2020 State of the State

January 24, 2020

Presenting to APIC Grand Canyon Chapter | Phoenix AZ

ARIZONA DEPARTMENT
OF HEALTH SERVICES

Today's Agenda

Topic	Presenter	Time
Welcome	Elizabeth Kim	1:10
MEDSIS Updates	Teresa Jue	1:15
Update on TB Screening for Healthcare Personnel	Cherie Stafford	1:25
Missed Opportunities for Curbing the STD Epidemic	Bree Anderson	1:35
West Nile Virus Season 2019	Irene Ruberto	1:45
Campy Summer	Brenna Garrett	1:55
Influenza Update	Liam Hicks	2:05
Name that parotitis! Is it mumps or something else…?	Liam Hicks	2:15
Carbapenem-resistant Enterobacteriaceae	Kaitlyn Chorbi	2:25
Antibiotic Stewardship in Ambulatory Healthcare Facilities	Juan Villanueva	2:35
Announcements and Questions	Elizabeth Kim	2:45

MEDSIS Update

January 24th, 2020

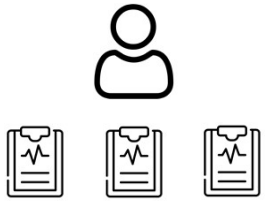
Presenting To

APIC State of the State | John C. Lincoln Medical Center

Teresa Jue | Informatics Supervisor

What happened in 2019?

Four MEDSIS Production releases
+ one more in January 2020!



Disease Reports

Other enhancements
& bug fixes

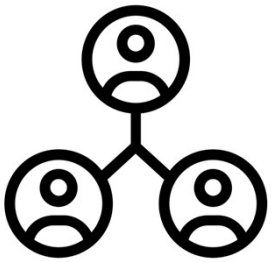
Future Enhancements

Disease Reports

Add disease reports to previously reported cases

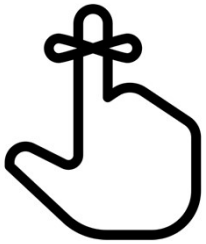
Edits/Updates/Change requests for previously entered disease reports

How do I submit feedback?

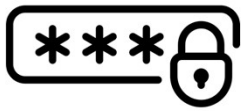


MEDSIS Infection Preventionist
Quarterly Workgroup Meetings

MEDSIS Help Desk
medsishelpdesk@azdhs.gov



A Few Reminders



Passwords expire every 90 days!

To reset your password, please visit
https://password.azdhs.gov

Accounts are disabled if inactive for 90 days!

Please contact the MEDSIS Help Desk (medsishelpdesk@azdhs.gov) if your account has been disabled.

Updated user agreements may also need to be submitted

THANK YOU

Teresa Jue | Informatics Supervisor

teresa.jue@azdhs.gov | 602-364-0151

medsishelpdesk@azdhs.gov

azhealth.gov/medsis

@azdhs

facebook.com/azdhs

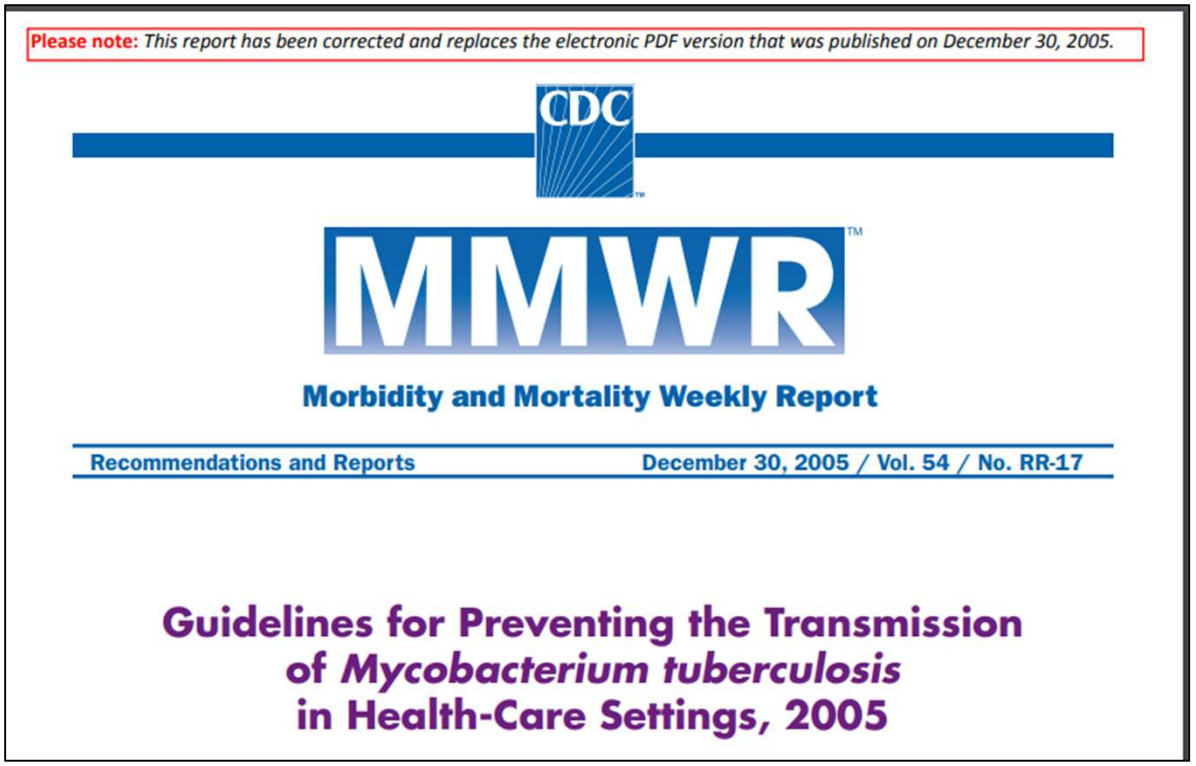
Update on TB Screening for Healthcare Personnel

Cherie Stafford, RN, MSN/MPH
TB Nurse Coordinator
Arizona Department of Health Services
January 24, 2020
Contact us at: tb@azdhs.gov

Health Care Personnel TB Screening

- MMWR released May 17, 2019
- Companion document pending
- AAC Title 9, chapter 10: R9-10-113 (pg 24) pertains to health care facilities licensed by ADHS
  - Note: there is an “or” after 1 and before 2
  - Link to Appendix B is on our website

Step 1: CDC Releases MMWR



Please note: *This report has been corrected and replaces the electronic PDF version that was published on December 30, 2005.*

CDC

MMWR™

Morbidity and Mortality Weekly Report

Recommendations and Reports — December 30, 2005 / Vol. 54 / No. RR-17

Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005

Update applies to health care worker screening only.
Rest of 2005 MMWR still in effect.

Morbidity and Mortality Weekly Report

Tuberculosis Screening, Testing, and Treatment of U.S. Health Care Personnel: Recommendations from the National Tuberculosis Controllers Association and CDC, 2019

TABLE. Comparison of 2005* and 2019† recommendations for tuberculosis (TB) screening and testing of U.S. health care personnel (HCP)

Category	2005 Recommendation	2019 Recommendation
Baseline (preplacement) screening and testing	TB screening of all HCP, including a symptom evaluation and test (IGRA or TST) for those without documented prior TB disease or LTBI.	TB screening of all HCP, including a symptom evaluation and test (IGRA or TST) for those without documented prior TB disease or LTBI (**unchanged**); individual TB risk assessment (**new**).
Postexposure screening and testing	Symptom evaluation for all HCP when an exposure is recognized. For HCP with a baseline negative TB test and no prior TB disease or LTBI, perform a test (IGRA or TST) when the exposure is identified. If that test is negative, do another test 8–10 weeks after the last exposure.	Symptom evaluation for all HCP when an exposure is recognized. For HCP with a baseline negative TB test and no prior TB disease or LTBI, perform a test (IGRA or TST) when the exposure is identified. If that test is negative, do another test 8–10 weeks after the last exposure (**unchanged**).
Serial screening and testing for HCP without LTBI	According to health care facility and setting risk assessment. Not recommended for HCP working in low-risk health care settings. Recommended for HCP working in medium-risk health care settings and settings with potential ongoing transmission.	Not routinely recommended (**new**); can consider for selected HCP groups (**unchanged**); recommend annual TB education for all HCP (**unchanged**), including information about TB exposure risks for all HCP (**new emphasis**).
Evaluation and treatment of positive test results	Referral to determine whether LTBI treatment is indicated.	Treatment is encouraged for all HCP with untreated LTBI, unless medically contraindicated (**new**).

Abbreviations: IGRA = interferon-gamma release assay; LTBI = latent tuberculosis infection; TST = tuberculin skin test.

* Jensen PA, Lambert LA, Iademarco MF, Ridzon R. Guidelines for preventing the transmission of *Mycobacterium tuberculosis* in health-care settings, 2005. MMWR Recomm Rep 2005;54(No. RR-17). https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm.

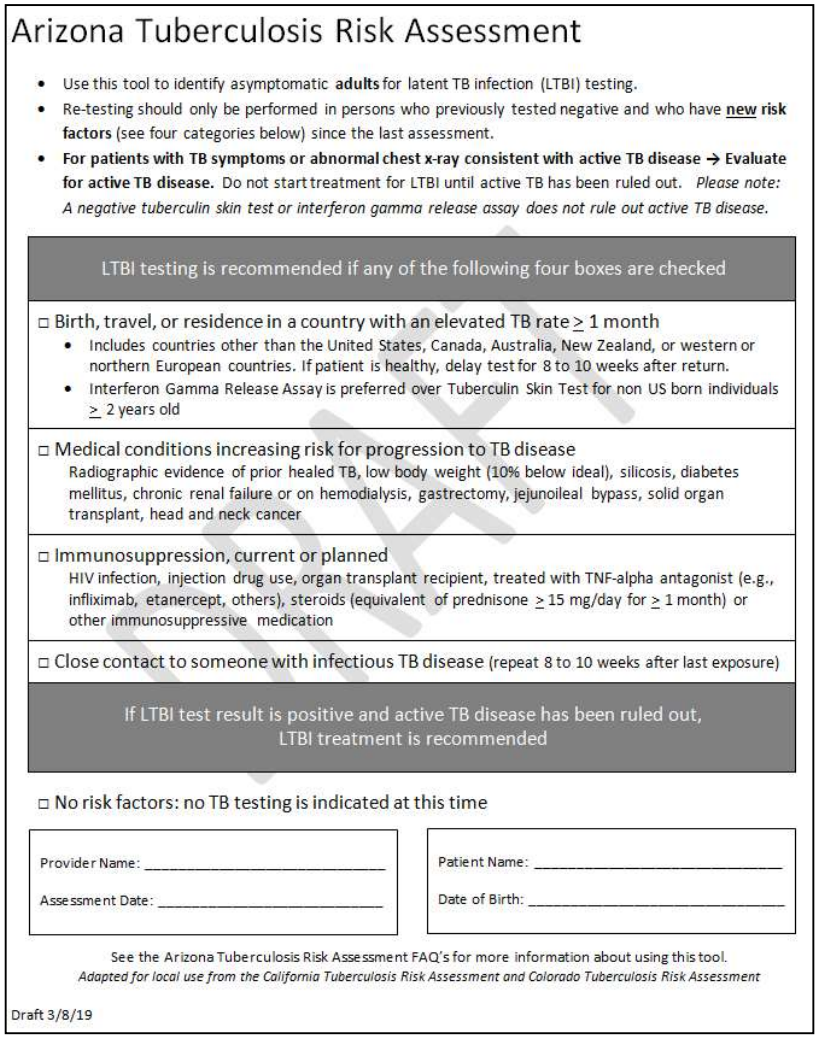
† All other aspects of the Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005 remain in effect, including facility risk assessments to help guide infection control policies and procedures.

- https://www.cdc.gov/mmwr/volumes/68/wr/pdfs/mm6819a3-H.pdf

If no LTBI treatment, annual symptom evaluation

Step 2: Companion Document is released in occupational health journal with expert opinion

Pending!!!!!!!!!!!



