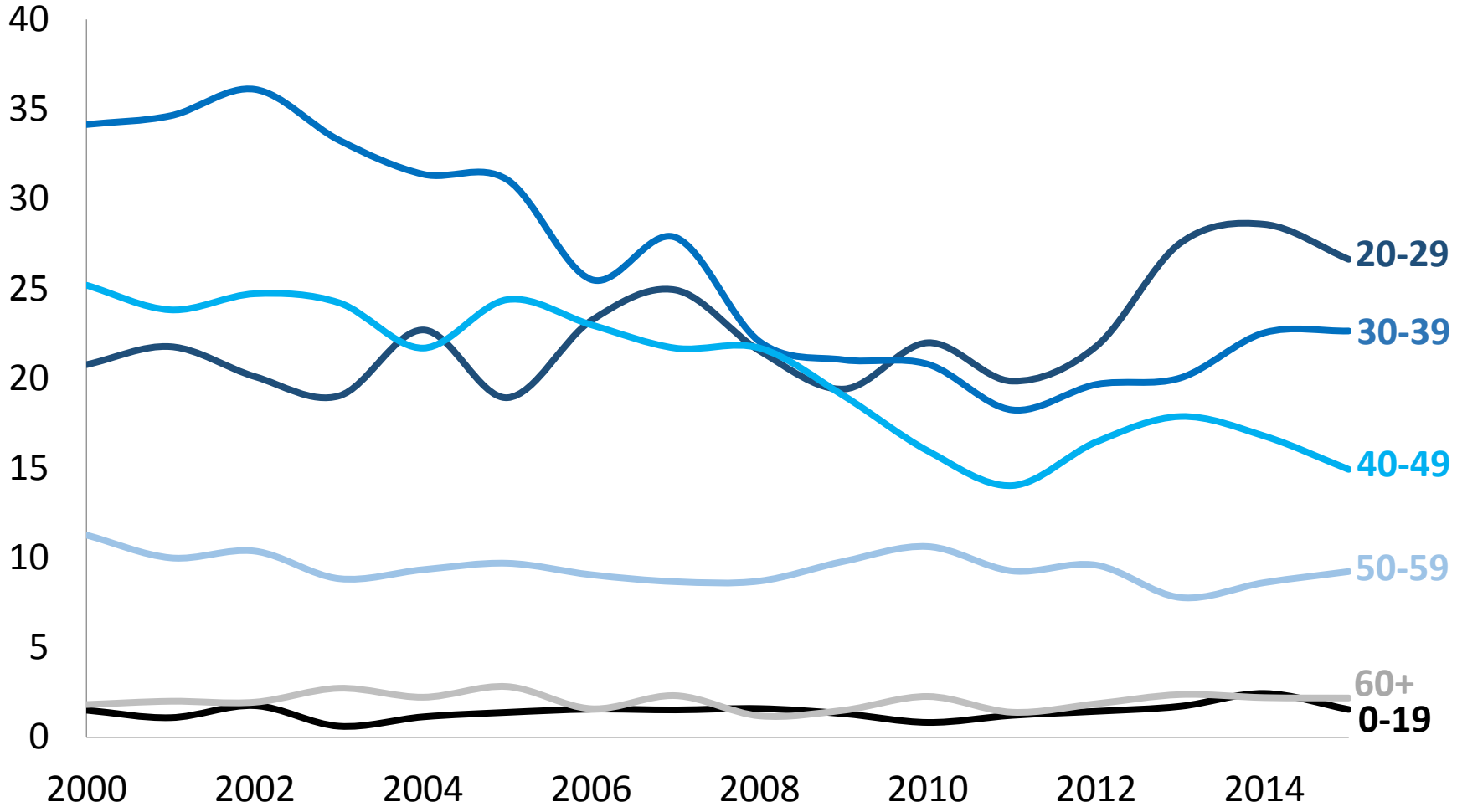


Arizona **males** had a much higher rate (per 100,000) of new HIV infection in 2015

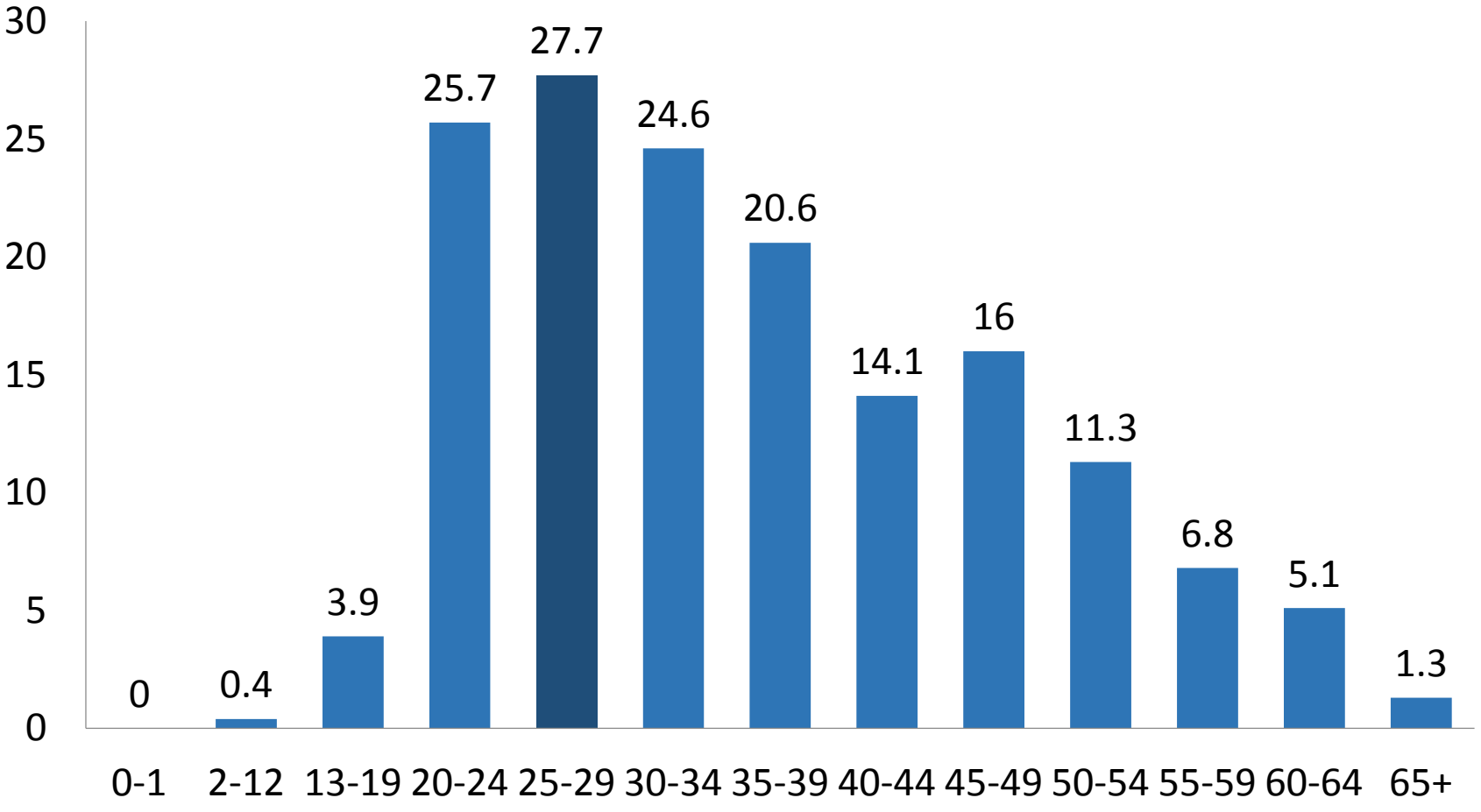
Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

Arizona HIV/AIDS incidence rate per 100,000 by age, 2000-2015



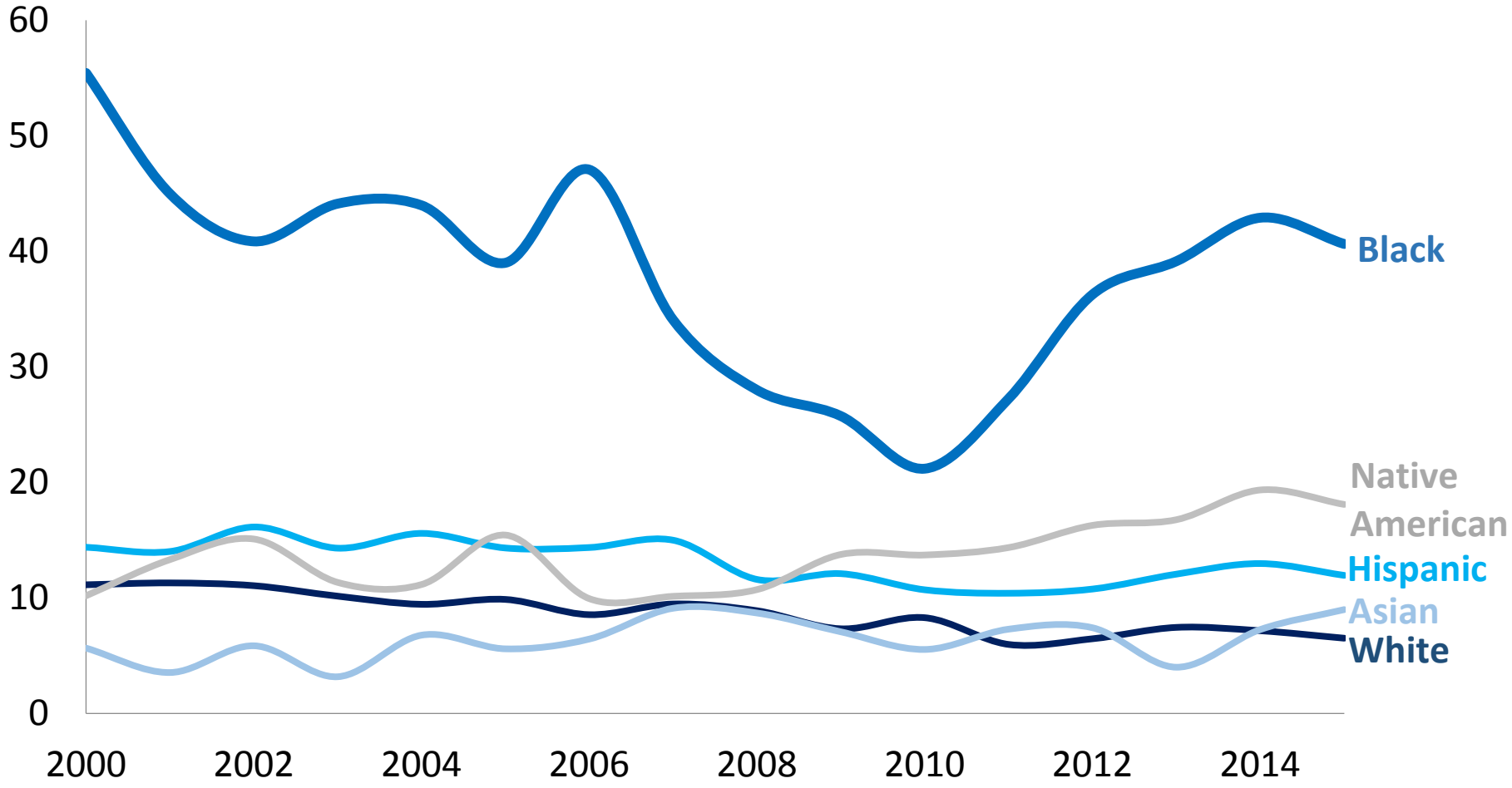
Arizonans **aged 25-29** had the highest rate (per 100,000) of new HIV infection in 2015



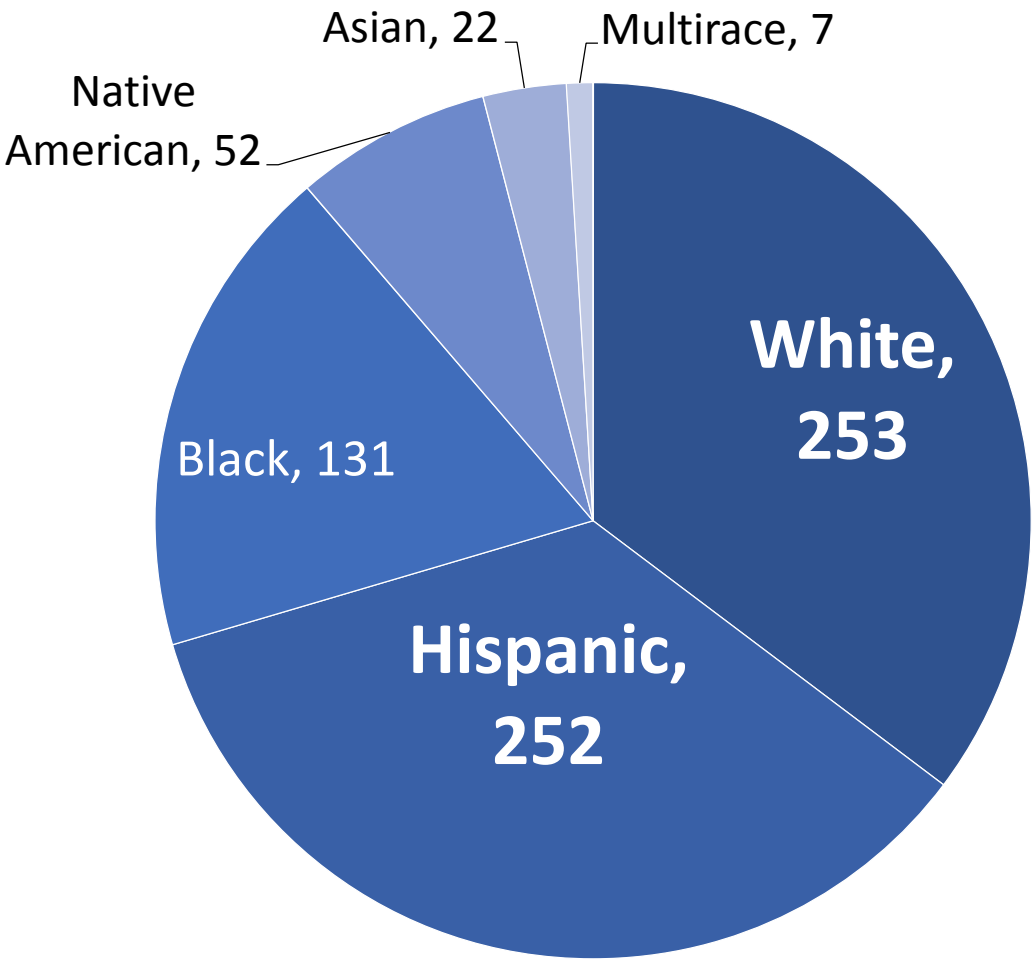
Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