Arizona Tuberculosis Risk Assessment

- Use this tool to identify asymptomatic **adults** for latent TB infection (LTBI) testing.
- Re-testing should only be performed in persons who previously tested negative and who have **new risk factors** (see four categories below) since the last assessment.
- **For patients with TB symptoms or abnormal chest x-ray consistent with active TB disease → Evaluate for active TB disease.** Do not start treatment for LTBI until active TB has been ruled out. *Please note: A negative tuberculin skin test or interferon gamma release assay does not rule out active TB disease.*

LTBI testing is recommended if any of the following four boxes are checked

□ Birth, travel, or residence in a country with an elevated TB rate ≥ 1 month
- Includes countries other than the United States, Canada, Australia, New Zealand, or western or northern European countries. If patient is healthy, delay test for 8 to 10 weeks after return.
- Interferon Gamma Release Assay is preferred over Tuberculin Skin Test for non US born individuals ≥ 2 years old

□ Medical conditions increasing risk for progression to TB disease
Radiographic evidence of prior healed TB, low body weight (10% below ideal), silicosis, diabetes mellitus, chronic renal failure or on hemodialysis, gastrectomy, jejunoileal bypass, solid organ transplant, head and neck cancer

□ Immunosuppression, current or planned
HIV infection, injection drug use, organ transplant recipient, treated with TNF-alpha antagonist (e.g., infliximab, etanercept, others), steroids (equivalent of prednisone ≥ 15 mg/day for ≥ 1 month) or other immunosuppressive medication

□ Close contact to someone with infectious TB disease (repeat 8 to 10 weeks after last exposure)

If LTBI test result is positive and active TB disease has been ruled out, LTBI treatment is recommended

□ No risk factors: no TB testing is indicated at this time

Provider Name: _____
Assessment Date: _____

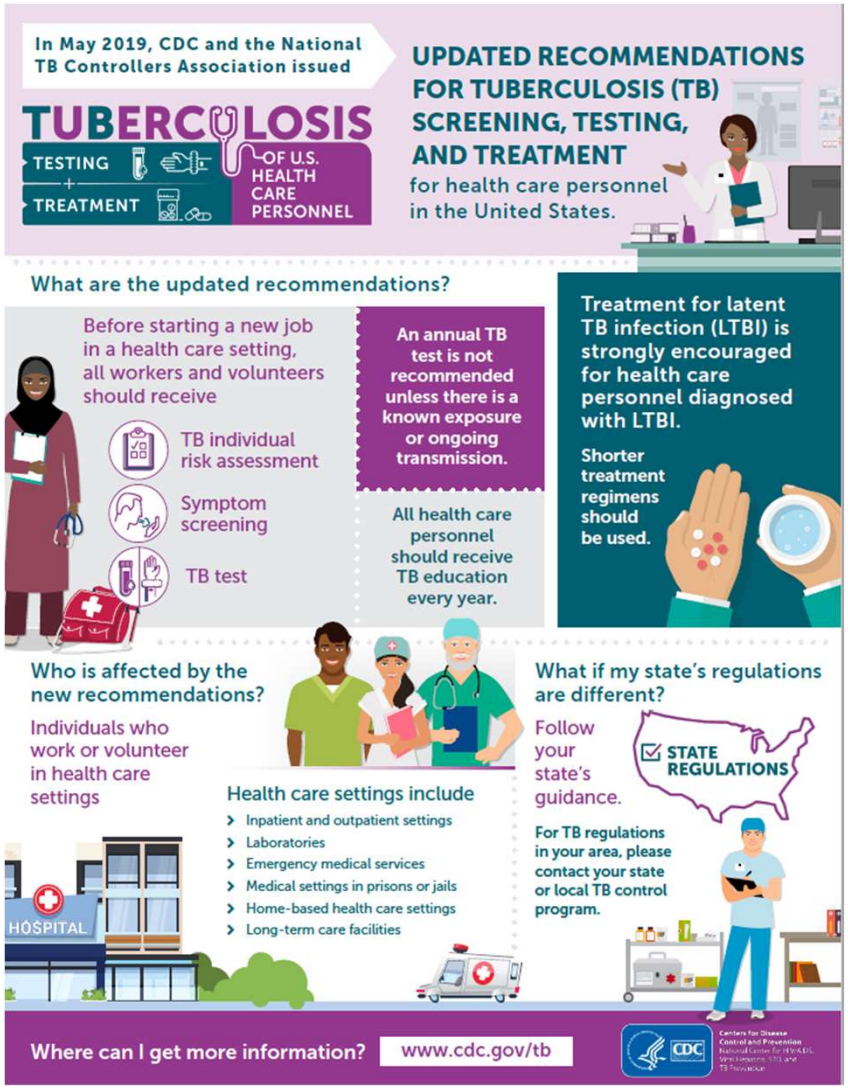
Patient Name: _____
Date of Birth: _____

See the Arizona Tuberculosis Risk Assessment FAQ's for more information about using this tool.
Adapted for local use from the California Tuberculosis Risk Assessment and Colorado Tuberculosis Risk Assessment

Draft 3/8/19

Step 3: ADHS TB & Licensing collaborate on how it applies to AZ

- AAC R9-10-113 still applies in Arizona
- Draft AZ risk assessment (two-sided with occupational health on opposite side???)
- FAQ's for AZ (CDC FAQ's available online)


In May 2019, CDC and the National TB Controllers Association issued
TUBERCULOSIS
TESTING + TREATMENT
OF U.S. HEALTH CARE PERSONNEL
UPDATED RECOMMENDATIONS FOR TUBERCULOSIS (TB) SCREENING, TESTING, AND TREATMENT
for health care personnel in the United States.
What are the updated recommendations?
Before starting a new job in a health care setting, all workers and volunteers should receive
TB individual risk assessment
Symptom screening
TB test
An annual TB test is not recommended unless there is a known exposure or ongoing transmission.
All health care personnel should receive TB education every year.
Treatment for latent TB infection (LTBI) is strongly encouraged for health care personnel diagnosed with LTBI.
Shorter treatment regimens should be used.
Who is affected by the new recommendations?
Individuals who work or volunteer in health care settings
Health care settings include
Inpatient and outpatient settings
Laboratories
Emergency medical services
Medical settings in prisons or jails
Home-based health care settings
Long-term care facilities
HOSPITAL
What if my state's regulations are different?
Follow your state's guidance.
STATE REGULATIONS
For TB regulations in your area, please contact your state or local TB control program.
Where can I get more information?
www.cdc.gov/tb
CDC


What if my state's regulations are different?
Follow your state's guidance.
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AAC R9-10-113 page 24

statement; or

2. Establish, document, and implement a tuberculosis infection control program that complies with the Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-care Settings, 2005, published by the U.S. Department of Health and Human Services, Atlanta, GA 30333 and available at http://www.cdc.gov/mmwr/PDF/RR/rr5417.pdf, incorporated by reference, on file with the Department, and including no future editions or amendments and includes:
   a. Conducting tuberculosis risk assessments, conducting tuberculosis screening testing, screening for signs or symptoms of tuberculosis, and providing training and education related to recognizing the signs and symptoms of tuberculosis; and
   b. Maintaining documentation of any:
      i. Tuberculosis risk assessment;
      ii. Tuberculosis screening test of an individual who is employed by the health care institution, provides volunteer services for the health care institution, or is admitted to the health care institution; and
      iii. Screening for signs or symptoms of tuberculosis of an individual who is employed by the health care institution, provides volunteer services for the health care institution, or is admitted to the health care institution

"All other aspects of the Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Settings, 2005 remain in effect, including facility risk assessments to help guide infection control policies and procedures."

https://www.cdc.gov/mmwr/volumes/68/wr/pdfs/mm6819a3-H.pdf

Appendix B. Tuberculosis (TB) risk assessment worksheet

This model worksheet should be considered for use in performing TB risk assessments for health-care facilities and nontraditional facility-based settings. Facilities with more than one type of setting will need to apply this table to each setting.

Scoring √ or Y = Yes	X or N = No	NA = Not Applicable

1. Incidence of TB

What is the incidence of TB in your community (county or region served by the health-care setting), and how does it compare with the state and national average? What is the incidence of TB in your facility and specific settings and how do those rates compare? (Incidence is the number of TB cases in your community the previous year. A rate of TB cases per 100,000 persons should be obtained for comparison.)* This information can be obtained from the state or local health department.	Community rate _____ State rate _____ National rate _____ Facility rate _____ Department 1 rate _____ Department 2 rate _____ Department 3 rate _____
Are patients with suspected or confirmed TB disease encountered in your setting (inpatient and outpatient)?	Yes No
If yes, how many patients with suspected and confirmed TB disease are treated in your health-care setting in 1 year (inpatient and outpatient)? Review laboratory data, infection-control records, and databases containing discharge diagnoses.	Year No. patients Suspected Confirmed 1 year ago _____ _____ 2 years ago _____ _____ 5 years ago _____ _____

https://www.cdc.gov/tb/publications/guidelines/pdf/appendixb_092706.pdf

ARIZONA DEPARTMENT OF HEALTH SERVICES
Health and Wellness for All Arizonans

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Disease Integration & Services

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- Tuberculosis (TB) Control
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  - Data & Reports Archive
  - Patient Education & Resources
  - Reporting Tuberculosis Cases
  - Tuberculosis Programs Resources
  - Provider & Infection Control Resources
  - Local Contacts
- School & Childcare Resources
- Human Immunodeficiency Virus (HIV) Epidemiology
- Human Immunodeficiency Virus (HIV) Care & Services
- AIDS Drug Assistance Program (ADAP)
- Sexually Transmitted Disease (STD) Control
- Communicable Disease Reporting

Tuberculosis (TB) Control - Home

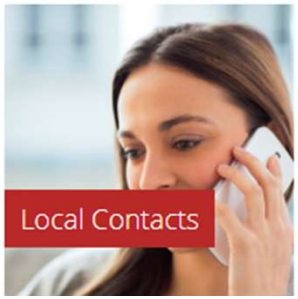
- 2017 Arizona TB Cases & Rates by County
- Governor Ducey's 2018 Proclamation for World TB Day

Review current and past yearly reports on TB in Arizona.

Find resources and facts on TB.

Get the information on TB reporting.

Receive the resources necessary for TB programs.



http://azhealth.gov/tb

Arizona Tuberculosis Disease

Case Count & Incidence, 2018

County	Case Count 2018	Population 2018	2018 Incidence Rate per 100,000	Incidence Rate 5-yr average
Apache	1	73,330	1.36	5.26
Cochise	1	130,319	0.77	1.40
Coconino	5	145,564	3.43	2.52
Gila	0	54,946	--	1.84
Graham	0	38,126	--	1.57
Greenlee	0	10,506	--	--
La Paz	0	21,890	--	0.94
Maricopa	95	4,294,460	2.21	2.26
Mohave	2	212,948	0.94	0.77
Navajo	2	112,746	1.77	0.90
Pima	19	1,034,201	1.84	2.74
Pinal	41	440,591	9.31	8.31
Santa Cruz	0	52,390	--	1.59
Yavapai	2	228,970	0.87	0.54
Yuma	10	225,212	4.44	7.89
Arizona	178	7,076,199	2.52	2.76
U.S.	9,029¥	n/a	2.76¥	2.88¥

*Population data obtained from: https://population.az.gov/sites/default/files/documents/files/pop-estimates2018-04pla.pdf

¥ Based on provisional data; sourced Feb 11th, 2019

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Are patients with suspected or confirmed TB disease encountered in your setting (inpatient and outpatient)?	Yes No
If yes, how many patients with suspected and confirmed TB disease are treated in your health-care setting in 1 year (inpatient and outpatient)? Review laboratory data, infection-control records, and databases containing discharge diagnoses.	Year No. patients Suspected Confirmed 1 year ago _____ _____ 2 years ago _____ _____ 5 years ago _____ _____
containing discharge diagnoses.	
Depending on the number of beds and TB patients encountered in 1 year, what is the risk classification for your inpatient setting? (See Appendix C.)	o Low risk o Medium risk o Potential ongoing transmission

Appendix C (2005 MMWR)

Appendix C. Risk classifications for various health-care settings and recommended frequency of screening for *Mycobacterium tuberculosis* infection among health-care workers (HCWs)*

Setting	Risk classification†		
	Low risk	Medium risk	Potential ongoing transmission§
Inpatient <200 beds	<3 TB patients/year	≥3 TB patients/year	Evidence of ongoing *M. tuberculosis* transmission, regardless of setting
Inpatient ≥200 beds	<6 TB patients/year	≥6 TB patients/year	
Outpatient; and nontraditional facility-based	<3 TB patients/year	≥3 TB patients/year	
TB treatment facilities	Settings in which • persons who will be treated have been demonstrated to have latent TB infection (LTBI) and not TB disease • a system is in place to promptly detect and triage persons who have signs or symptoms of TB disease to a setting in which persons with TB disease are treated • no cough-inducing or aerosol-generating procedures are performed	Settings in which • persons with TB disease are encountered • criteria for low risk are not otherwise met	
Laboratories	Laboratories in which clinical specimens that might contain *M. tuberculosis* are not manipulated	Laboratories in which clinical specimens that might contain *M. tuberculosis* might be manipulated	
Recommendations for Screening Frequency			
Baseline two-step TST or one BAMT¶	Yes, for all HCWs upon hire	Yes, for all HCWs upon hire	Yes, for all HCWs upon hire
Serial TST or BAMT screening of HCWs	No**	At least every 12 months††	As needed in the investigation of potential ongoing transmission§§
TST or BAMT for HCWs upon unprotected exposure to *M. tuberculosis*	Perform a contact investigation (i.e., administer one TST or BAMT as soon as possible at the time of exposure, and, if the result is negative, give a second test [TST or BAMT, whichever was used for the first test] 8–10 weeks after the end of exposure to *M. tuberculosis*)¶¶		

* The term Health-care workers (HCWs) refers to all paid and unpaid persons working in health-care settings who have the potential for exposure to *M. tuberculosis* through air space shared with persons with TB disease.

† Settings that serve communities with a high incidence of TB disease or that treat populations at high risk (e.g., those with human immunodeficiency virus infection or other immunocompromising conditions) or that treat patients with drug-resistant TB disease might need to be classified as medium risk, even if they meet the low-risk criteria.

§ A classification of potential ongoing transmission should be applied to a specific group of HCWs or to a specific area of the health-care setting in which evidence of ongoing transmission is apparent, if such a group or area can be identified. Otherwise, a classification of potential ongoing transmission should be applied to the entire setting. This classification should be temporary and warrants immediate investigation and corrective steps after a determination has been made that ongoing transmission has ceased. The setting should be reclassified as medium risk, and the recommended timeframe for this medium risk classification is at least 1 year.

¶ All HCWs upon hire should have a documented baseline two-step tuberculin skin test (TST) or one blood assay for *M. tuberculosis* (BAMT) result at each new health-care setting, even if the setting is determined to be low risk. In certain settings, a choice might be made to not perform baseline TB screening or serial TB screening for HCWs who 1) will never be in contact with or have shared air space with patients who have TB disease (e.g., telephone operators who work in a separate building from patients) or 2) will never be in contact with clinical specimens that might contain *M. tuberculosis*. Establishment of a reliable baseline result can be beneficial if subsequent screening is needed after an unexpected exposure to *M. tuberculosis*.

** HCWs in settings classified as low risk do not need to be included in the serial TB screening program.

†† The frequency of screening for infection with *M. tuberculosis* will be determined by the risk assessment for the setting and determined by the Infection Control team.

§§ During an investigation of potential ongoing transmission of *M. tuberculosis*, testing for *M. tuberculosis* infection should be performed every 8–10 weeks until a determination has been made that ongoing transmission has ceased. Then the setting should be reclassified as medium risk for at least 1 year.

¶¶ Procedures for contact investigations should not be confused with two-step TSTs, which are used for baseline TST results for newly hired HCWs.

Health Care Facilities should collaborate with Local TB Programs for Contact Investigations

Not all TB is potentially infectious:

- **Were 3 sputums collected at least 8 hours apart (and at least 1 early morning) to rule out pulmonary TB?**
- **BAL ≠ sputum. *Options: induced or spontaneously expectorated sputum***
- **Was a medical procedure performed that may have aerosolized TB?**

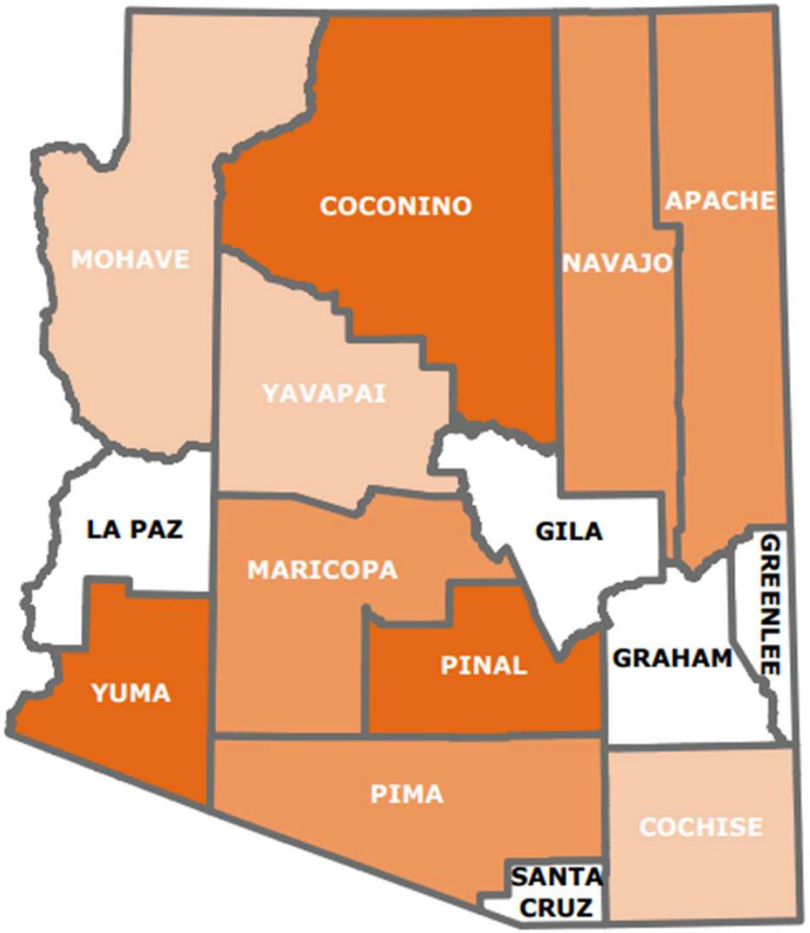
Post-Exposure Screening and Testing

All health care personnel with a known exposure to TB disease should receive a TB symptom screen and timely testing, if indicated.

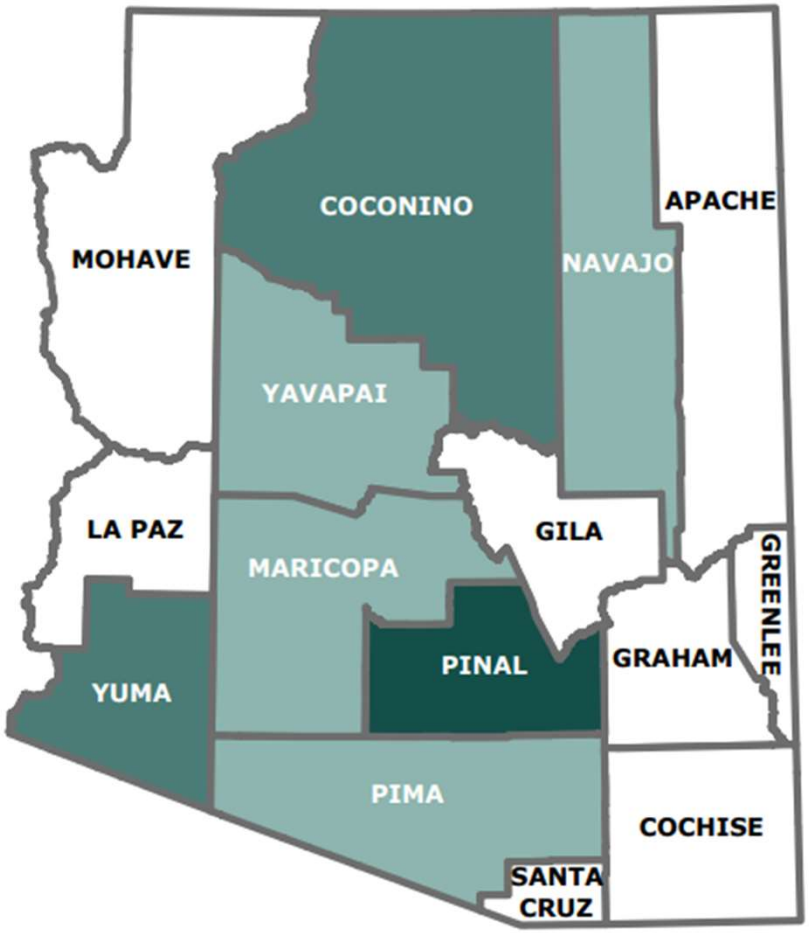
- Health care personnel with a previous negative TB test result should be tested immediately and re-tested 8 to 10 weeks after the last known exposure. For consistency, the same type of TB test (e.g., TB blood test or TB skin test) should be used upon hire (i.e., preplacement) and for any follow-up testing.
- Health care personnel with a documented history of a positive TB test result do not need to be re-tested after exposure to TB. They should receive a TB symptom screen and if they have symptoms of TB, they should be evaluated for TB disease.

https://www.cdc.gov/tb/topic/testing/healthcareworkers.htm

Around **70%** of persons diagnosed with TB disease were **Pulmonary Culture Positive** in 2018.



Sputum Smear & Culture Positivity occurred in **<30%** of persons diagnosed with TB disease in 2018.



Incidence
per 100,000
- 0
- 0.1—1.0
- 1.1—2.0
- >2.0

Pulmonary Culture Positive			Sputum Smear & Culture Positive	
Incidence	Count		Count	Incidence
1.36	1	APACHE	0	0.00
0.77	1	COCHISE	0	0.00
2.06	3	COCONINO	2	1.37
0.00	0	GILA	0	0.00
0.00	0	GRAHAM	0	0.00
0.00	0	GREENLEE	0	0.00
0.00	0	LA PAZ	0	0.00
1.58	68	MARICOPA	27	0.63
0.94	2	MOHAVE	0	0.00
1.77	2	NAVAJO	1	0.89
1.35	14	PIMA	8	0.77
5.90	26	PINAL	9	2.04
0.00	0	SANTA CRUZ	0	0.00
0.87	2	YAVAPAI	1	0.44
4.00	9	YUMA	3	1.33
1.81	**128**	**ARIZONA**	**51**	**0.72**

Incidence
per 100,000
- 0
- 0.1—1.0
- 1.1—2.0
- >2.0

Baseline Testing Will Continue. . .

Baseline TB Screening and Testing

All U.S. health care personnel should be screened for TB upon hire (i.e., preplacement). TB screening is a process that includes:

- A baseline individual TB risk assessment ,
- TB symptom evaluation,
- A TB test (e.g., TB blood test or a TB skin test), and
- Additional evaluation for TB disease as needed.

Information from the baseline individual TB risk assessment should be used to interpret the results of a TB blood tes or TB skin test given upon hire (i.e., preplacement). Health care personnel with a positive TB test result should receive a symptom evaluation and a chest x-ray to rule out TB disease. Additional workup may be needed based on those results.

Health care personnel with a documented history of a prior positive TB test should receive a baseline individual TB risk assessment and TB symptom screen upon hire (i.e., preplacement). A repeat TB test (e.g., TB blood test or a TB skin test) is not required.

https://www.cdc.gov/tb/topic/testing/healthcareworkers.htm

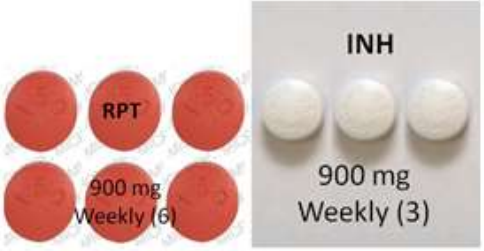
For example, health care personnel with a positive test who are asymptomatic, unlikely to be infected with *M. tuberculosis*, and at low risk for progression on the basis of their risk assessment should have a second test (either an IGRA or a TST) as recommended in the 2017 TB diagnostic guidelines of the American Thoracic

New Emphasis on LTBI Treatment

Health care personnel with LTBI and no prior treatment should be offered, and strongly encouraged to complete, treatment with a recommended regimen, including short-course treatments, unless a contraindication exists (*17*,*18*). Health care personnel who do not complete LTBI treatment should be monitored with annual symptom evaluation to detect early evidence of TB disease and to reevaluate the risks and benefits of LTBI treatment. These health care personnel also should be educated about the signs and symptoms of TB disease that should prompt an immediate evaluation between screenings.

If no LTBI treatment, annual symptom evaluation

How to treat TB infection
(and Stop TB in our lifetime!)