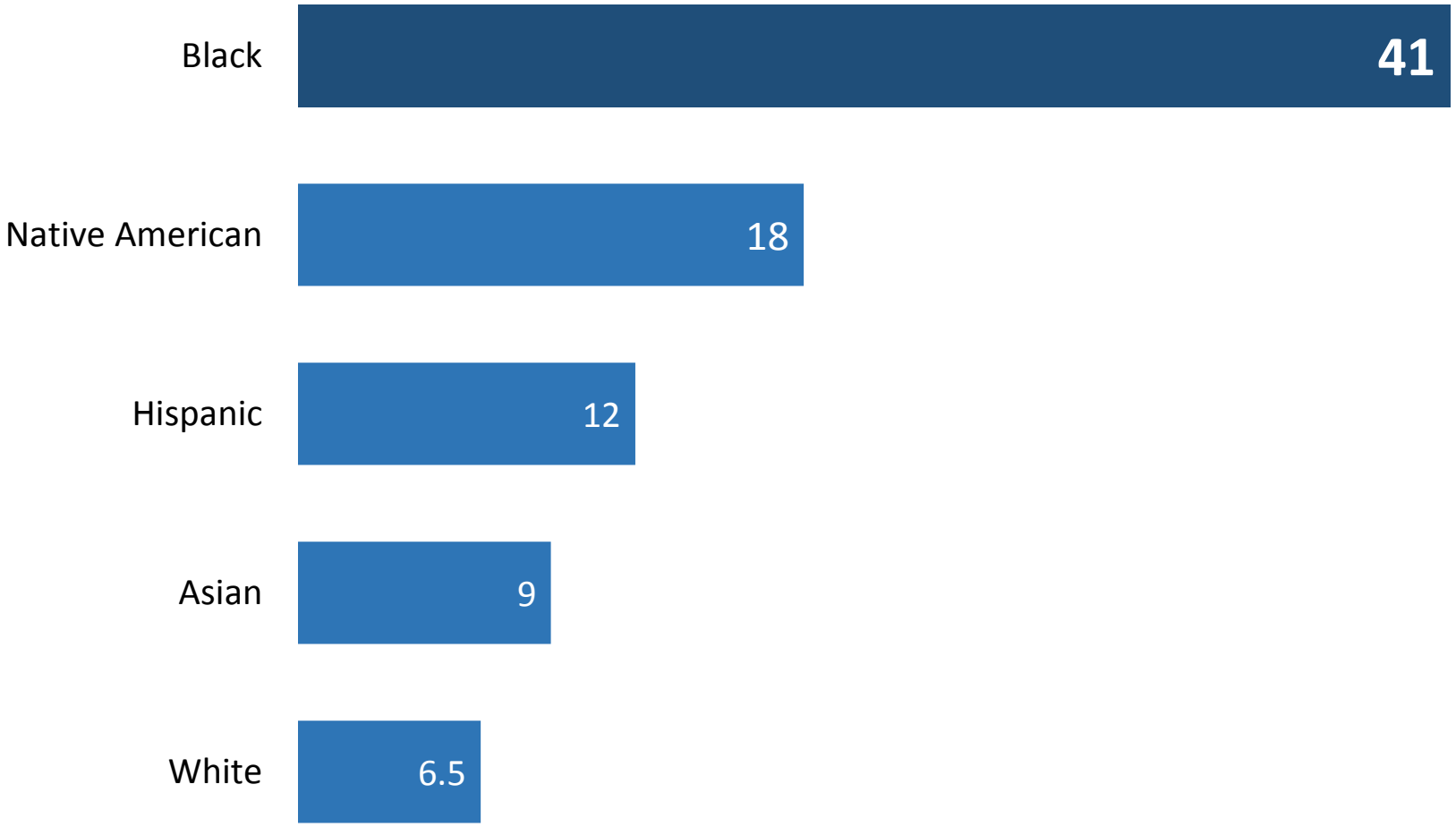
Arizona HIV/AIDS incidence rates per 100,000 by race, 2000-2015



White non-Hispanic and **Hispanic** Arizonan's made up majority of all new HIV infections in 2015



Black Arizonan's have the **highest rate** (per 100,000) of new HIV infection in Arizona



Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

Reported Risk Acronyms

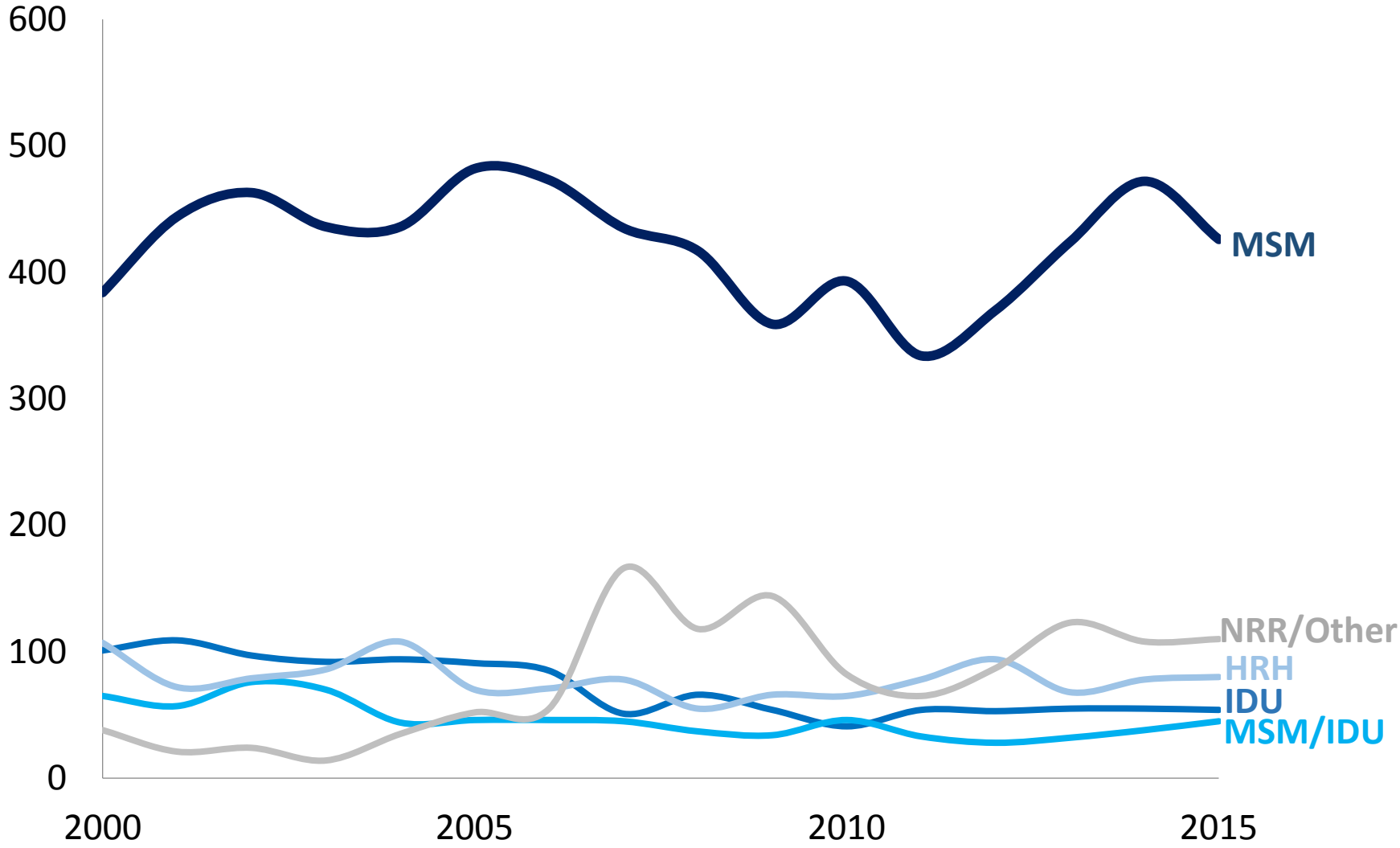
MSM = Men who have sex with men

IDU = Intravenous drug user

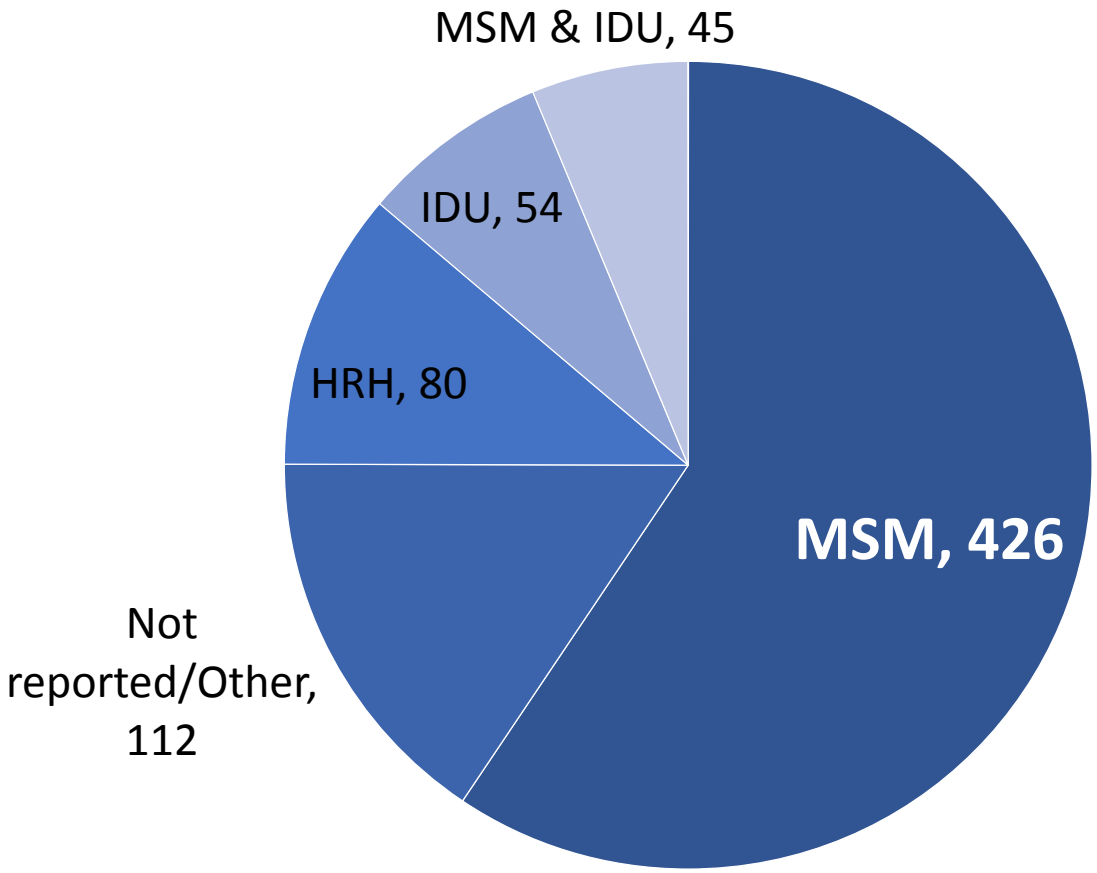
HRH = High-risk heterosexual sex

NRR = No risk reported

Arizona HIV/AIDS incidence counts by risk, 2000-2015



Men who have sex with men was the most reported risk in Arizona in 2015

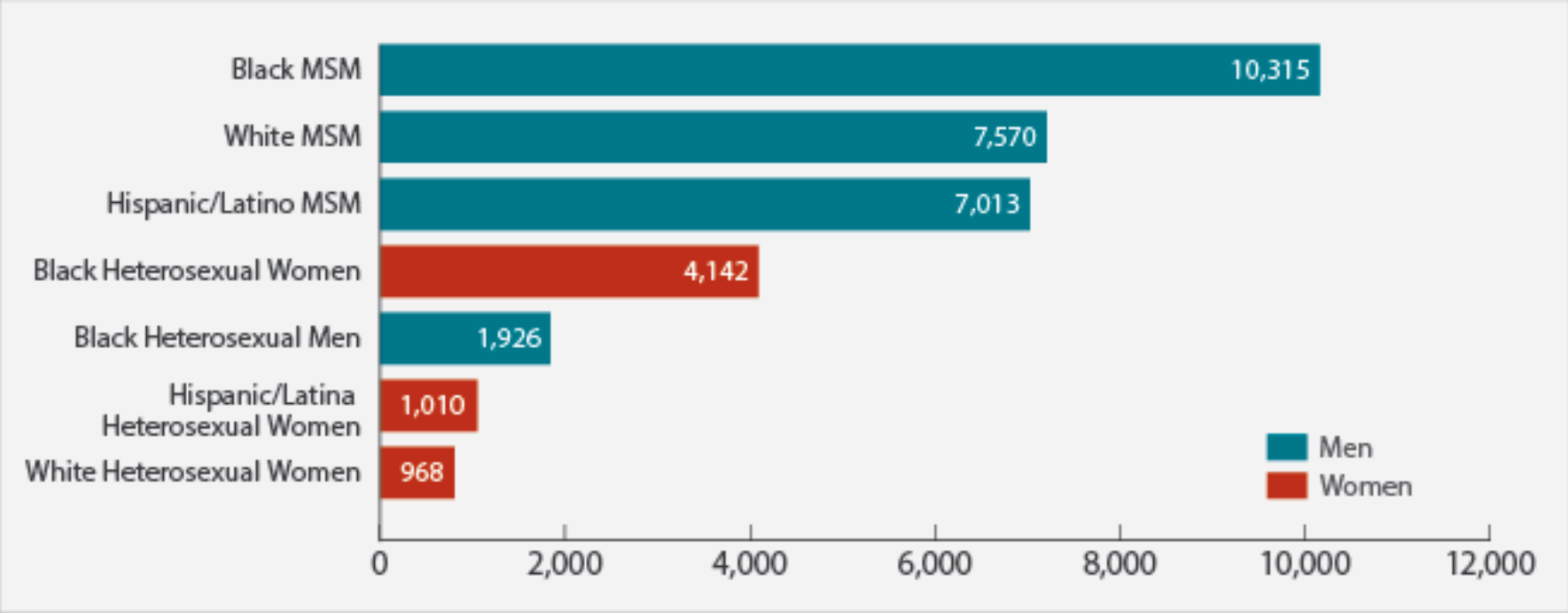


Agenda

- HIV and the United States
- HIV and Arizona
  - HIV by Sex
  - HIV by Age
  - HIV by Race
  - HIV by Risk
  - Overview