Regimens for Treating LTBI (dosage shown based on adults weighing ≥ 50 kg)	Length of Treatment Number of Doses Number of Pills	$*
	 Isoniazid Every day for 9 months (270 doses, 270 pills) *Fewer than 60% complete full course*	$30
	 Rifampin Every day for 4 months (120 doses, 240 pills)	$110
	 Isoniazid and Rifapentine once a week for 12 weeks by DOT (12 doses, 108 pills) *Preliminary results for RPT/INH:* *more than 80% complete treatment!*	$76


Thank you
tb@azdhs.gov

Missed opportunities for curbing the STD Epidemic

Breanne Anderson, MPH
Epidemiologist, Arizona Department of Health Services

The State of STDs in the United States

STDS SURGE FOR THE FIFTH STRAIGHT YEAR, REACHING AN ALL-TIME HIGH.

1.8 million
CASES OF CHLAMYDIA
19% rate increase since 2014

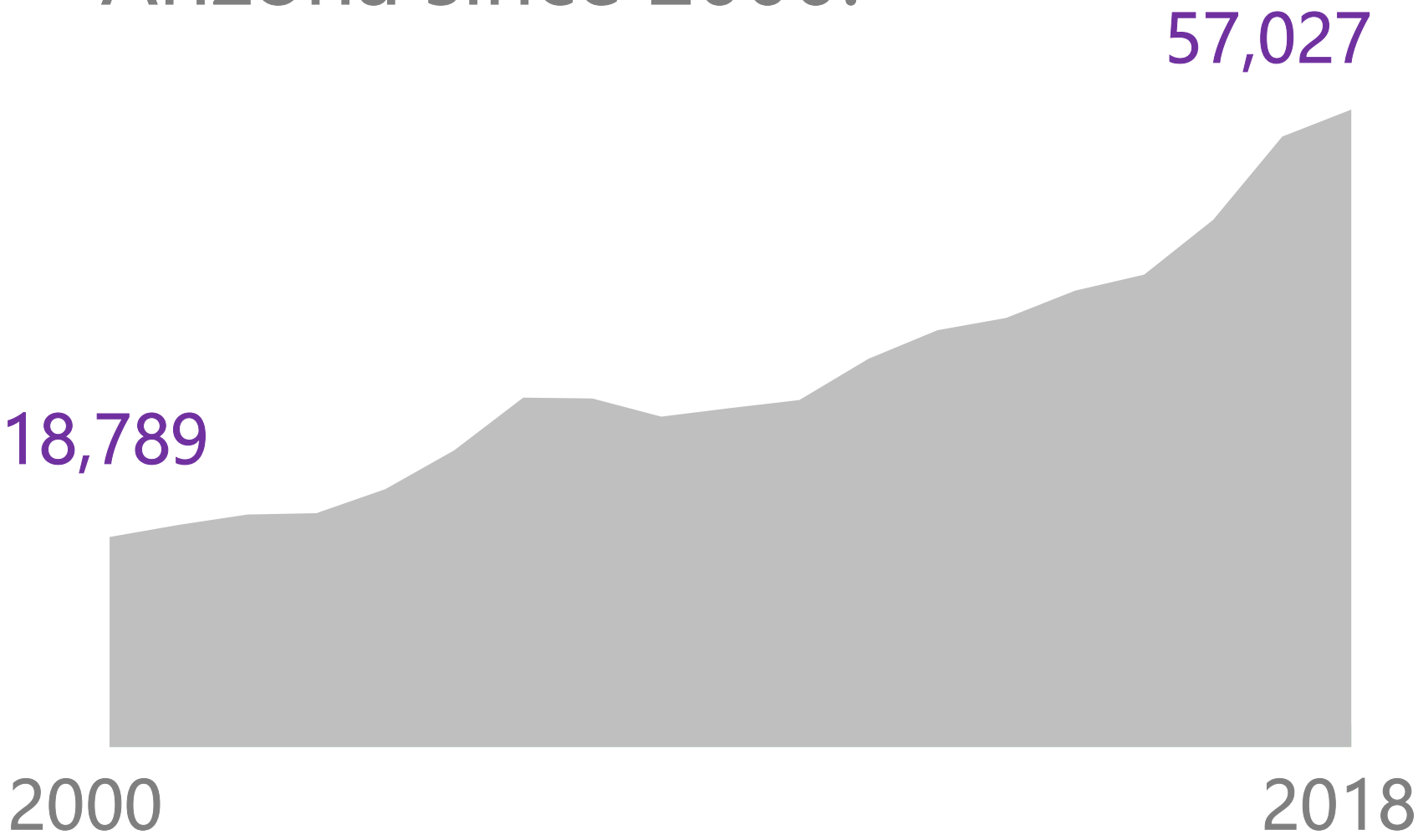
583,405
CASES OF GONORRHEA
63% rate increase since 2014

115,045
CASES OF SYPHILIS
71% rate increase of infectious syphilis since 2014

1,306
CASES OF SYPHILIS AMONG NEWBORNS
185% rate increase since 2014

LEARN MORE AT: www.cdc.gov/std/

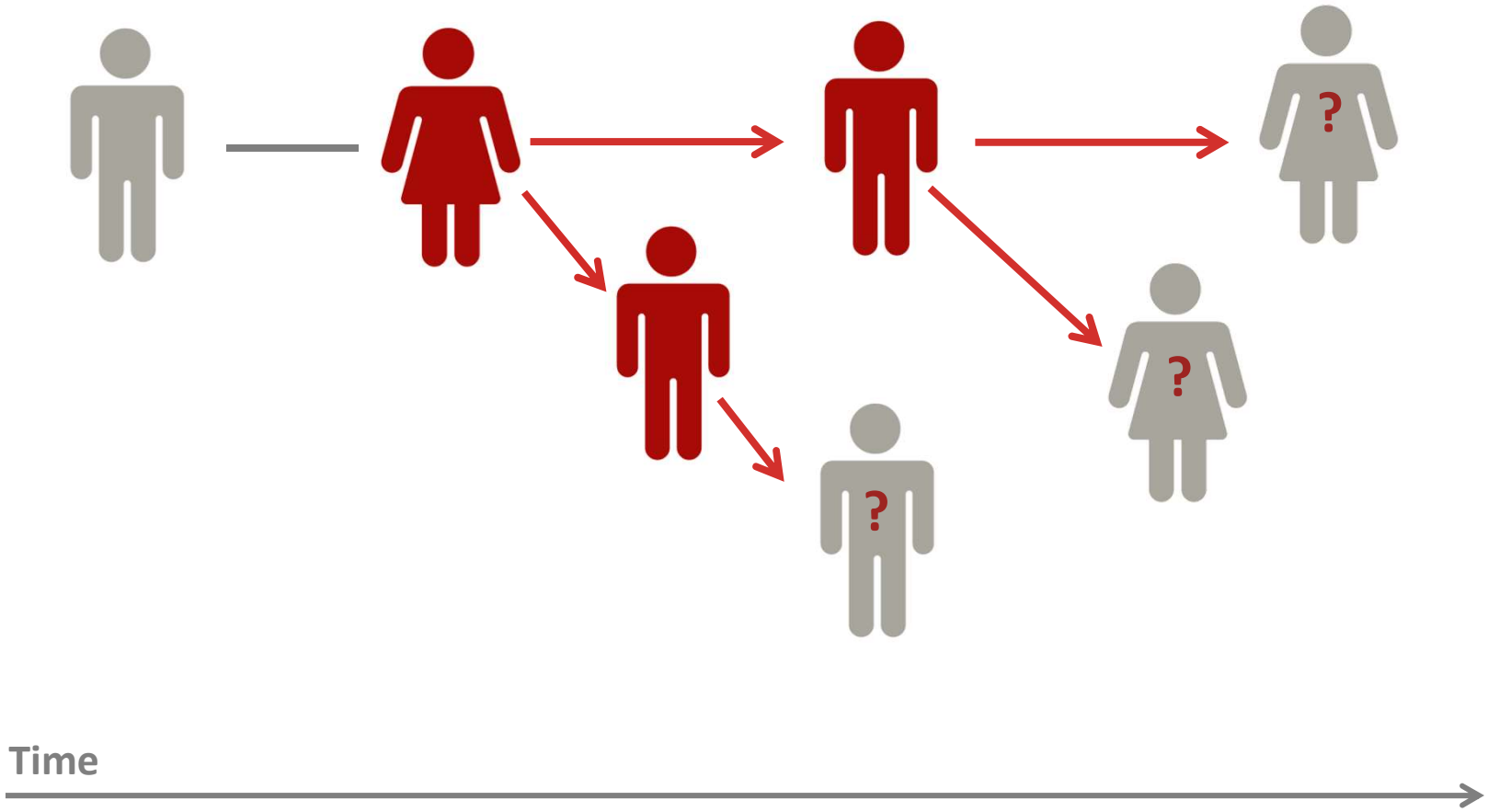
STDs have been rising in Arizona since 2000.



How can you help combat the rise in **chlamydia** and **gonorrhea**?

Offer Expedited Partner Therapy (EPT)

Consequences of not treating partners

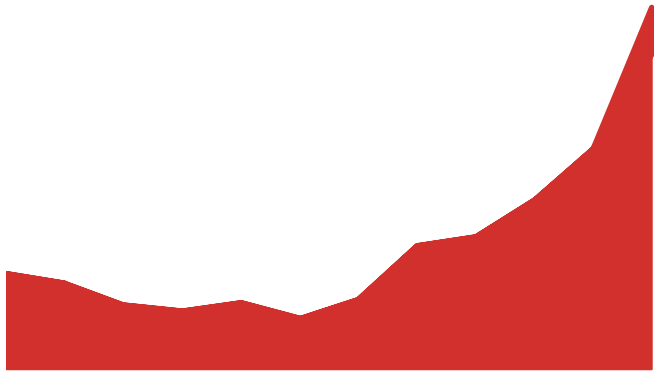


What's up with syphilis?