In the US…

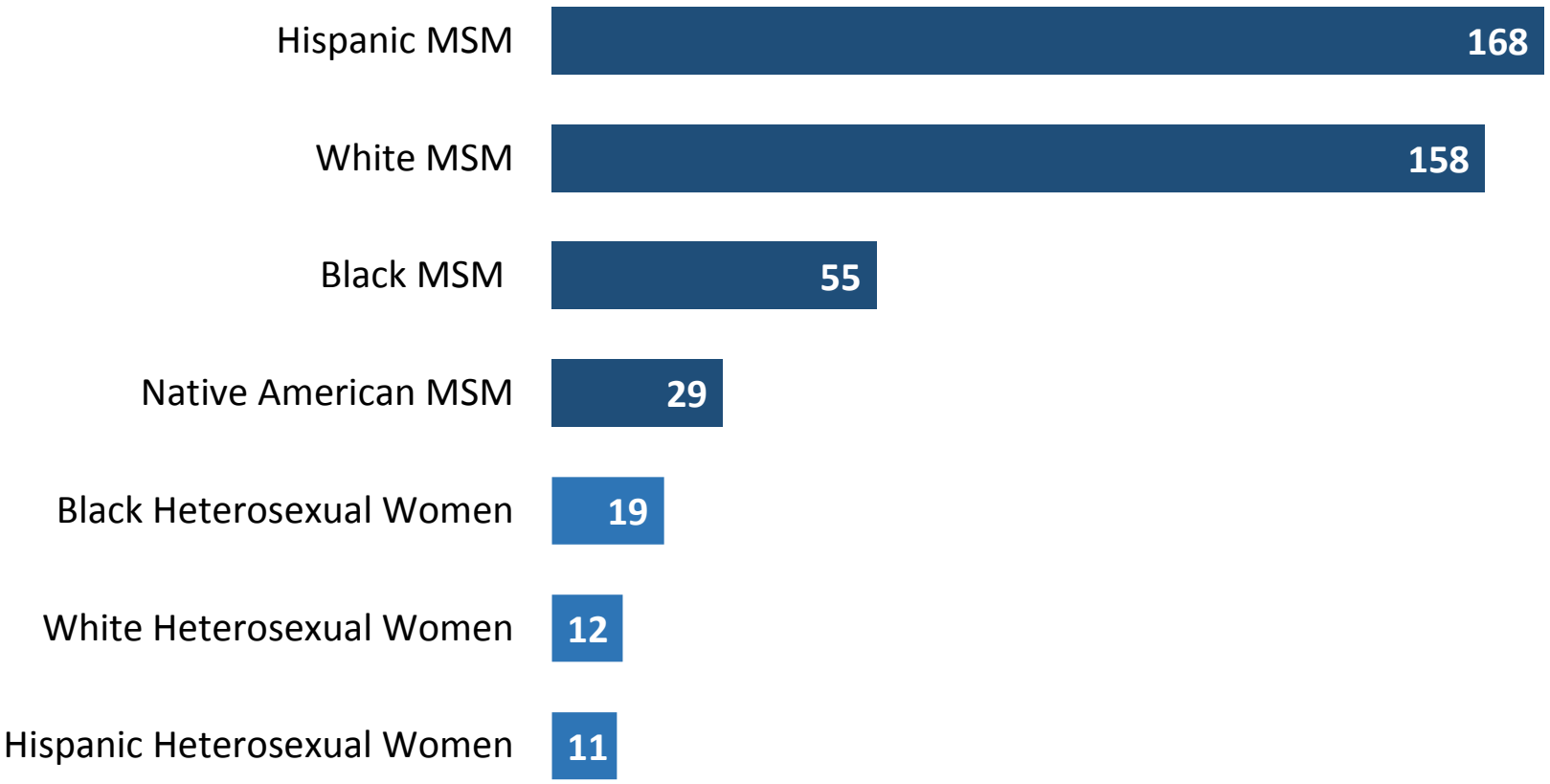
New HIV Diagnoses in the United States for the Most-Affected Subpopulations, 2015



Source: https://www.cdc.gov/hiv/statistics/overview/ataglance.html

In AZ...

New HIV Diagnoses in Arizona for the Most-Affected Sub Populations, 2015



QUESTIONS?

THANK YOU!