STDs in Arizona

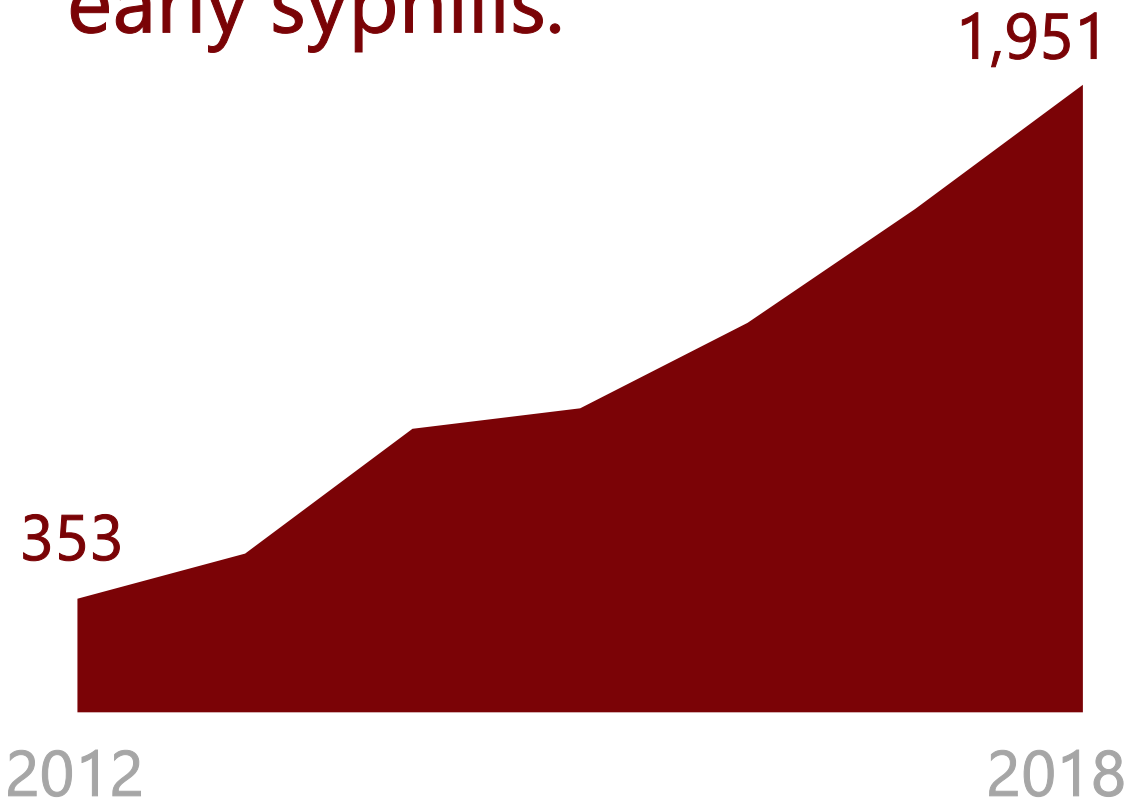
2007 2018

Syphilis in Arizona



2007 **2018**

There has been a sharp increase in **early syphilis.**



Since 2012, early syphilis has increased

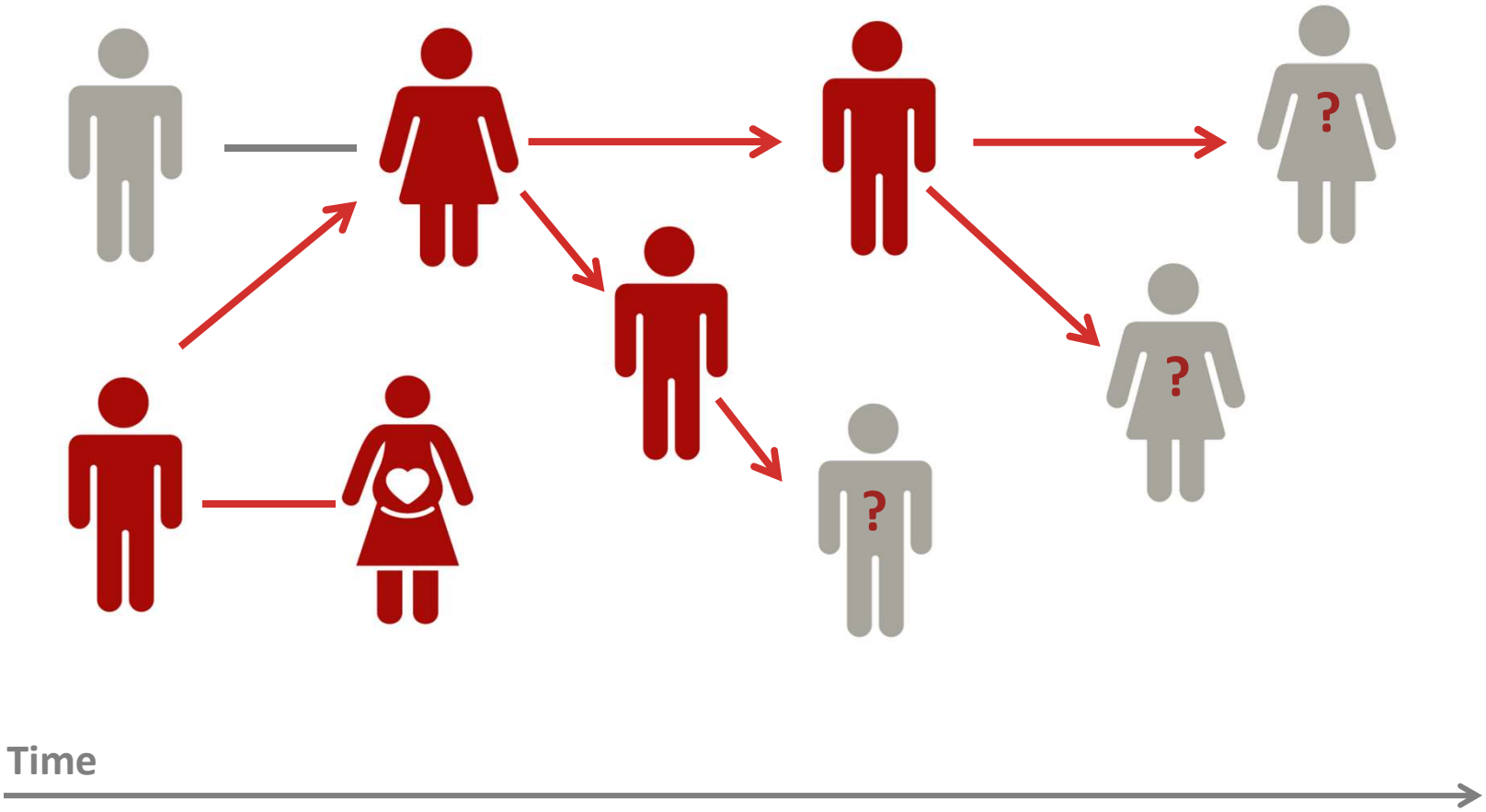
453%

Arizona has the 4th highest rate of **syphilis** in the Nation!

Communicable Disease Investigators (CDI)

County Health Department

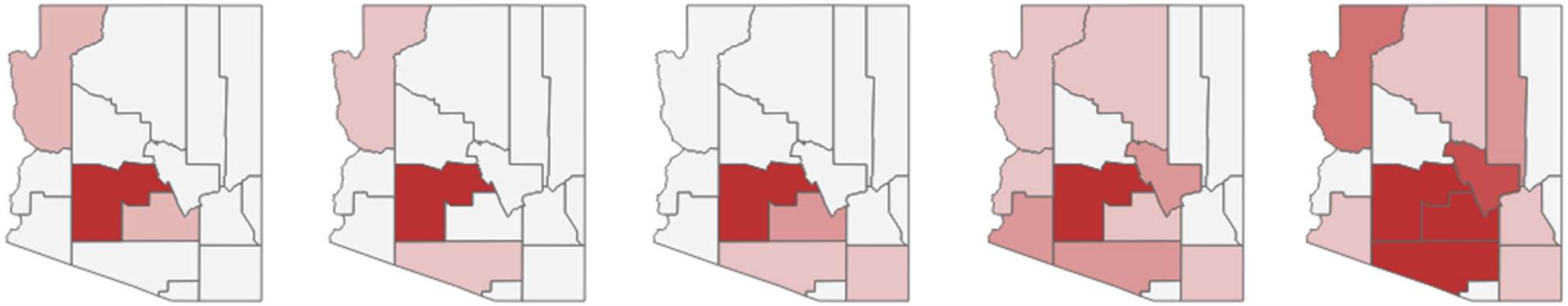
Why partner services?




Treat symptomatic patients and contacts
SAME DAY.

CS is moving rural

Congenital Syphilis in Arizona



2014 2015 2016 **2017** **2018**

So far in 2019

100 cases survived

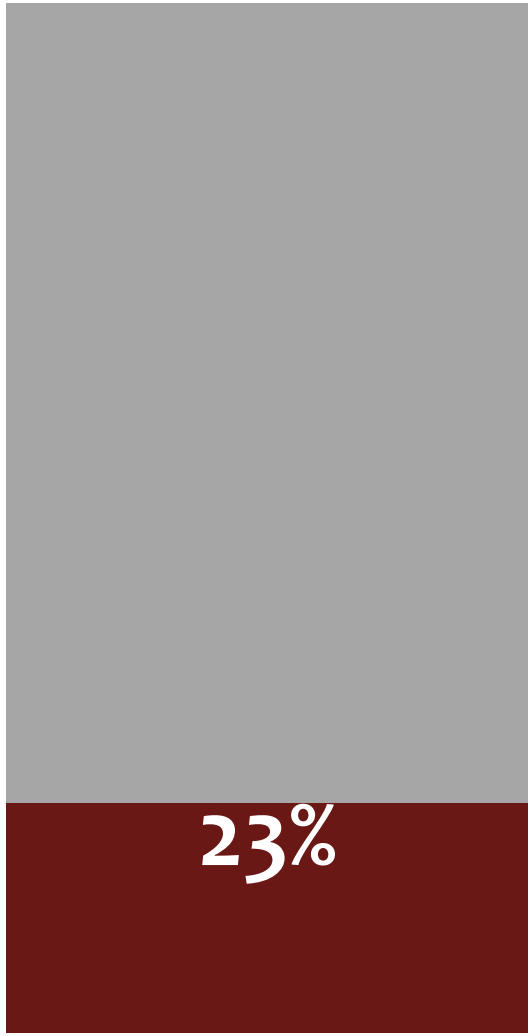
6 stillbirths

0 infant deaths

106

Total

Congenital Syphilis Cases



23% of cases had **NO PRENATAL CARE,**
may have had ER visits during pregnancy


Treat symptomatic patients and contacts
SAME DAY.


33%!

Thanks!

Bree Anderson
Epidemiologist
breanne.anderson@azdhs.gov
602-542-9367

Want to learn more?

azdhs.gov/std

std@azdhs.gov

Check out the AZID App!

West Nile Virus Season 2019

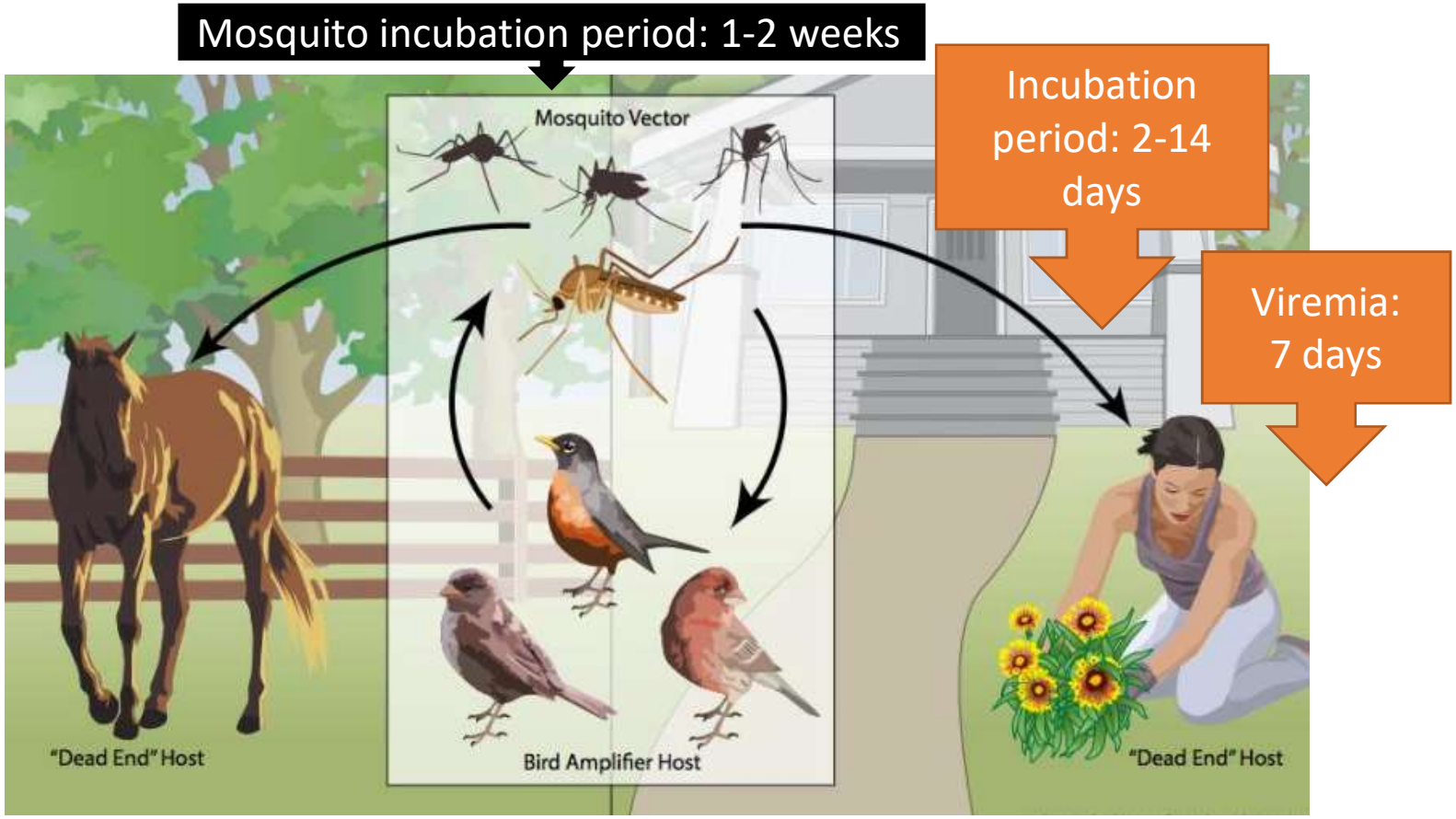
January 24th, 2019

Presenting To

APIC State of the State

Irene Ruberto | VBZD Epidemiologist
vbzd@azdhs.gov

West Nile virus Transmission



Graphic from CDC.

Rarely through blood transfusion and organ donation (blood screening in place since 2003).

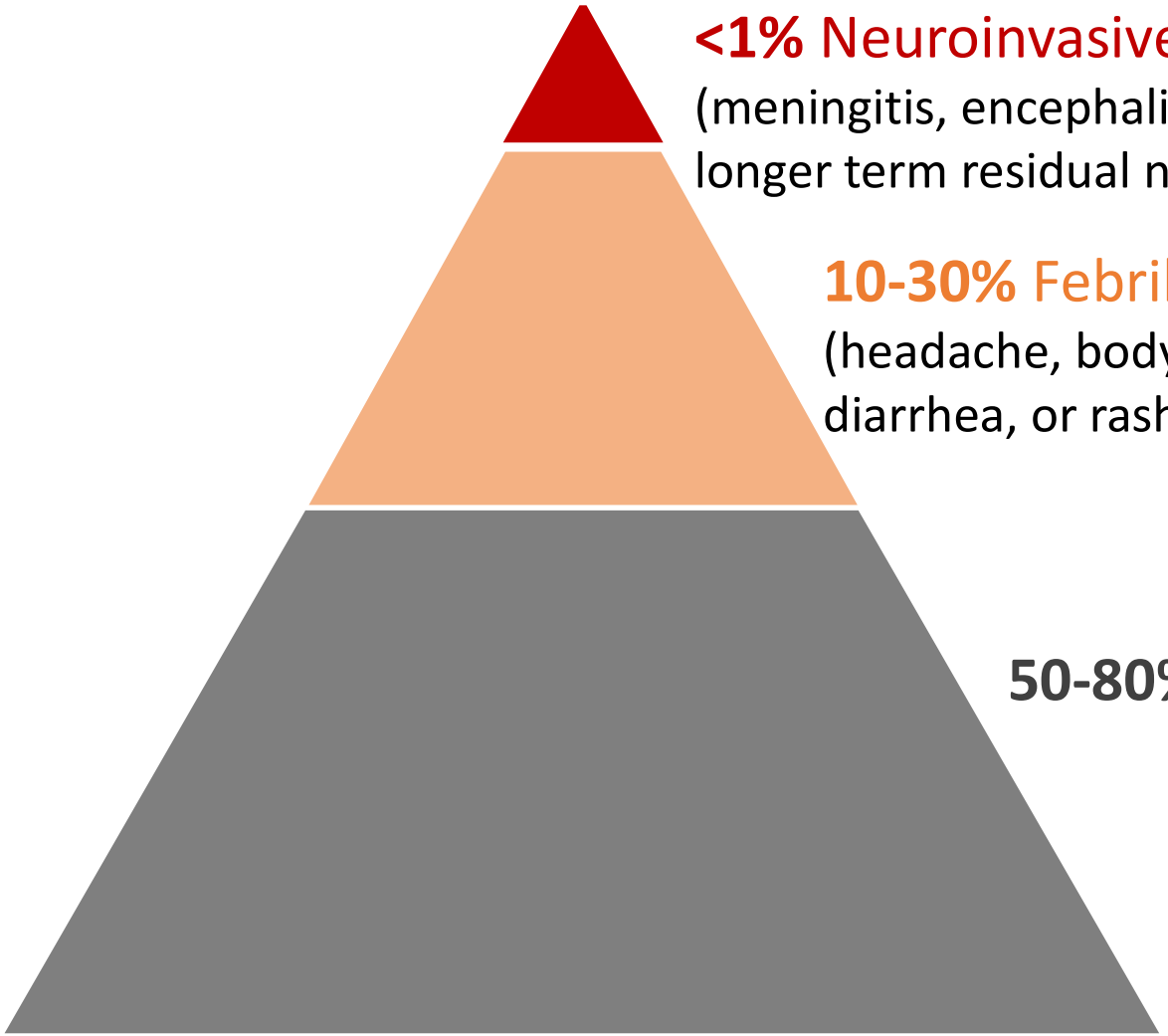
Culex tarsalis
and
Culex quinquefasciatus.

House Sparrows, House Finches, Mourning Doves, and Grackles are among the amplifiers birds in Arizona.

Komar N et al., Am J Trop Med Hyg., 2013.

Bird pictures from https://www.allaboutbirds.org/guide.

West Nile Clinical Spectrum



<1% Neuroinvasive Disease

10% fatality rate

(meningitis, encephalitis, AFP, and longer term residual neuro deficits)

10-30% Febrile Illness

(headache, body aches, joint pains, vomiting, diarrhea, or rash)

50-80% Asymptomatic Infection

20 years of WNV in the US

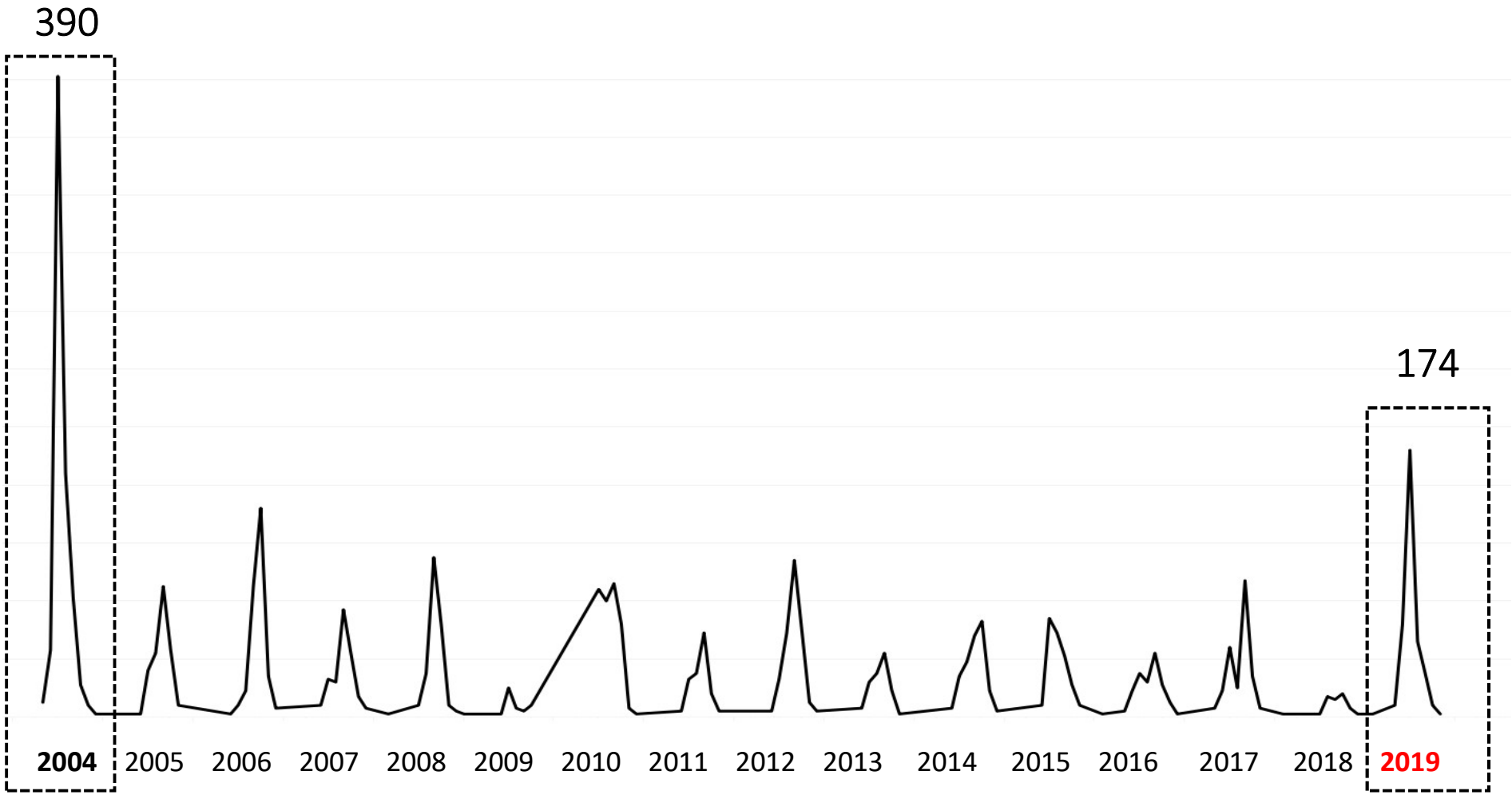
New York City outbreak (1999)

16 years of WNV in Arizona (2003)

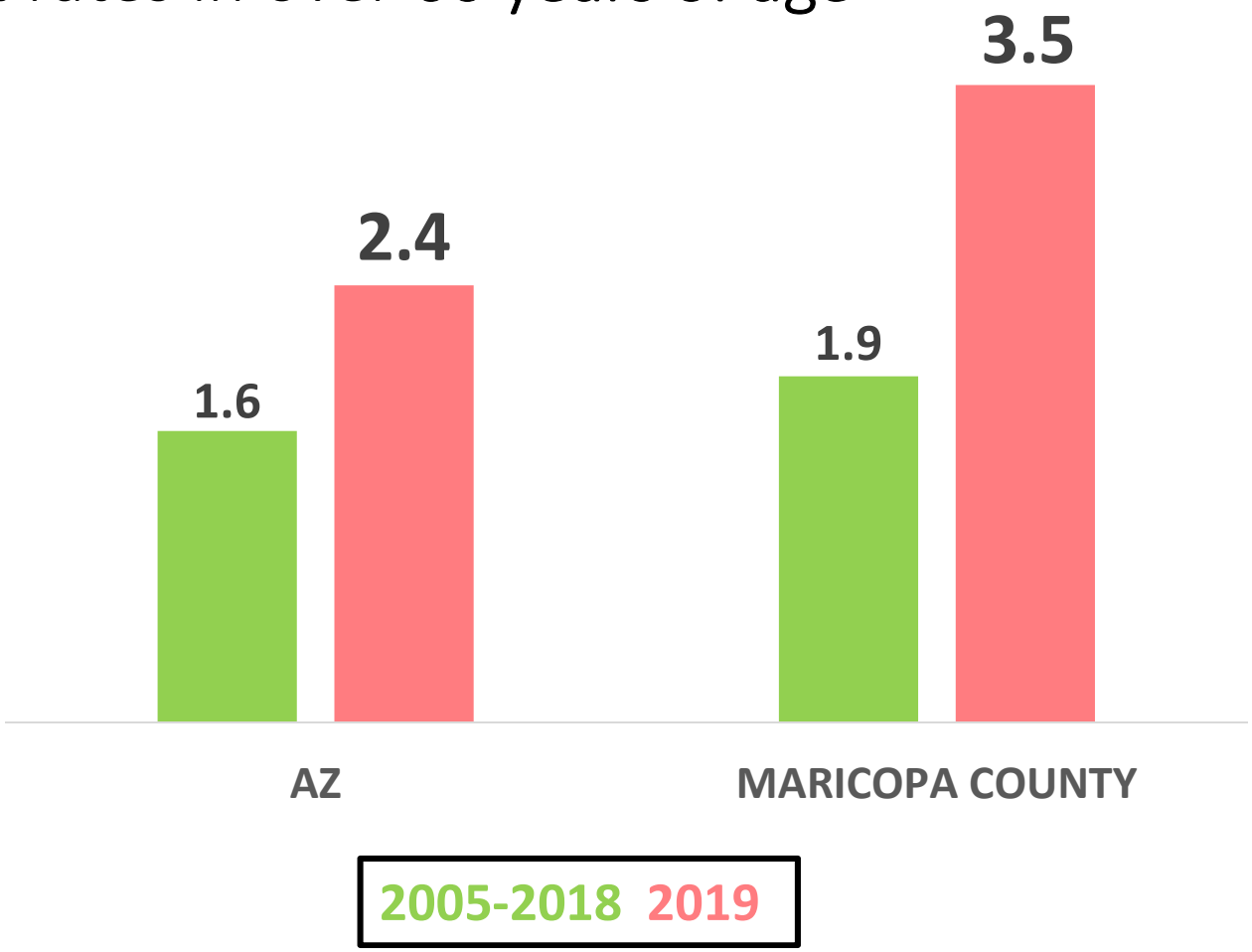
~ 50 years from first epidemic in Europe (France, 1962)

2019 West Nile virus season

2nd highest ever reported in AZ after 2004.