Victoria Hansen| HIV Surveillance Epidemiologist

Victoria.Hansen@azdhs.gov | 602-365-3580

azhealth.gov

@azdhs

facebook.com/azdhs

Tuberculosis in Arizona

January 20th 2017

APIC Grand Canyon's

State of the State

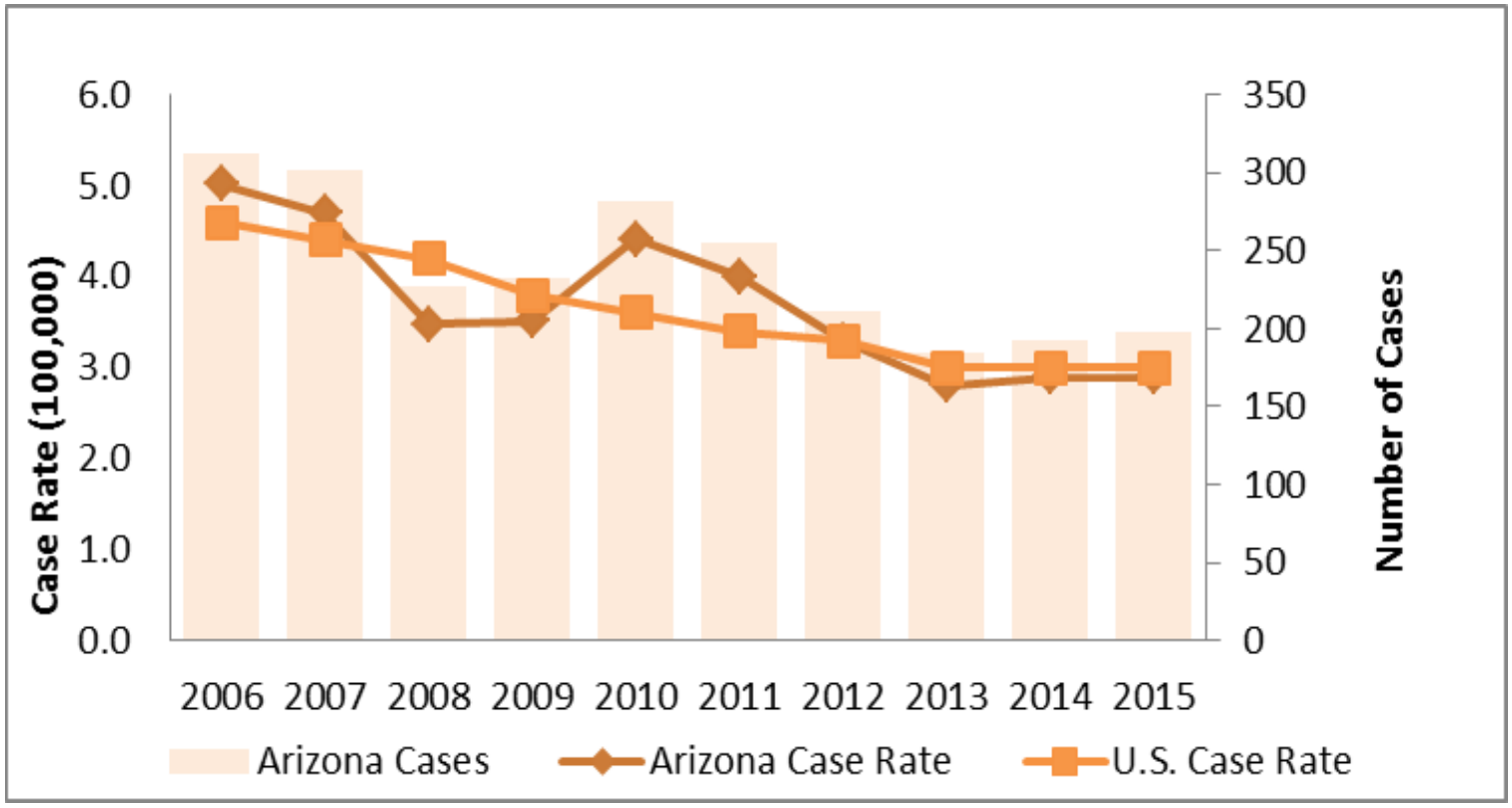
Amanda Swanson, MPH

Tuberculosis Control Program

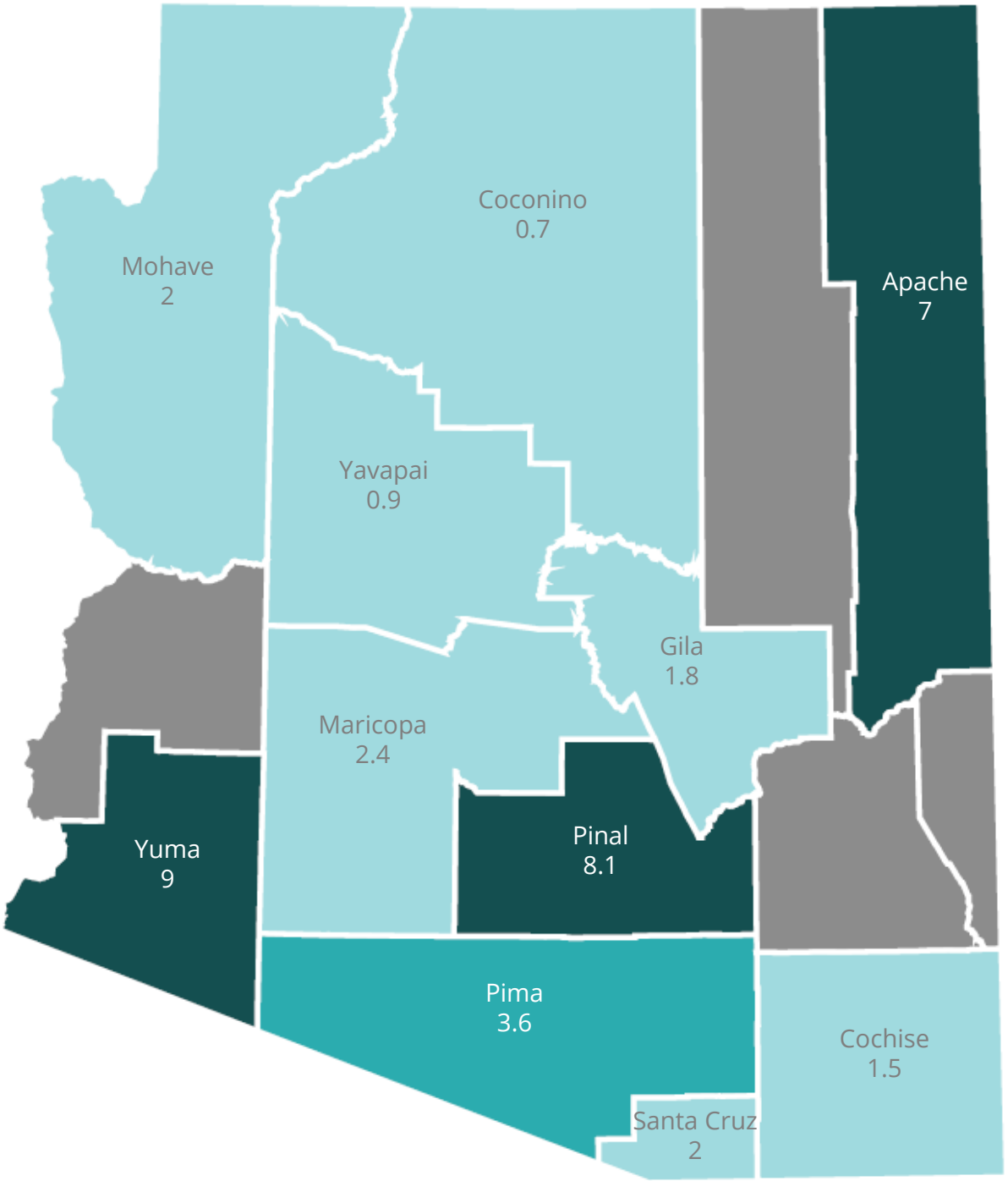
Arizona Department of Health Services

ADHS

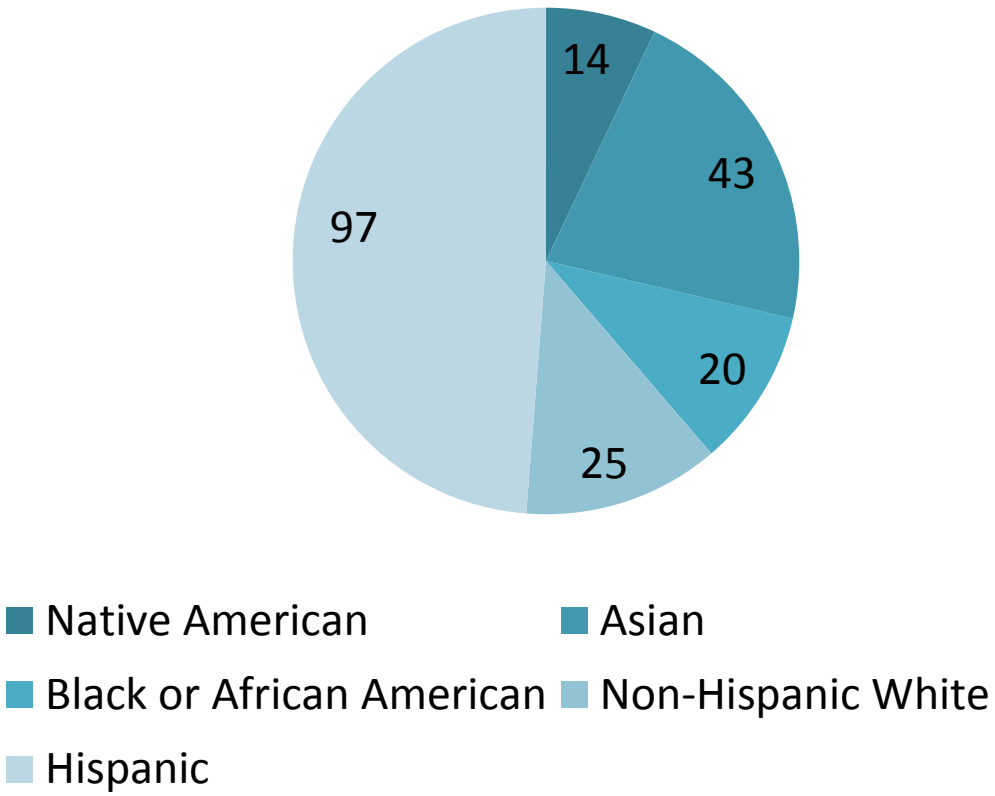
TB Case Rates per 100,000 population



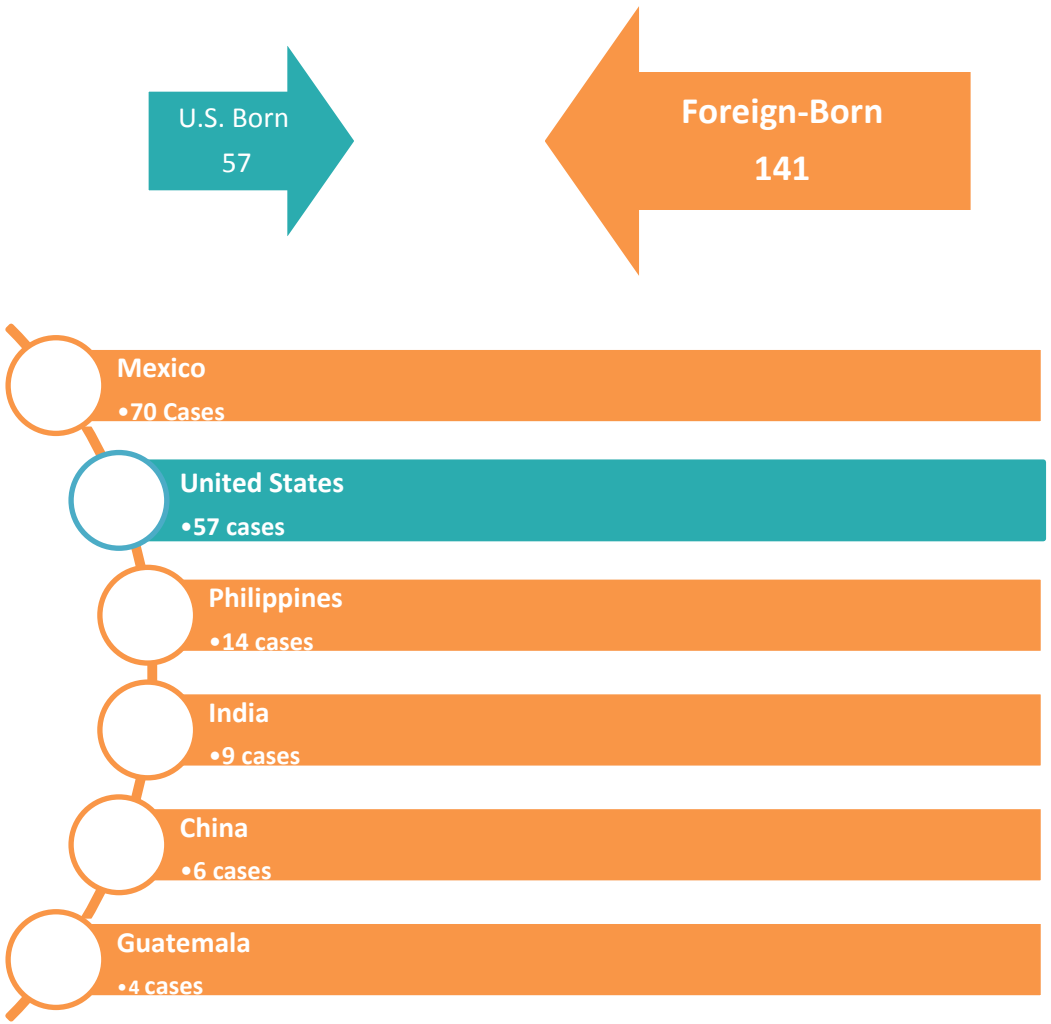
In 2015 there were 9,557 cases, a **national increase**


Coconino
0.7
Mohave
2
Apache
7
Yavapai
0.9
Gila
1.8
Maricopa
2.4
Yuma
9
Pinal
8.1
Pima
3.6
Cochise
1.5
Santa Cruz
2

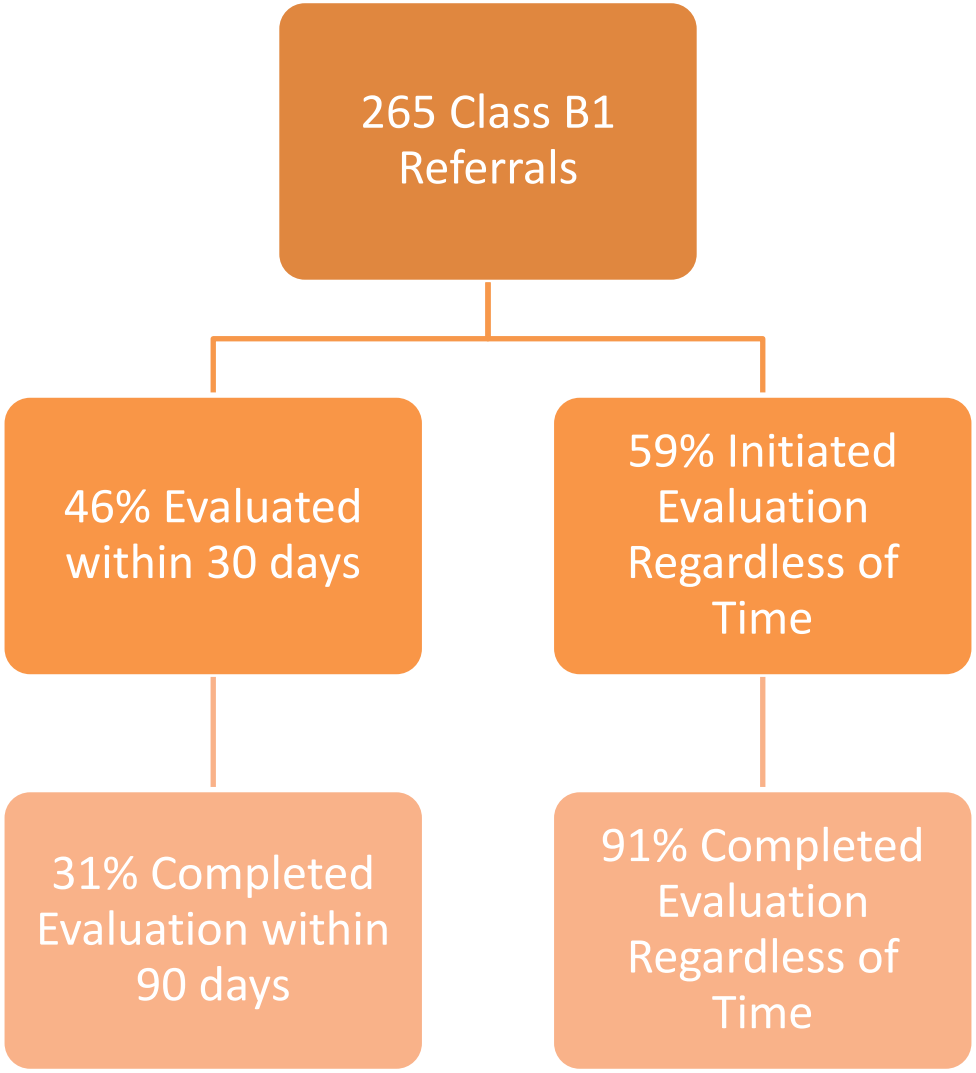
TB Case Rates by Race and Ethnicity



By Country of Birth



Refugee Class



TB Risk Factors

71%	• Country of birth other than the US
20%	• Diagnosed while in a correctional facility
17%	• Any Substance abuse
16%	• Diabetes mellitus
8%	• Contact of Infectious TB Patient <2 years
6%	• HIV co-infection
6%	• Homeless within past year
4%	• Migratory Agricultural Worker
4%	• Healthcare worker
3%	• Incomplete LTBI Therapy

Drug Resistance

Mono-Resistant TB: TB resistant to one first line anti-Tuberculosis medication(Isoniazid, Rifampin, Ethambutol, or pyrazinamide).

Multi-Drug Resistant(MDR) TB: TB resistant to both Isoniazid and Rifampin.

Extensively Drug Resistant TB: Resistant to isoniazid, rifampin, and at least one second-line injectable(i.e., amikacin, kanamycin, or capreomycin) and one fluoroquinolone.

Drug Resistance to Anti TB Drugs

Any INH Resistance
11.6%

MDR TB (2 cases)
1.0%

Other Resistance
13.2%

Total Resistance
24.5%

New TB Guidelines

Official American Thoracic Society/Infectious Diseases Society of America/Centers for Disease Control and Prevention Clinical Practice Guidelines: Diagnosis of Tuberculosis in Adults and Children

David M. Lewinsohn,[1,a] Michael K. Leonard,[2,a] Philip A. LoBue,[3,a] David L. Cohn,[4] Charles L. Daley,[5] Ed Desmond,[6] Joseph Keane,[7] Deborah A. Lewinsohn,[1] Ann M. Loeffler,[8] Gerald H. Mazurek,[3] Richard J. O'Brien,[9] Madhukar Pai,[10] Luca Richeldi,[11] Max Salfinger,[12] Thomas M. Shinnick,[3] Timothy R. Sterling,[13] David M. Warshauer,[14] and Gail L. Woods[15]

[1]Oregon Health & Science University, Portland, Oregon, [2]Emory University School of Medicine and [3]Centers for Disease Control and Prevention, Atlanta, Georgia, [4]Denver Public Health Department, Denver, Colorado, [5]National Jewish Health and the University of Colorado Denver, and [6]California Department of Public Health, Richmond; [7]St James's Hospital, Dublin, Ireland; [8]Francis J. Curry International TB Center, San Francisco, California; [9]Foundation for Innovative New Diagnostics, Geneva, Switzerland; [10]McGill University and McGill International TB Centre, Montreal, Canada; [11]University of Southampton, United Kingdom; [12]National Jewish Health, Denver, Colorado, [13]Vanderbilt University School of Medicine, Vanderbilt Institute for Global Health, Nashville, Tennessee, [14]Wisconsin State Laboratory of Hygiene, Madison, and [15]University of Arkansas for Medical Sciences, Little Rock

Background. Individuals infected with *Mycobacterium tuberculosis* (*Mtb*) may develop symptoms and signs of disease (tuberculosis disease) or may have no clinical evidence of disease (latent tuberculosis infection [LTBI]). Tuberculosis disease is a leading cause of infectious disease morbidity and mortality worldwide, yet many questions related to its diagnosis remain.

Methods. A task force supported by the American Thoracic Society, Centers for Disease Control and Prevention, and Infectious Diseases Society of America searched, selected, and synthesized relevant evidence. The evidence was then used as the basis for recommendations about the diagnosis of tuberculosis disease and LTBI in adults and children. The recommendations were formulated, written, and graded using the Grading, Recommendations, Assessment, Development and Evaluation (GRADE) approach.

Results. Twenty-three evidence-based recommendations about diagnostic testing for latent tuberculosis infection, pulmonary tuberculosis, and extrapulmonary tuberculosis are provided. Six of the recommendations are strong, whereas the remaining 17 are conditional.

Conclusions. These guidelines are not intended to impose a standard of care. They provide the basis for rational decisions in the diagnosis of tuberculosis in the context of the existing evidence. No guidelines can take into account all of the often compelling unique individual clinical circumstances.

EXECUTIVE SUMMARY

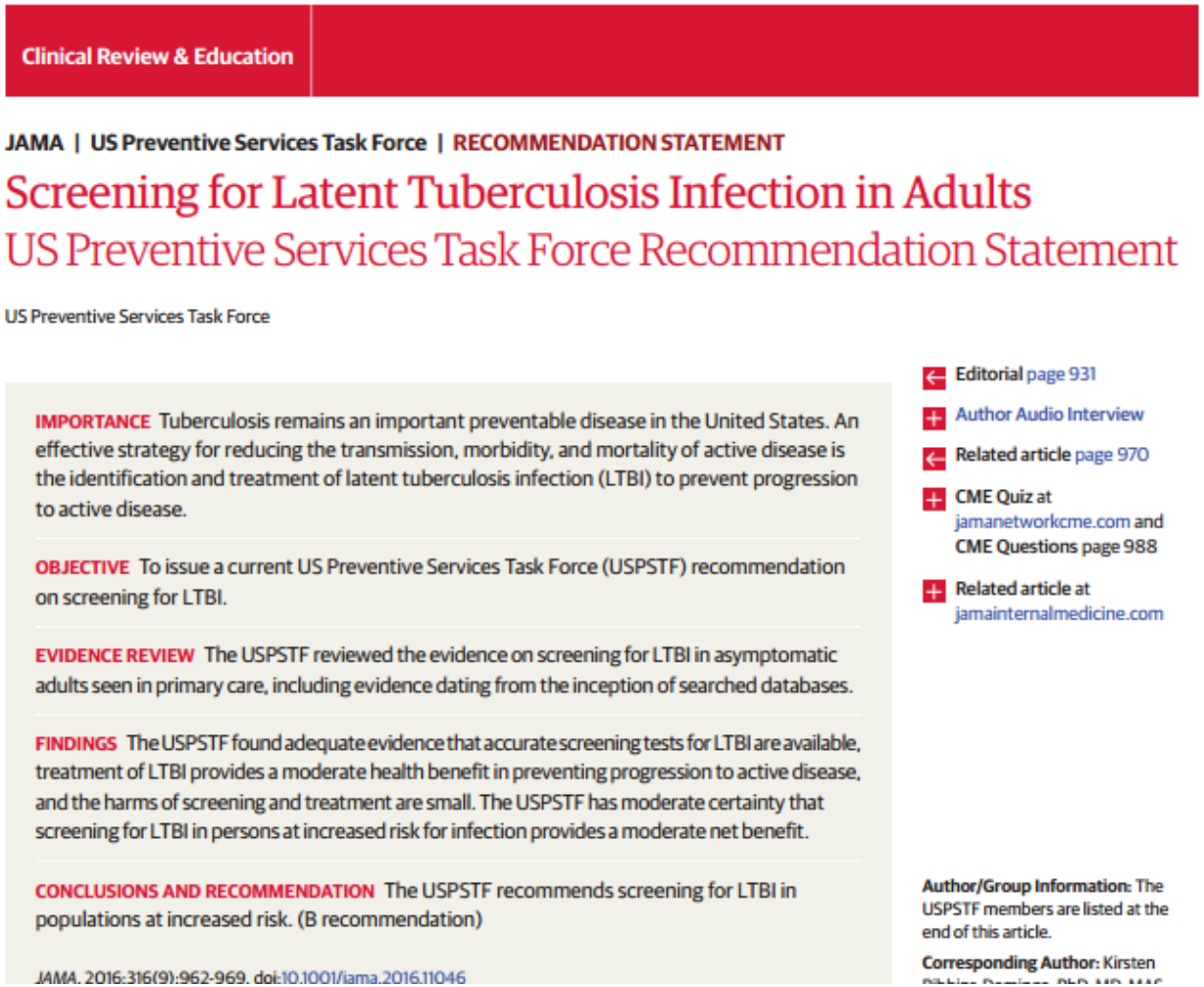
Individuals infected with *Mycobacterium tuberculosis* (*Mtb*) may develop symptoms and signs of disease (TB disease) or may have no clinical evidence of disease (latent tuberculosis infection [LTBI]). TB disease is a leading cause of infectious

Testing for LTBI

Our recommendations for diagnostic testing for LTBI are based upon the likelihood of infection with *Mtb* and the likelihood of progression to TB disease if infected, as illustrated in Figure 1.