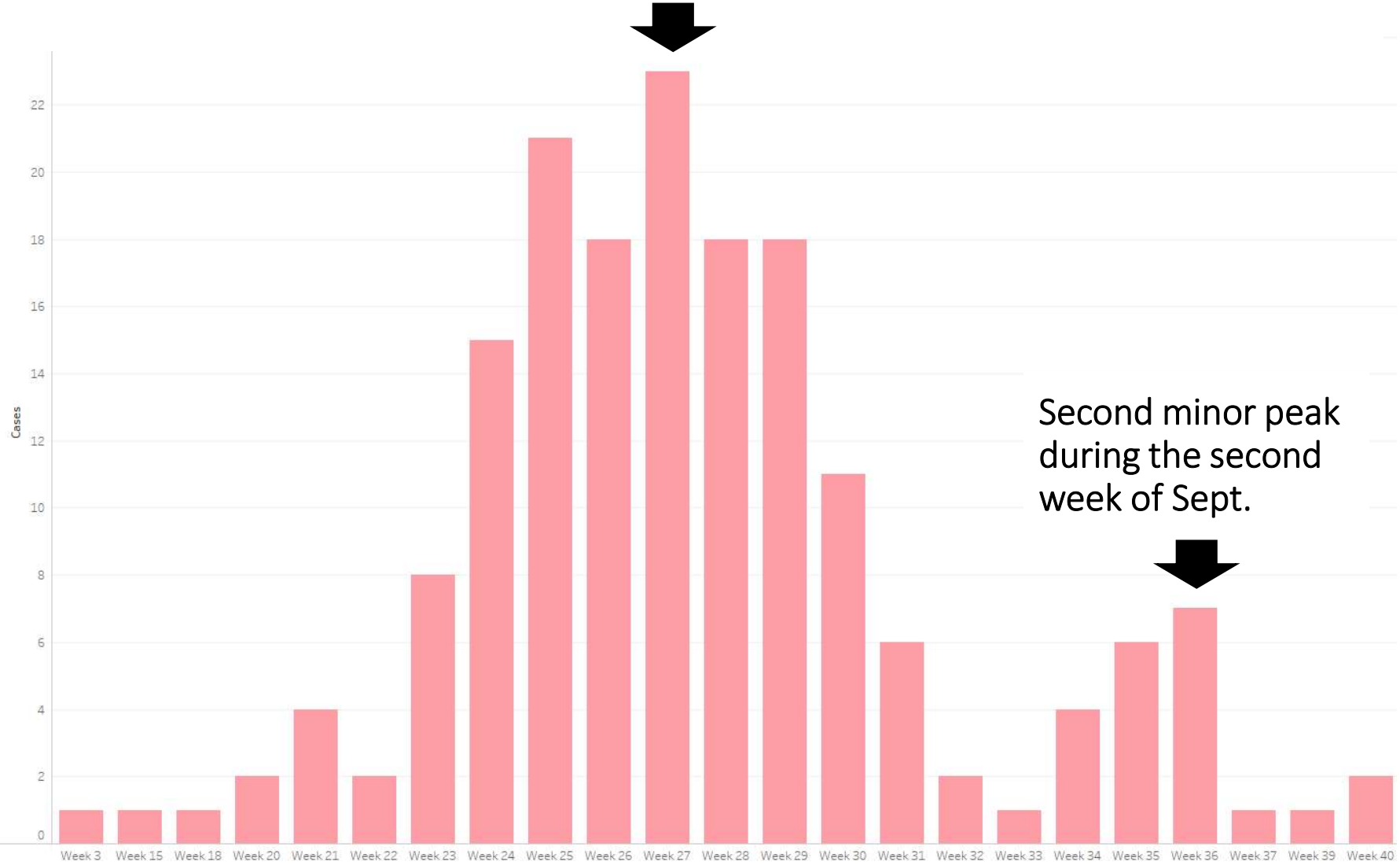


- 57% Males
- 65% White, non-Hispanic
- Highest rates in over 60 years of age



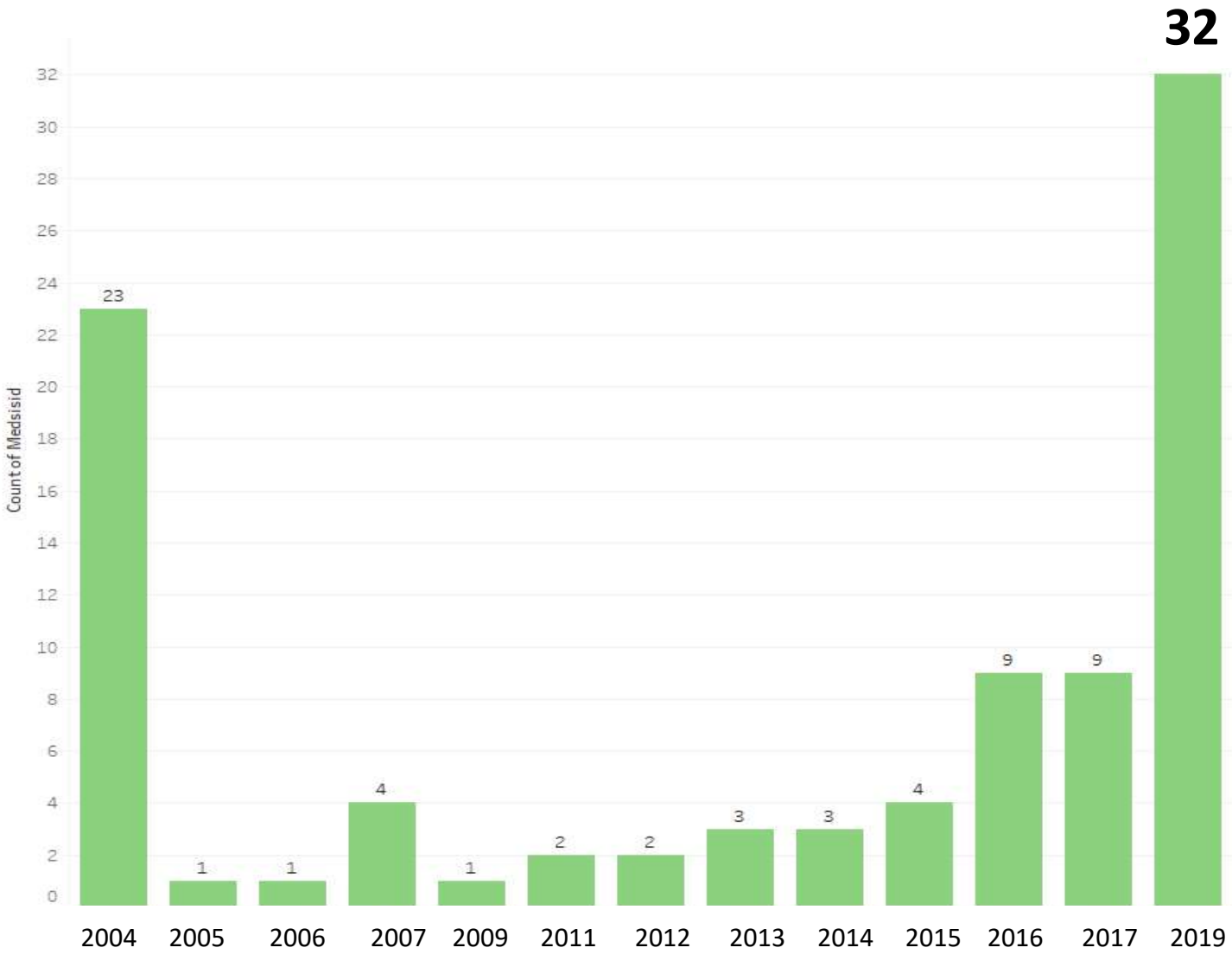
Rates per 100,000 population

Onset of cases peaked during the second week of July.

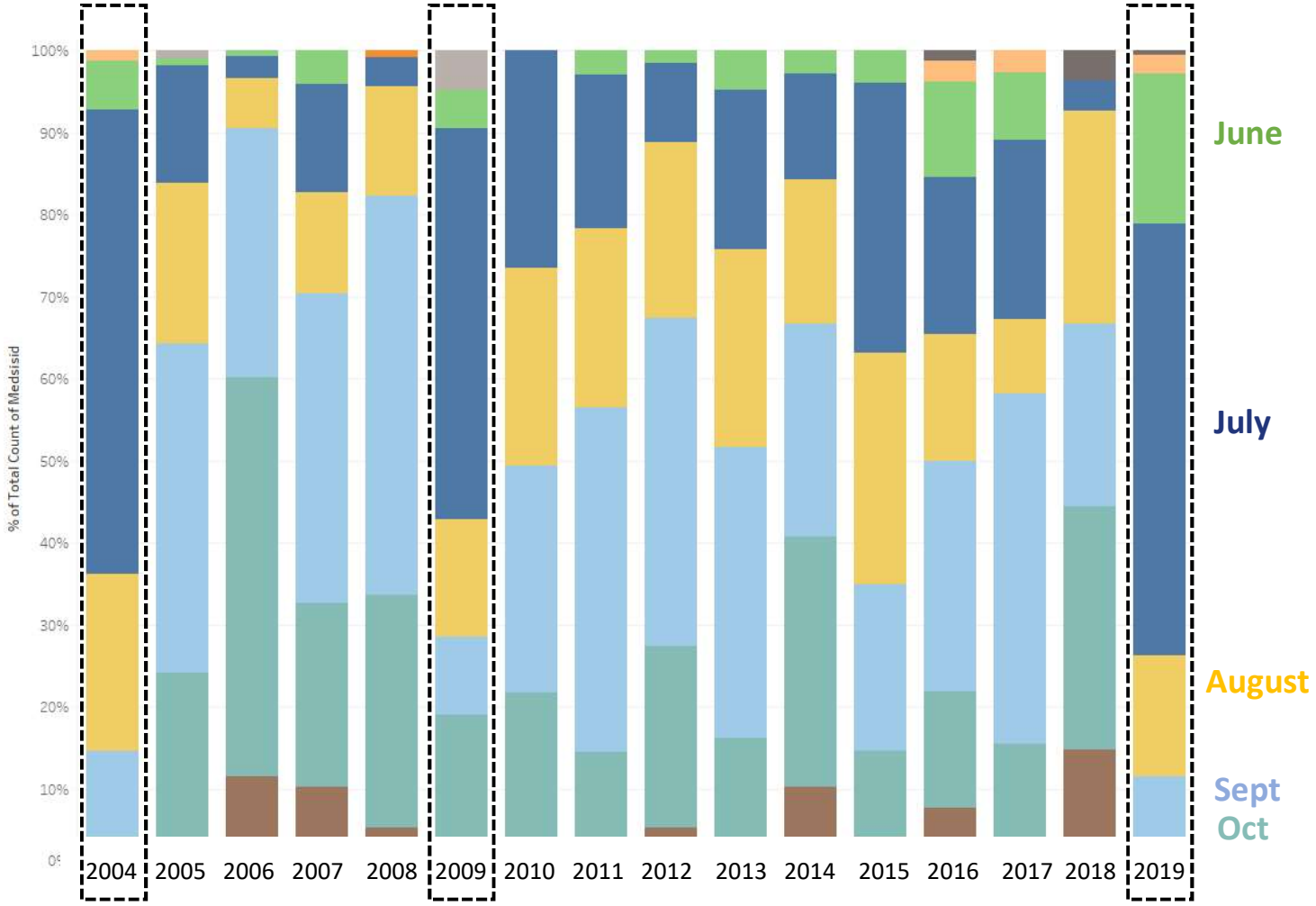


Second minor peak during the second week of Sept.

Highest June ever reported.