- We recommend performing an interferon-γ release assay

New TB Recommendation



Clinical Review & Education

JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

Screening for Latent Tuberculosis Infection in Adults

US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

IMPORTANCE Tuberculosis remains an important preventable disease in the United States. An effective strategy for reducing the transmission, morbidity, and mortality of active disease is the identification and treatment of latent tuberculosis infection (LTBI) to prevent progression to active disease.

OBJECTIVE To issue a current US Preventive Services Task Force (USPSTF) recommendation on screening for LTBI.

EVIDENCE REVIEW The USPSTF reviewed the evidence on screening for LTBI in asymptomatic adults seen in primary care, including evidence dating from the inception of searched databases.

FINDINGS The USPSTF found adequate evidence that accurate screening tests for LTBI are available, treatment of LTBI provides a moderate health benefit in preventing progression to active disease, and the harms of screening and treatment are small. The USPSTF has moderate certainty that screening for LTBI in persons at increased risk for infection provides a moderate net benefit.

CONCLUSIONS AND RECOMMENDATION The USPSTF recommends screening for LTBI in populations at increased risk. (B recommendation)

JAMA. 2016;316(9):962-969. doi:10.1001/jama.2016.11046

Editorial page 931

Author Audio Interview

Related article page 970

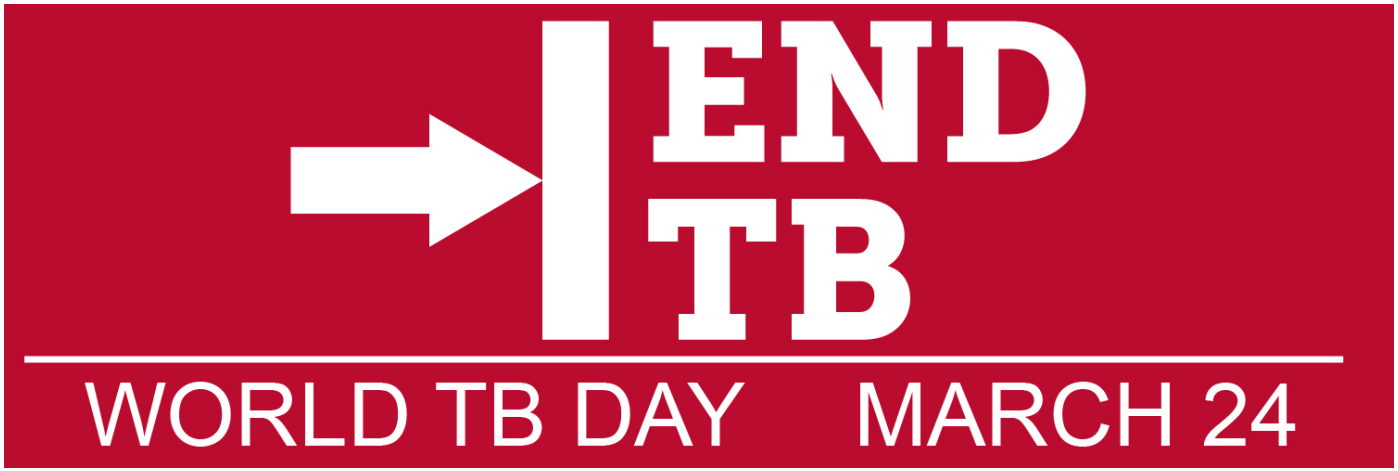
CME Quiz at jamanetworkcme.com and CME Questions page 988

Related article at jamainternalmedicine.com

Author/Group Information: The USPSTF members are listed at the end of this article.

Corresponding Author: Kirsten

World TB Day



Local Health Departments

County Health Departments

- Apache
- Cochise
- Coconino
- Gila
- Graham
- Greenlee
- La Paz
- Maricopa
- Mohave
- Navajo
- Pima
- Pinal
- Santa Cruz
- Yavapai
- Yuma

Tribal Health Departments

- Gila River Indian Community
- Navajo Nation
- San Carlos Apache Tribe
- White Mountain Apache Tribe

Contact Information

Amanda Swanson
Direct: 602-542-0025
Amanda.Swanson@azdhs.gov
TB Control Program
602-364-4750

Thank you!

Foodborne Disease Outbreak Update

January 20, 2017

Bria Hamlet
CDC Public Health Associate
Enteric Disease Investigation Team
Arizona Department of Health Services | Phoenix, AZ

Foodborne illness can b. cereus!

- Acquired through ingestion of contaminated food or beverages
- Caused by bacteria, viruses, parasites, and toxins
- Clinically featured as diarrhea, nausea, vomiting, and abdominal pain
- Have varying incubation periods

FOODBORNE ILLNESS REPORT CARD

ARIZONA DEPARTMENT OF HEALTH SERVICES

	2015 AZ RATE*	2014 AZ RATE*	2015 US RATE*†	2020 CDC TARGET RATE‡	PERCENTAGE OF AZ RATE CHANGE	FOR EVERY CASE REPORTED§
CAMPYLOBACTERIOSIS	20.4	14.15	12.97	8.5	45% INCREASE	30 GO UNDIAGNOSED
SHIGA TOXIN PRODUCING *E. COLI*	1.9	1.5	0.95	N/A	27% INCREASE	26 GO UNDIAGNOSED
LISTERIOSIS	0.07	0.2	0.24	0.2	35% DECREASE	2 GO UNDIAGNOSED
SALMONELLOSIS (EXCLUDING S. TYPHI AND S. PARATYPHI)	17.2	15.6	15.89	11.4	10% INCREASE	29 GO UNDIAGNOSED
SHIGELLOSIS	8.1	5.6	5.53	N/A	45% INCREASE	8 GO UNDIAGNOSED
VIBRIO INFECTION (EXCLUDING TOXIGENIC V. CHOLERAE)	0.5	0.5	0.39	0.2	0% NO CHANGE	142 GO UNDIAGNOSED

*Rate calculated per 100,000 population
†http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6418a4.htm
‡based on Healthy People 2020 target rates https://www.healthpeople.gov/2020/topic/food-safety/objectives
§Estimates of foodborne illness burden in the United States from 2011 CDC data http://wwwnc.cdc.gov/eid/article/17/1/p1-1101-t2

The Fecal-Oral Report: What Had Everyone Running to the Bathroom Last Year

OUTBREAKS OF 2016

E. Coli O121/O26 in Flour

- Onset dates: Late 12/2015 – 4/2016
- Multistate outbreak – 63 cases in 24 states
- 79% of cases were female
- Median age was 18 years
- A sample of flour from an AZ case tested positive for O121

Norovirus at a Wedding

- Onset dates: 8/13/16-8/15/16
- Wedding took place at a privately-owned property
- 32 guests met the case-definition of illness
- All but one cases reported having water from a specific well

Salmonella Javiana at a Seafood Restaurant

- Exposure dates: 7/16/16 – 8/22/16
- 33 lab-confirmed cases reported dining at Restaurant A
- A case-control study was done to identify potential food sources
- Food item of significance was unfried shrimp

Cryptosporidium in RW

- Onset dates: 7/7/16 – 12/24/2016
- 567 cases reported
- 72% of cases interviewed reported RW exposure
- Over 90 facilities remediated in response

Which Enteric Diseases are Mandated as Reportable in Arizona?

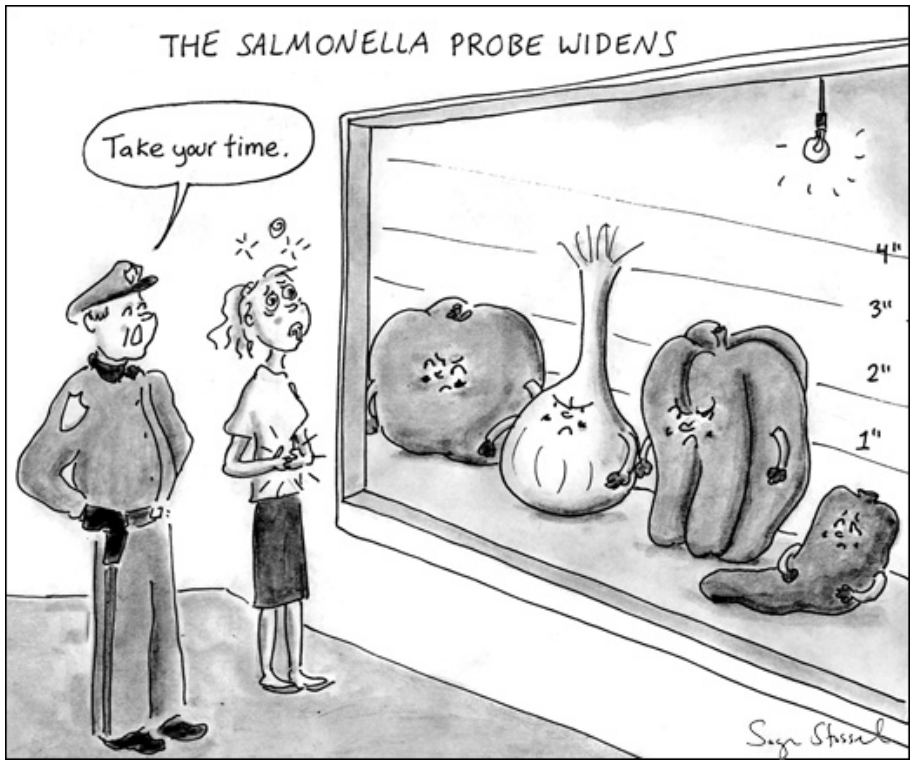
- Amebiasis
- **Botulism***
- Brucellosis
- Campylobacteriosis
- Cholera
- Cryptosporidiosis
- *Cyclospora*
- Cysticercosis
- **Enterohemorrhagic *E. coli****
- **Entertoxigenic *E. coli****
- Giardiasis
- Hepatitis A and E
- **Listeriosis***
- Salmonellosis
- Shigellosis
- **Typhoid Fever***
- *Vibrio* infection (including cholera)
- Yersiniosis
- **Outbreaks of diarrhea, nausea or vomiting**

Foodborne Specimens & The Lab

By law, the following positive specimens must be forwarded to ASPHL:

- Salmonella
- Enterohemorrhagic E. coli
- Listeria
- Vibrio

Specimens are then serotyped to determine species (i.e. *S. Enteritidis*)



Questions?

bria.hamlet@azdhs.gov
602-364-4693

azhealth.gov

@azdhs

facebook.com/azdhs

food@azdhs.gov

Coccidioidomycosis in Arizona

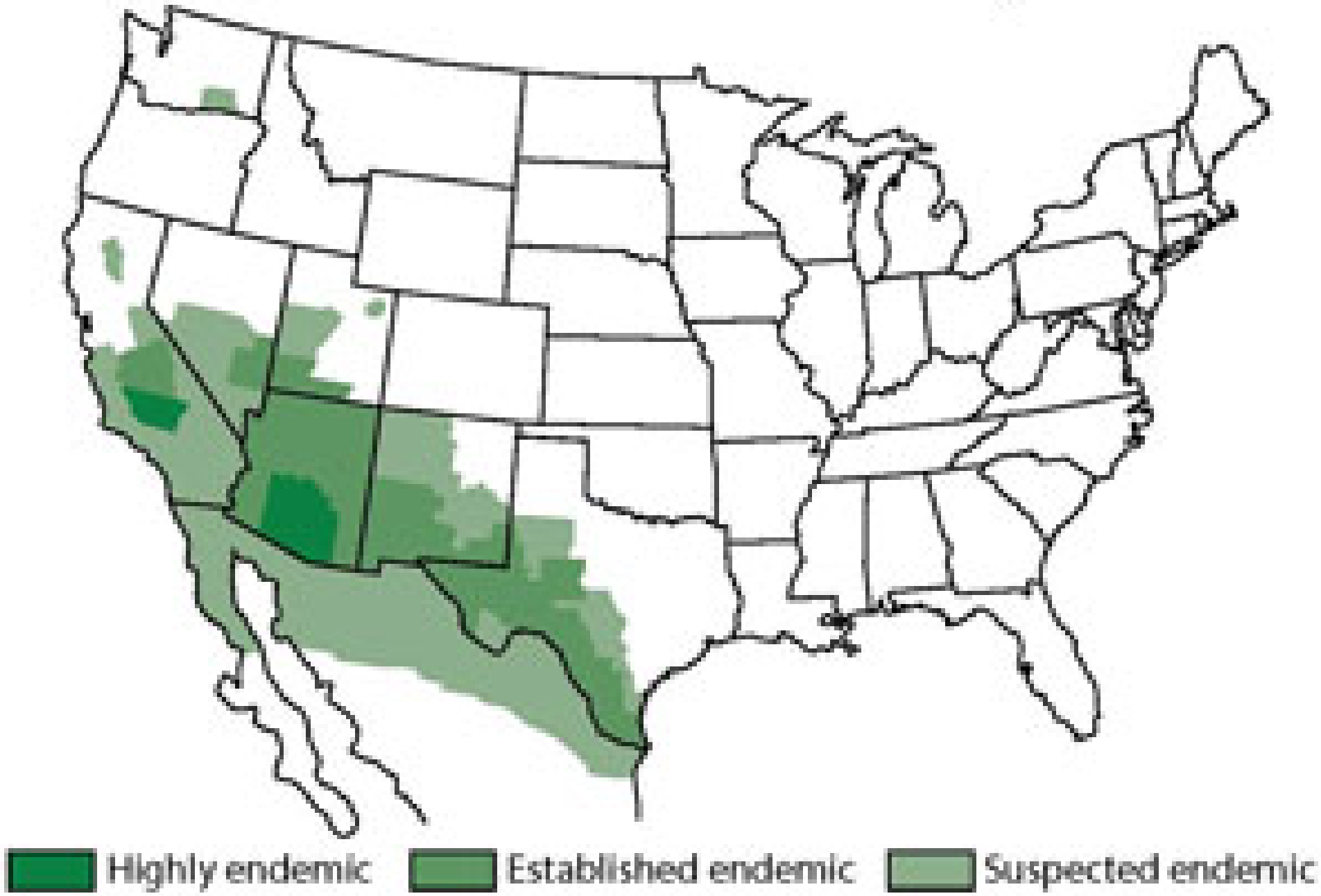
January 20, 2017

Presenting To

APIC State of the State | Phoenix, AZ

Xandy Peterson, MPH | Epidemiologist

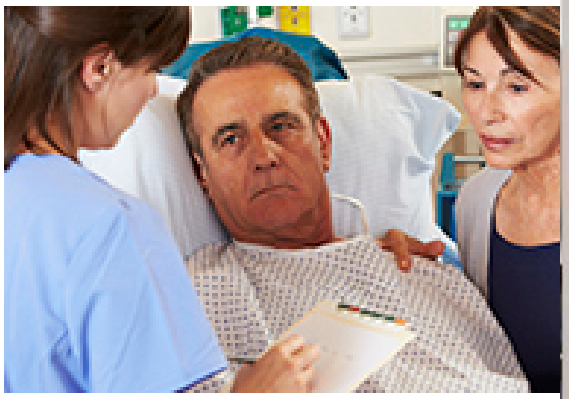
Areas Endemic for Coccidioidomycosis



Source: Centers for Disease Control and Prevention (2015). Sources of Valley Fever (Coccidioidomycosis). CDC.


VALLEY FEVER
COUGH
HEADACHES
LACK OF APPETITE
SORE THROAT
EXHAUSTED
RASH
CHILLS
ACHING JOINTS
WEIGHT LOSS
CHEST PAIN
MUSCLE ACHES
FEVER
SHORTNESS OF BREATH
WHEEZING
NIGHT SWEATS
STIFF NECK
KNOW THE SIGNS
Arizona Department of Health Services
WWW.VALLEYFEVERARIZONA.ORG

Source: Garcia SCG, Alanis JCS, Flores MG, Gonzalez SEG, Cabrera LV & Candiani JO (2015). Coccidioidomycosis and the skin: a comprehensive review. *Anais Brasileiros de Dermatologia* 90(5): 610-619.



Images by CDC

Surveillance

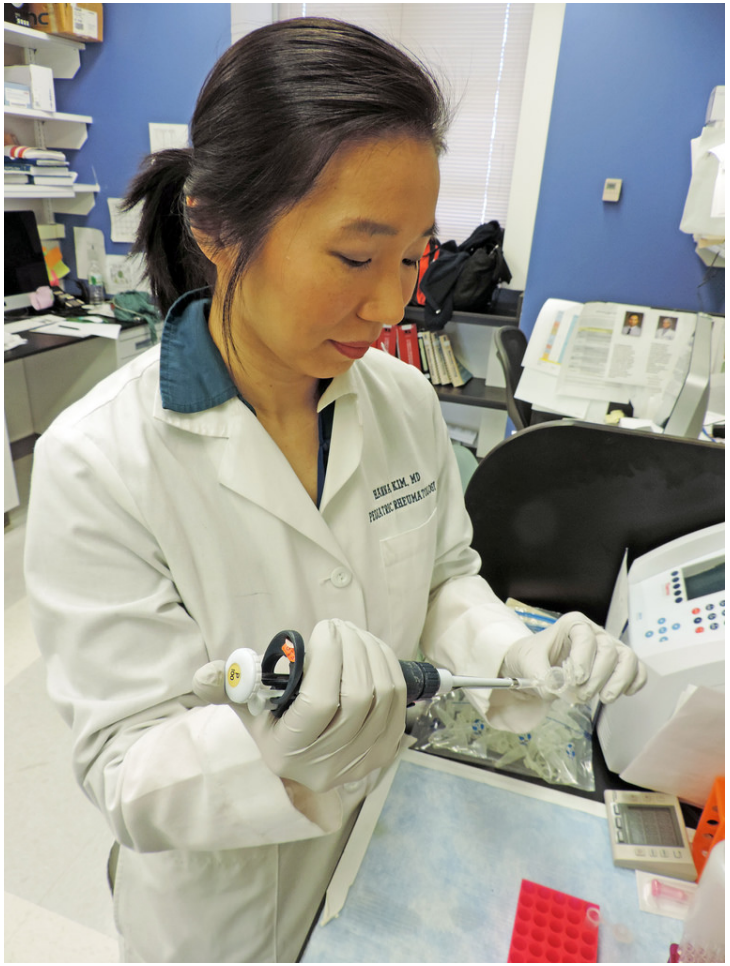


Image by NIH (CC BY-NC-SA 2.0)

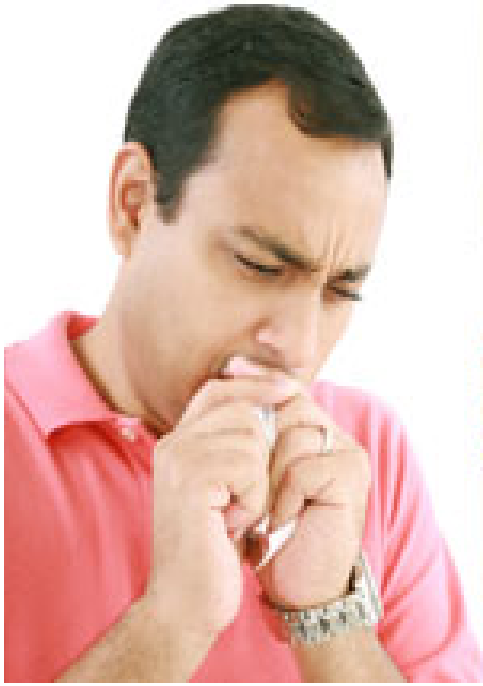


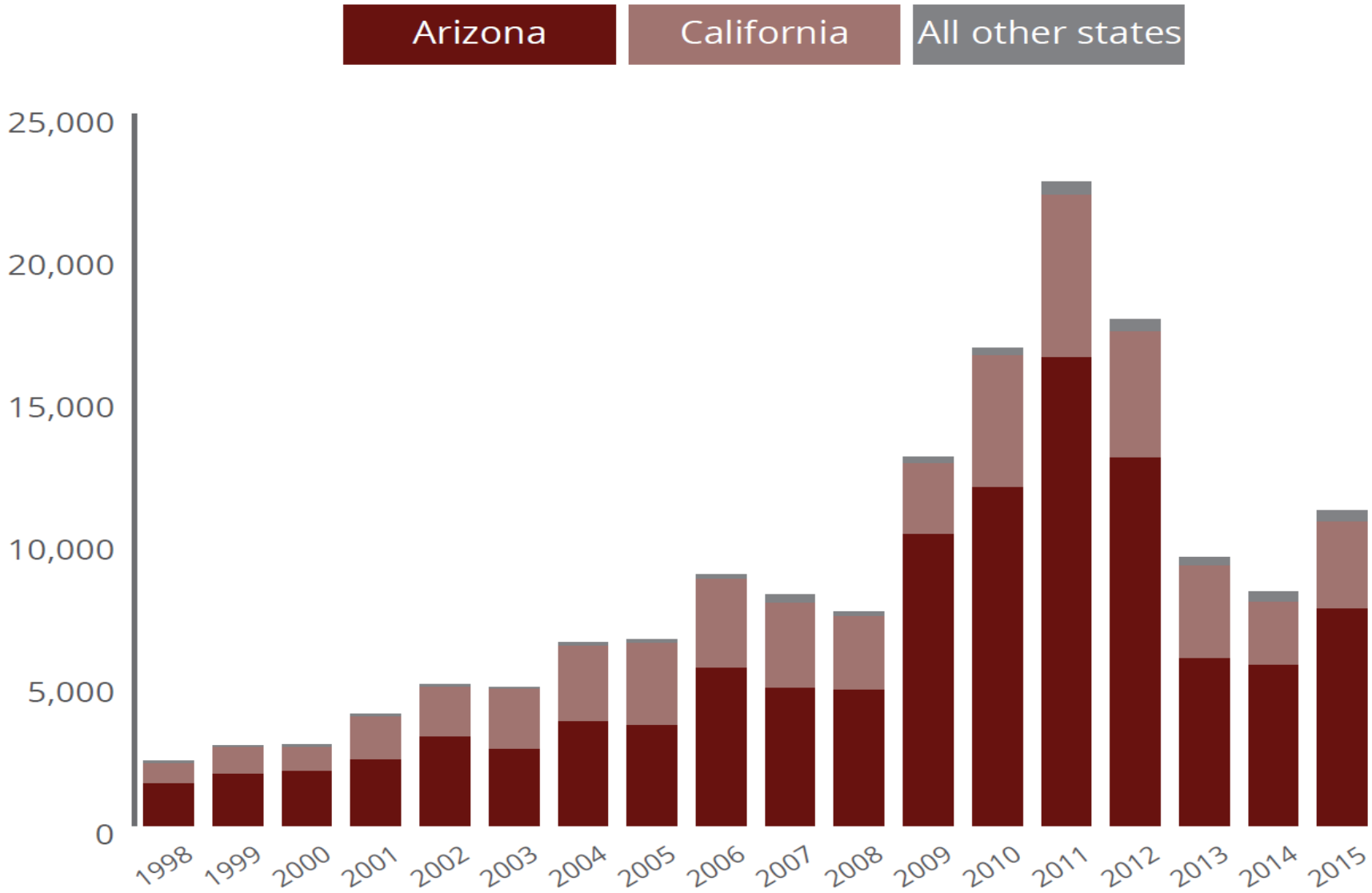
Image by CDC

Image by Alan Stark **(CC BY-SA 2.0)**

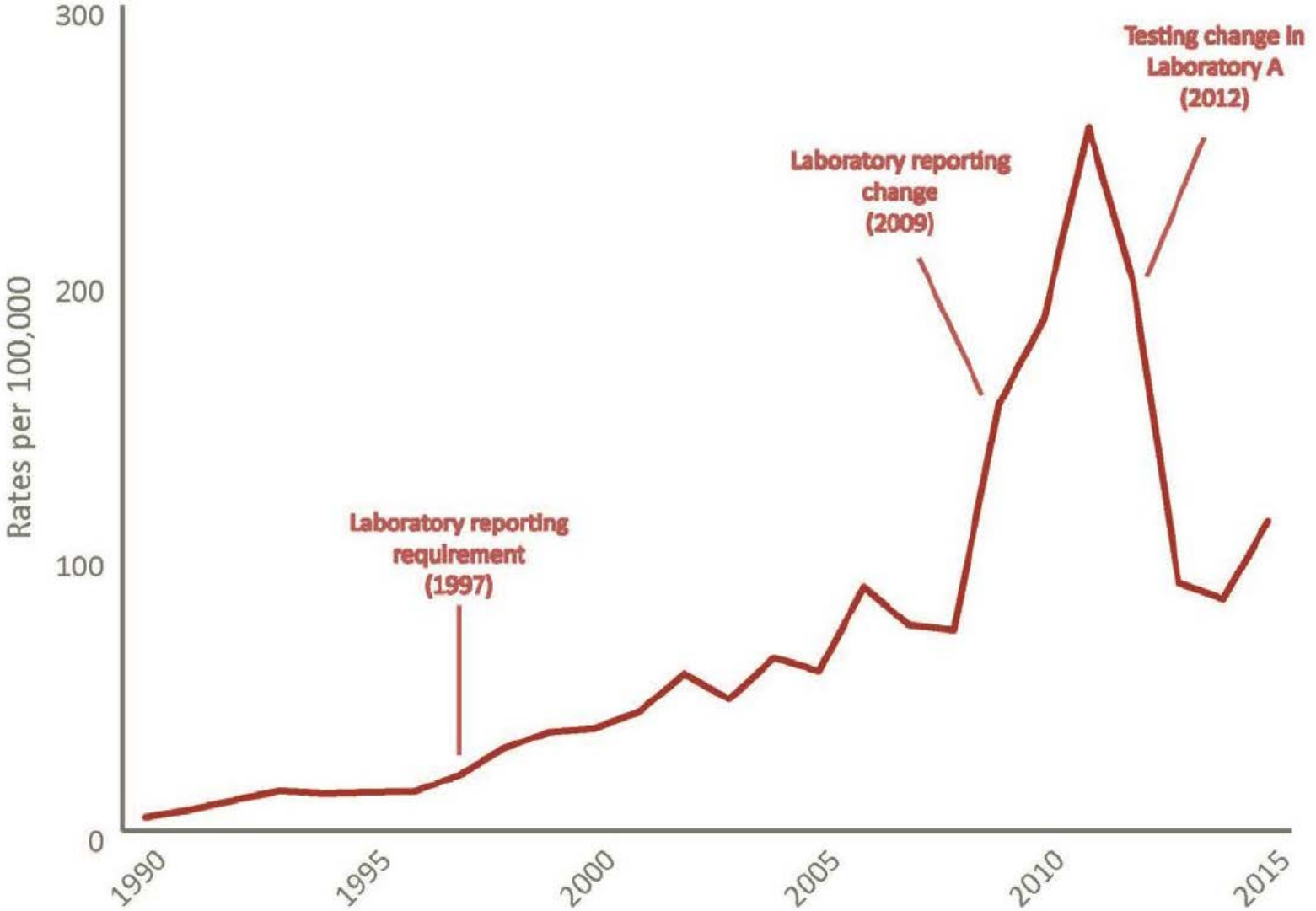
Image by CDC

Image by andyde (CC BY-NC 2.0)

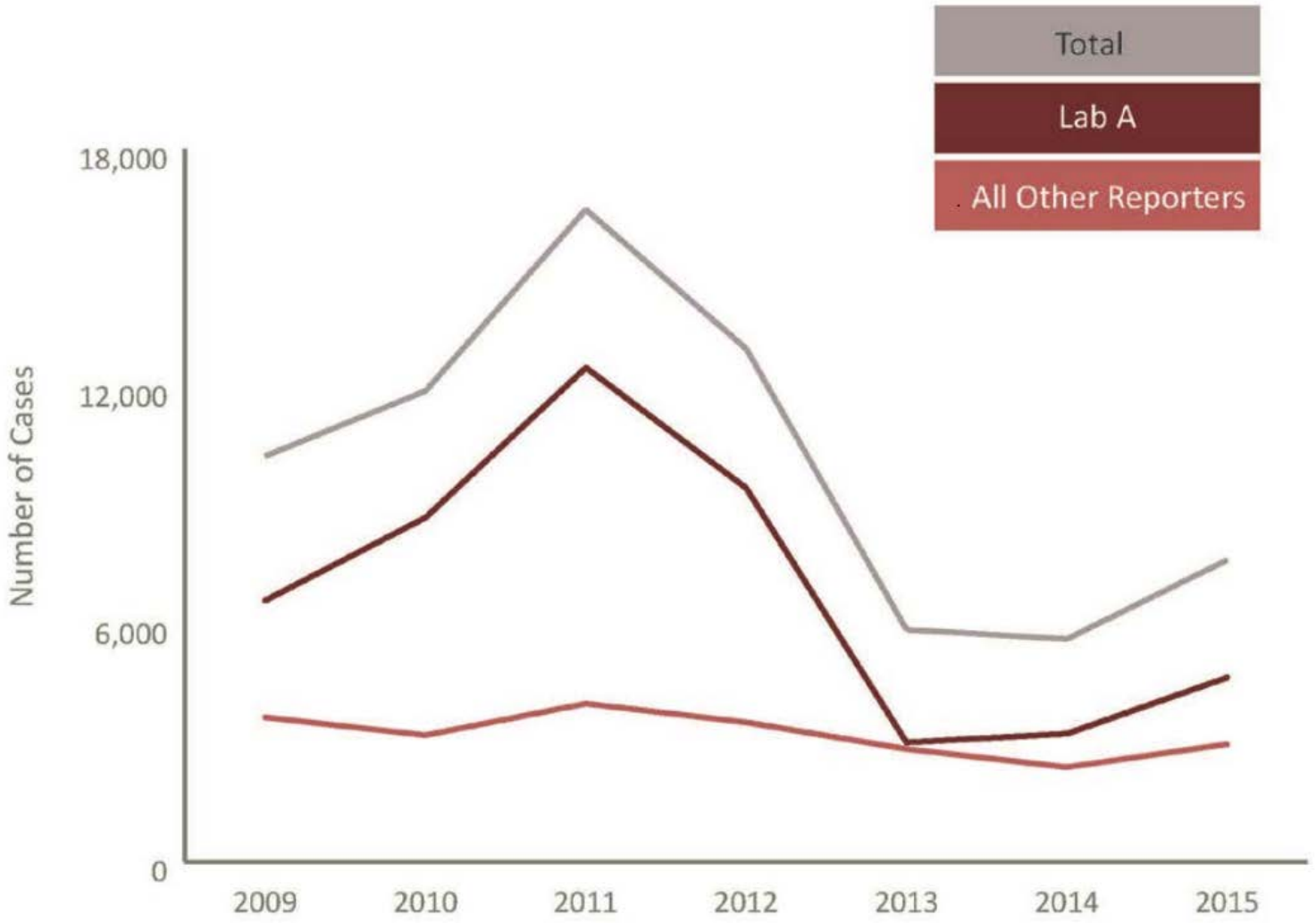
Number of Reported Cases, 1998-2015



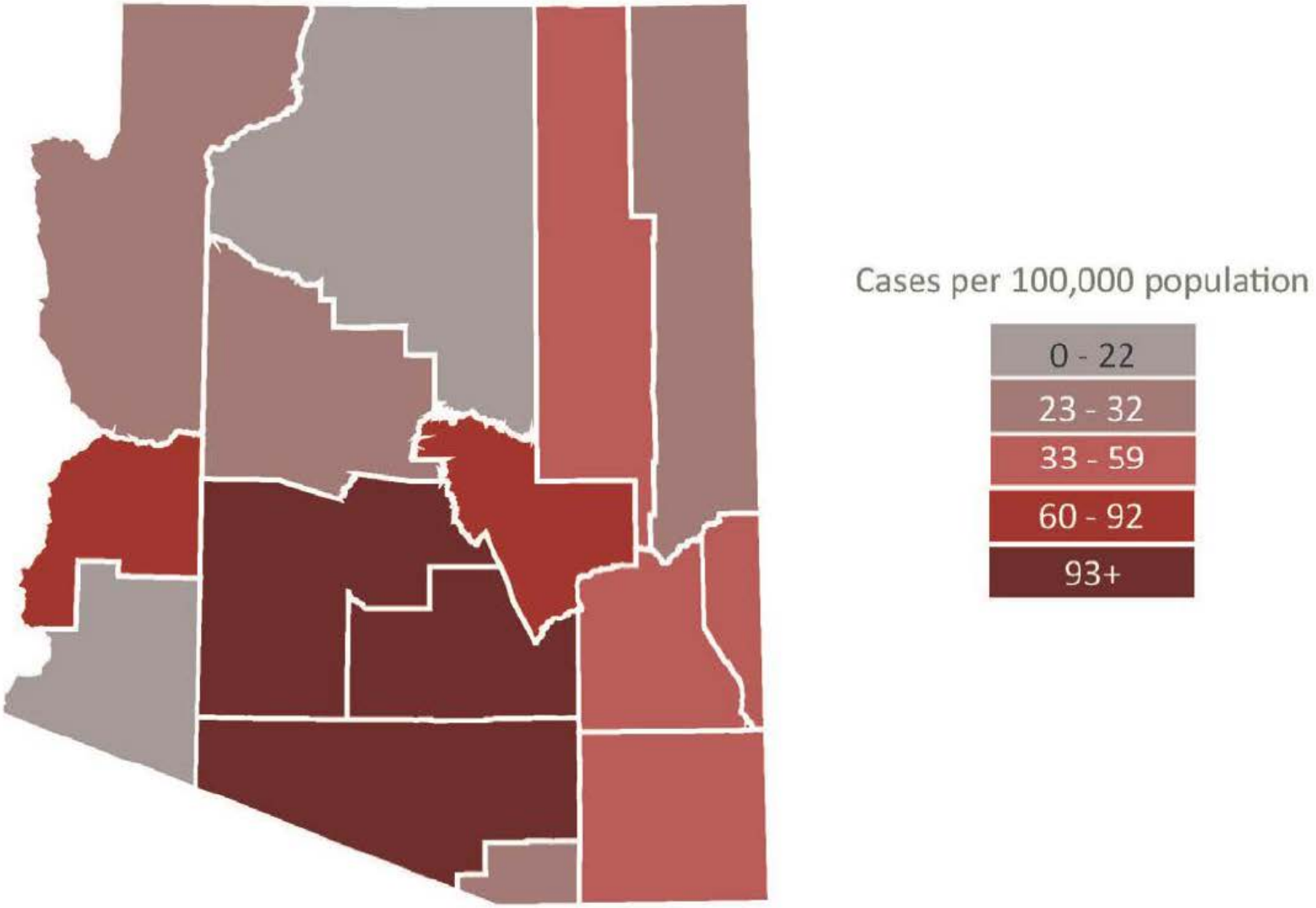
Reported Cases of Valley Fever per 100,000 population, Arizona 1990-2015



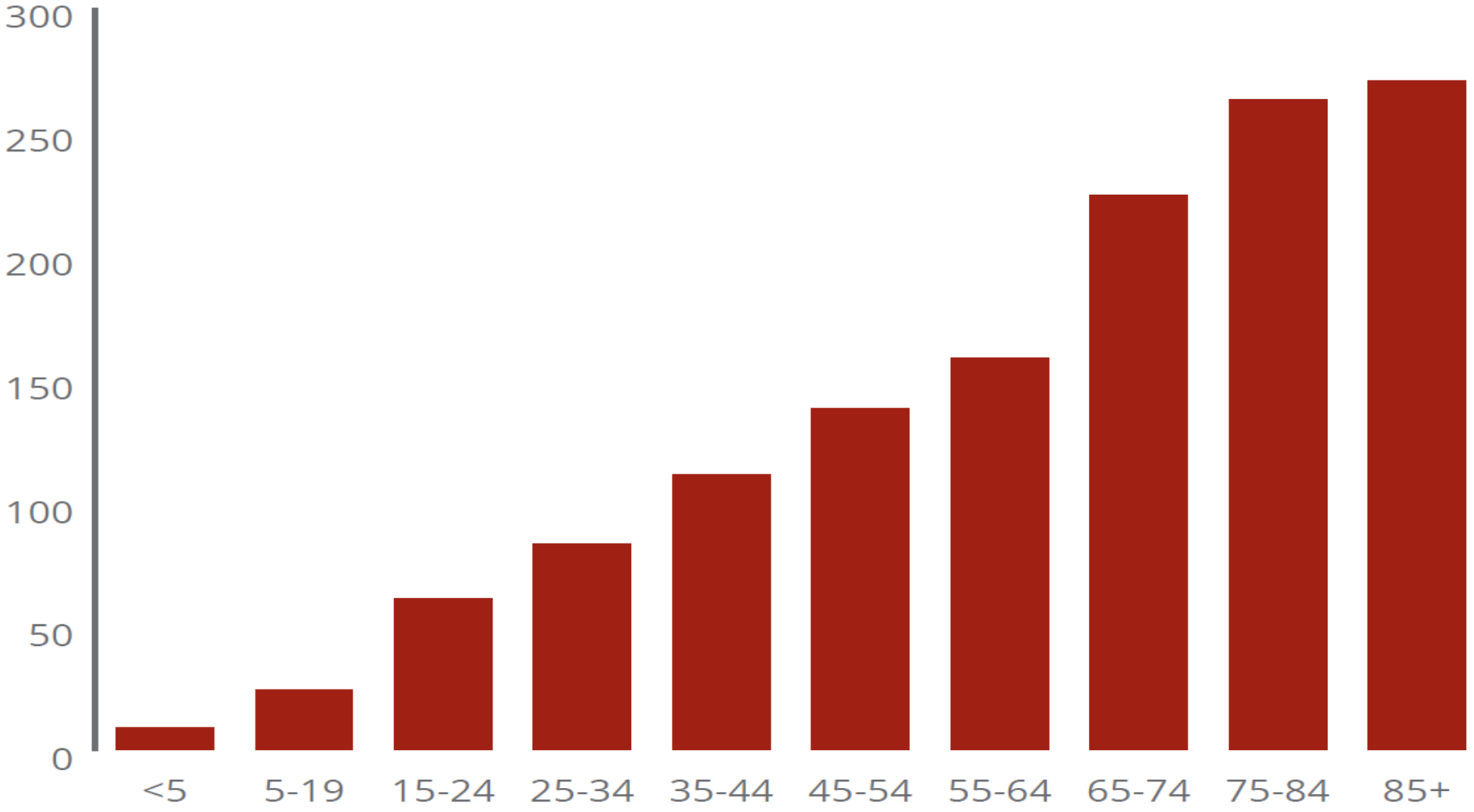
Cases Reported Annually by Reporting Organization, 2009-2015



Rates of Reported Cases by County, 2015

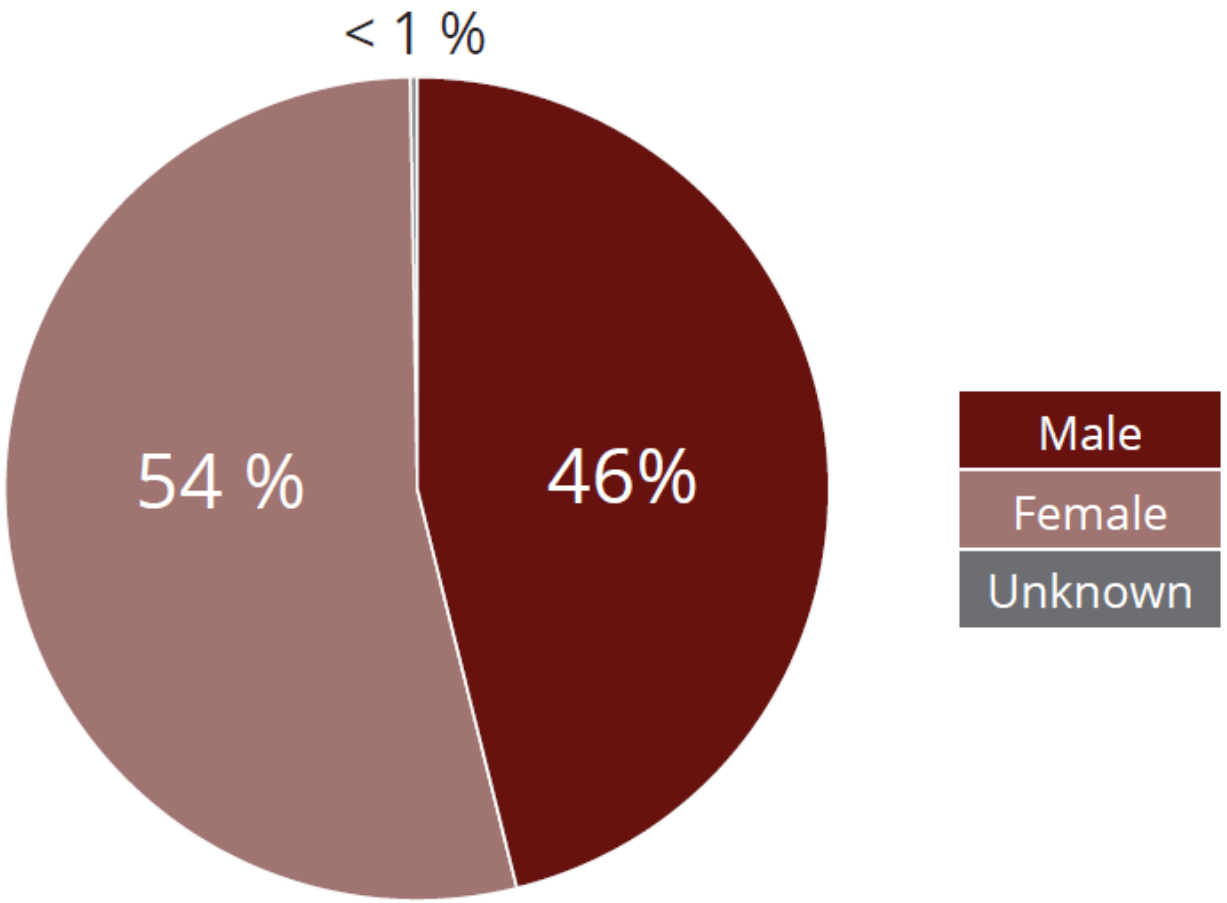


Rates of Reported Cases by Age Group

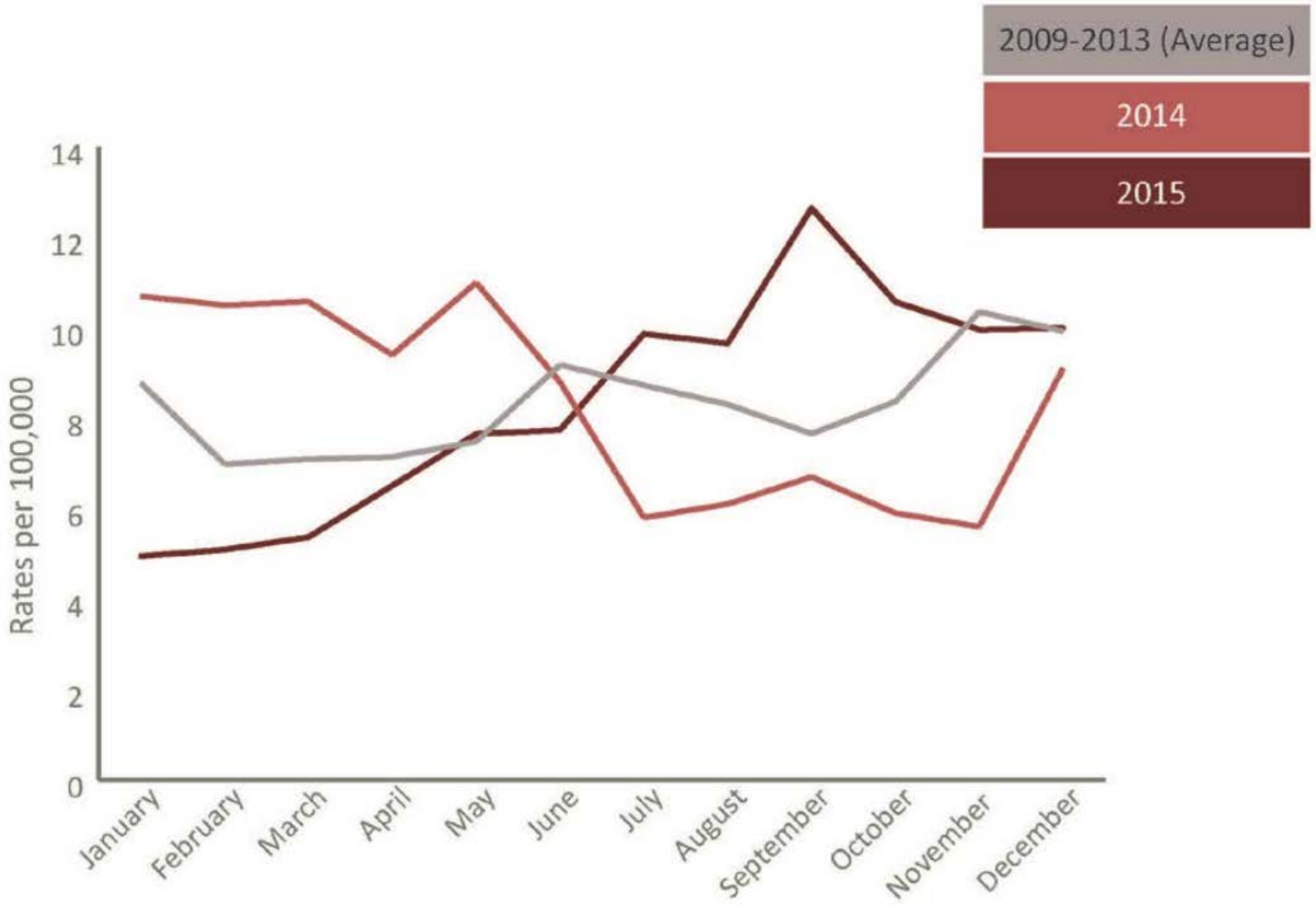


*Age could not be ascertained for 17 cases (approximately 0.2% of all cases).

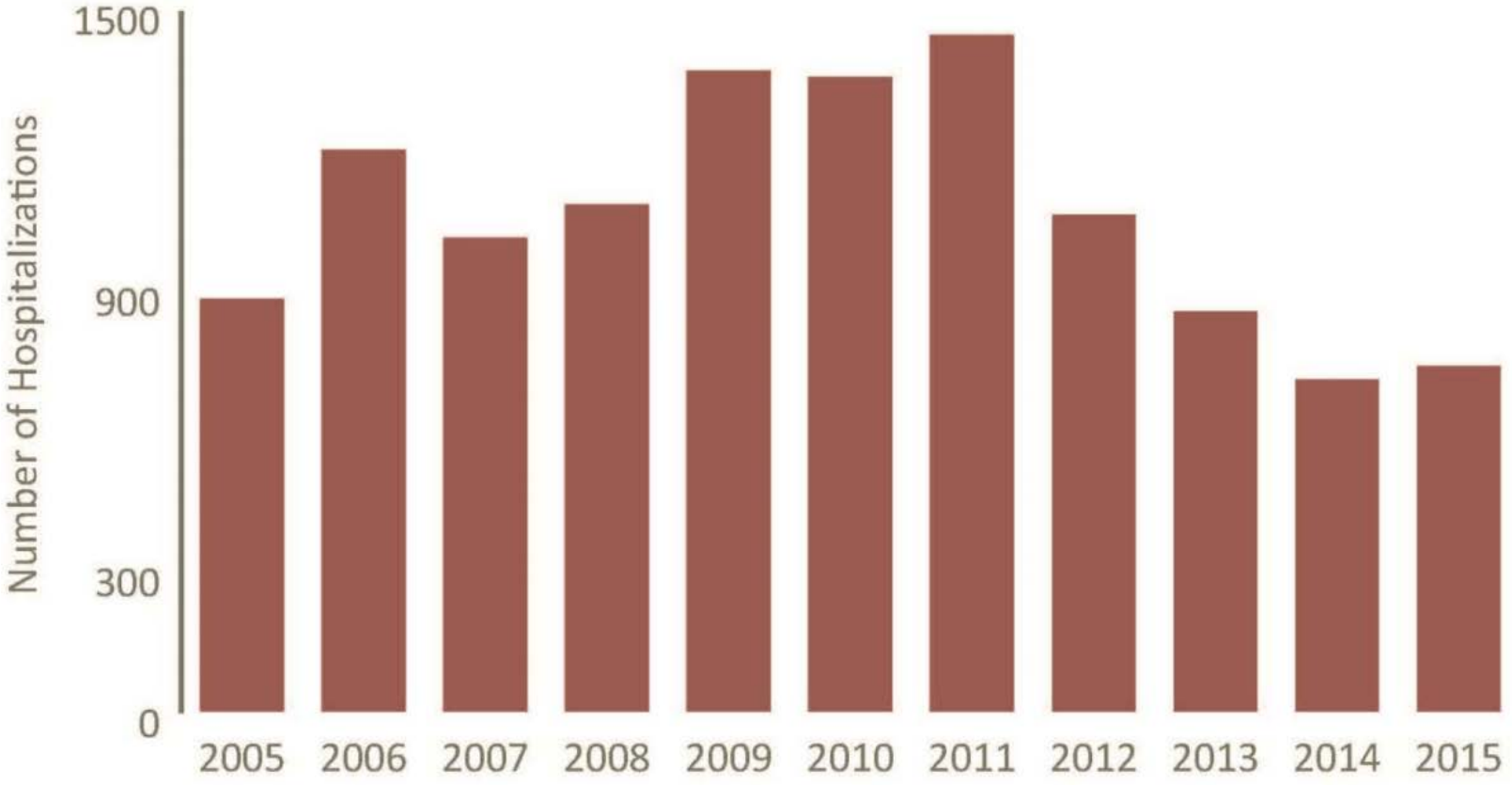
Rates of Reported Cases by Sex



Rates of annually reported cases by month, 2009-2015

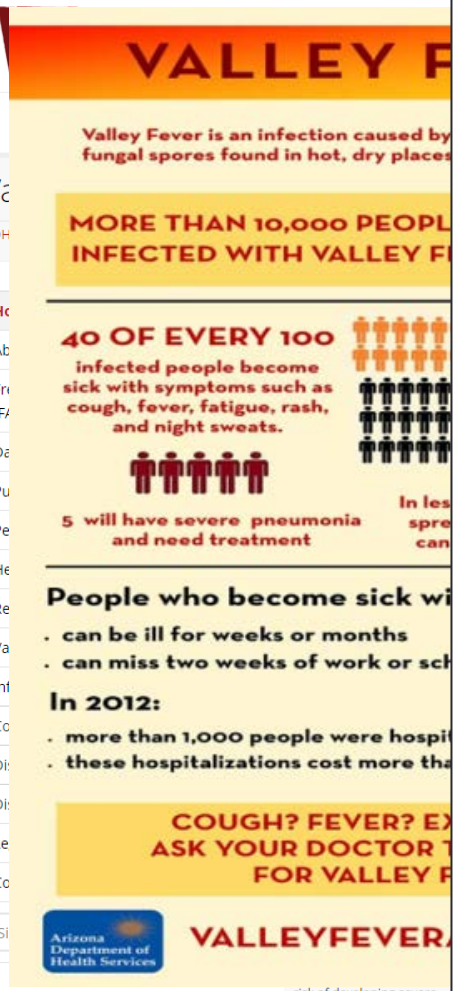


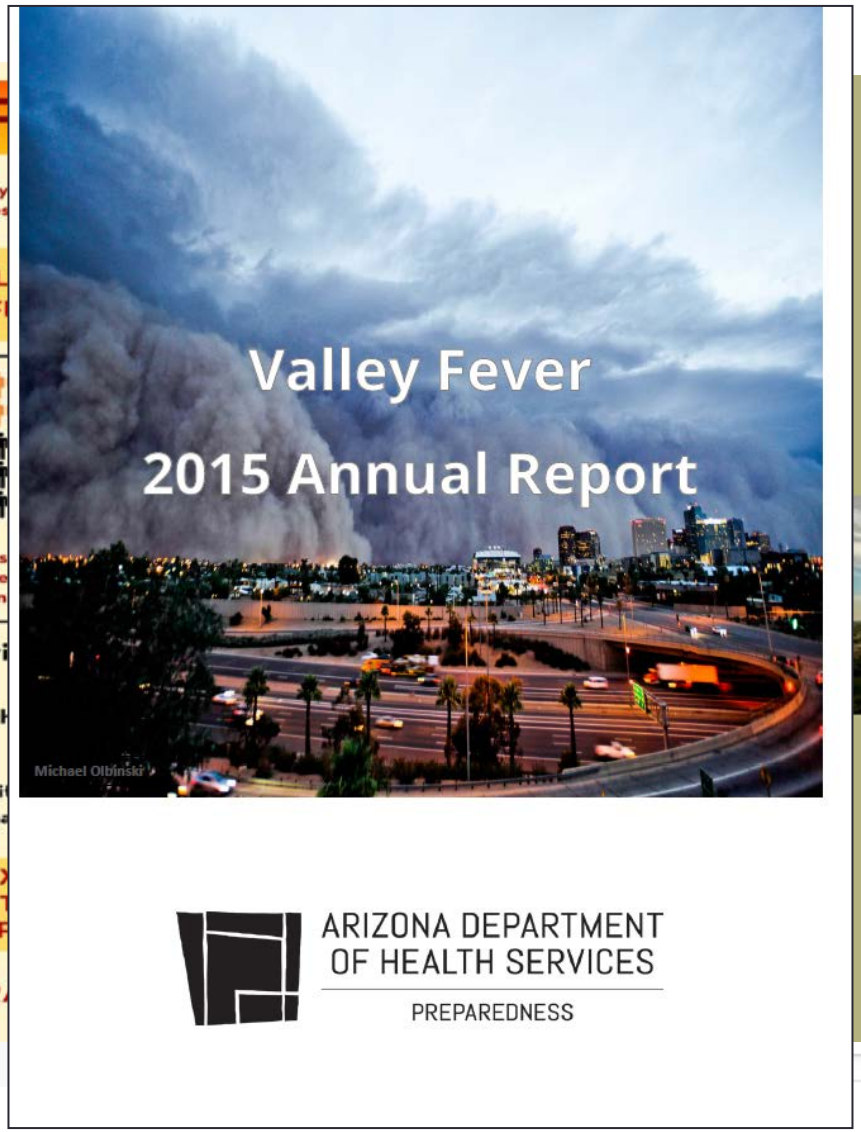
Hospitalizations with a primary diagnosis of valley fever, 2005-2015

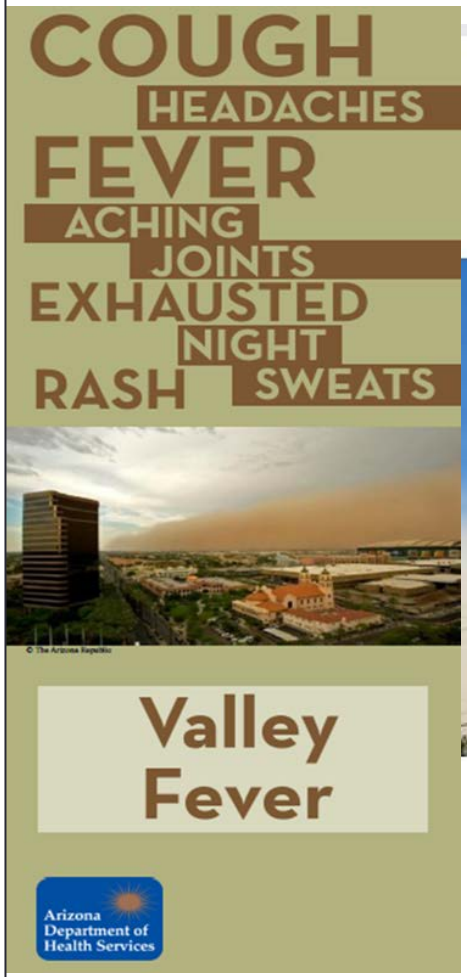


Impact of Valley Fever

Public Education and Outreach







Questions?

ARIZONA DEPARTMENT OF HEALTH SERVICES

VALLEY FEVER CENTER FOR EXCELLENCE

ValleyFeverArizona.org

THANK YOU

Xandy Peterson, MPH | Epidemiologist

alexandra.peterson@azdhs.gov | 602-364-3818

azhealth.gov

@azdhs

facebook.com/azdhs


why
when
who
where
what
why
QUESTIONS
who
how
where
who
what
how
why
when
how

THANK YOU

Arizona Department of Health Services

HAI@azdhs.gov | 602-364-3676

azhealth.gov

@azdhs

facebook.com/azdhs