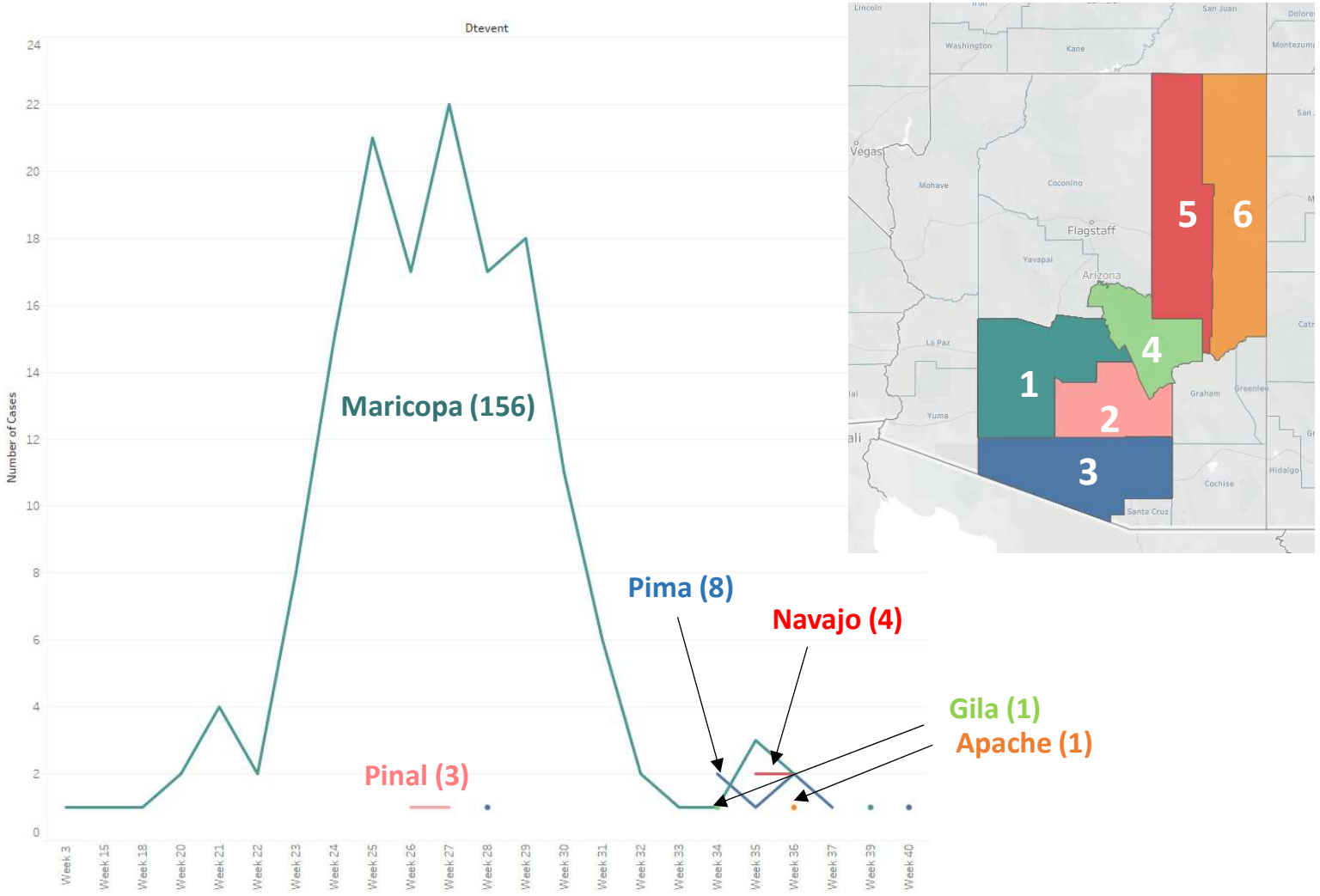


Early Season more similar to 2004.



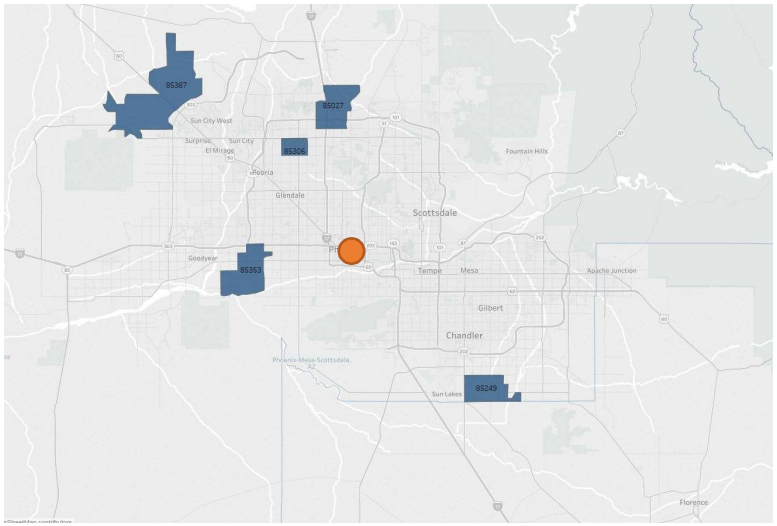
Cases are shown as percent of total for that year.

2019 WNV county spread as expected: Maricopa>Pinal>Pima.

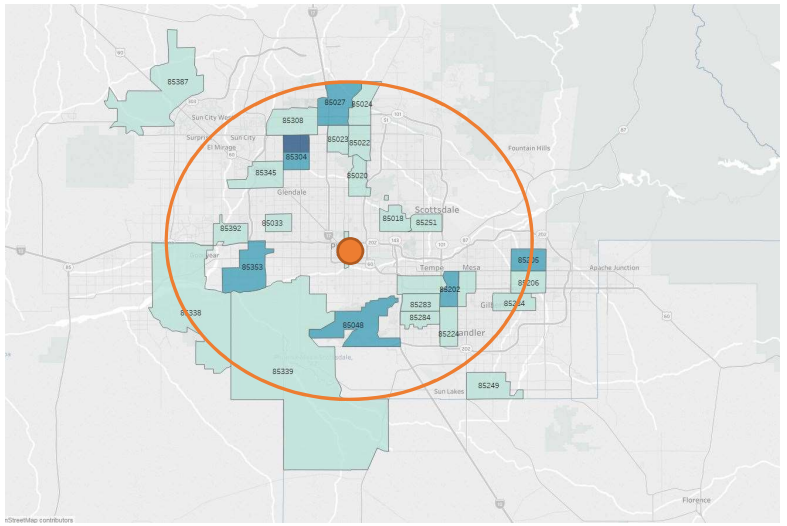


In 2019 WNV cases are reported throughout the Valley.

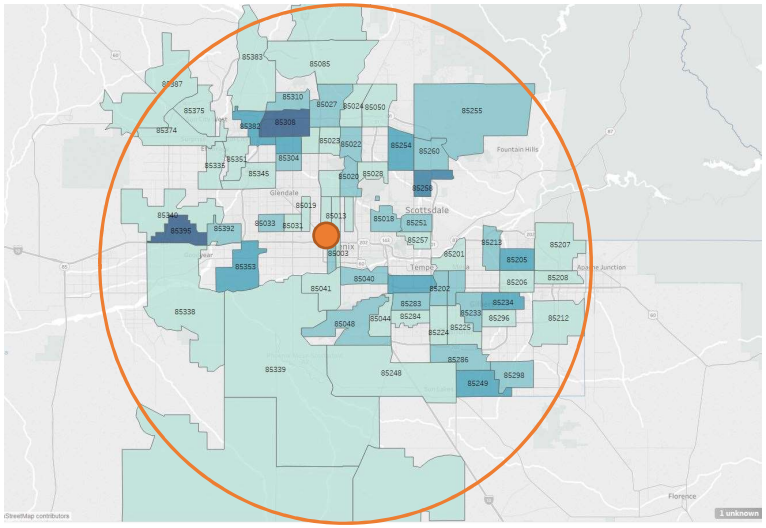
May



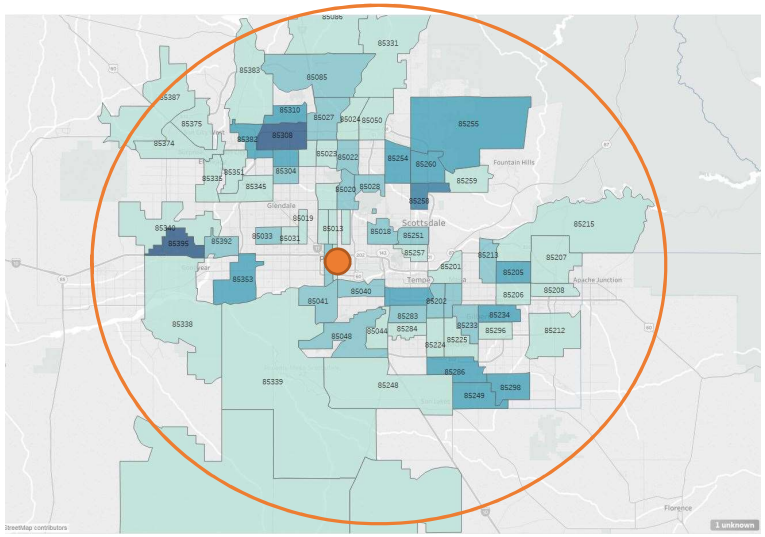
June



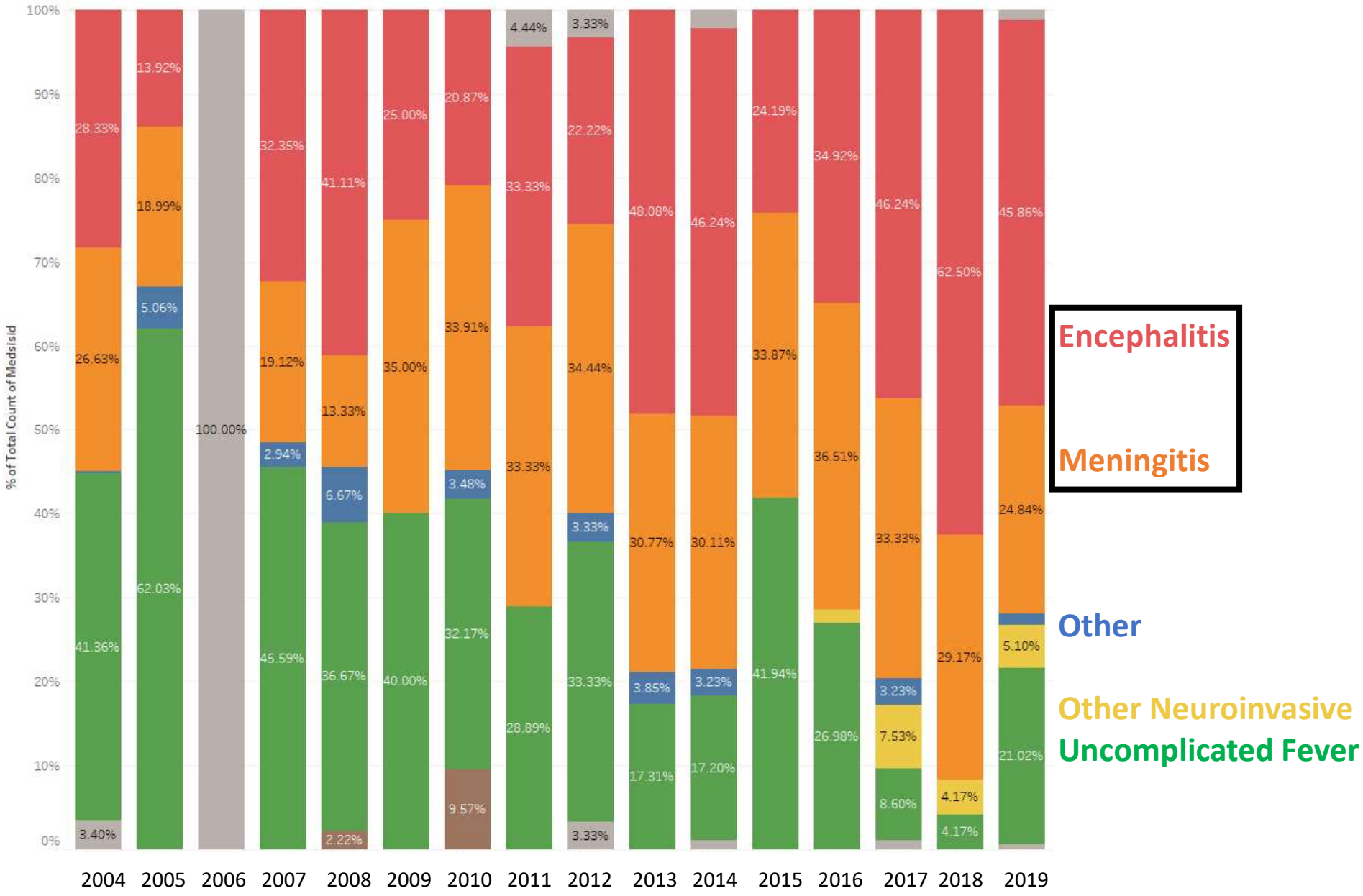
July



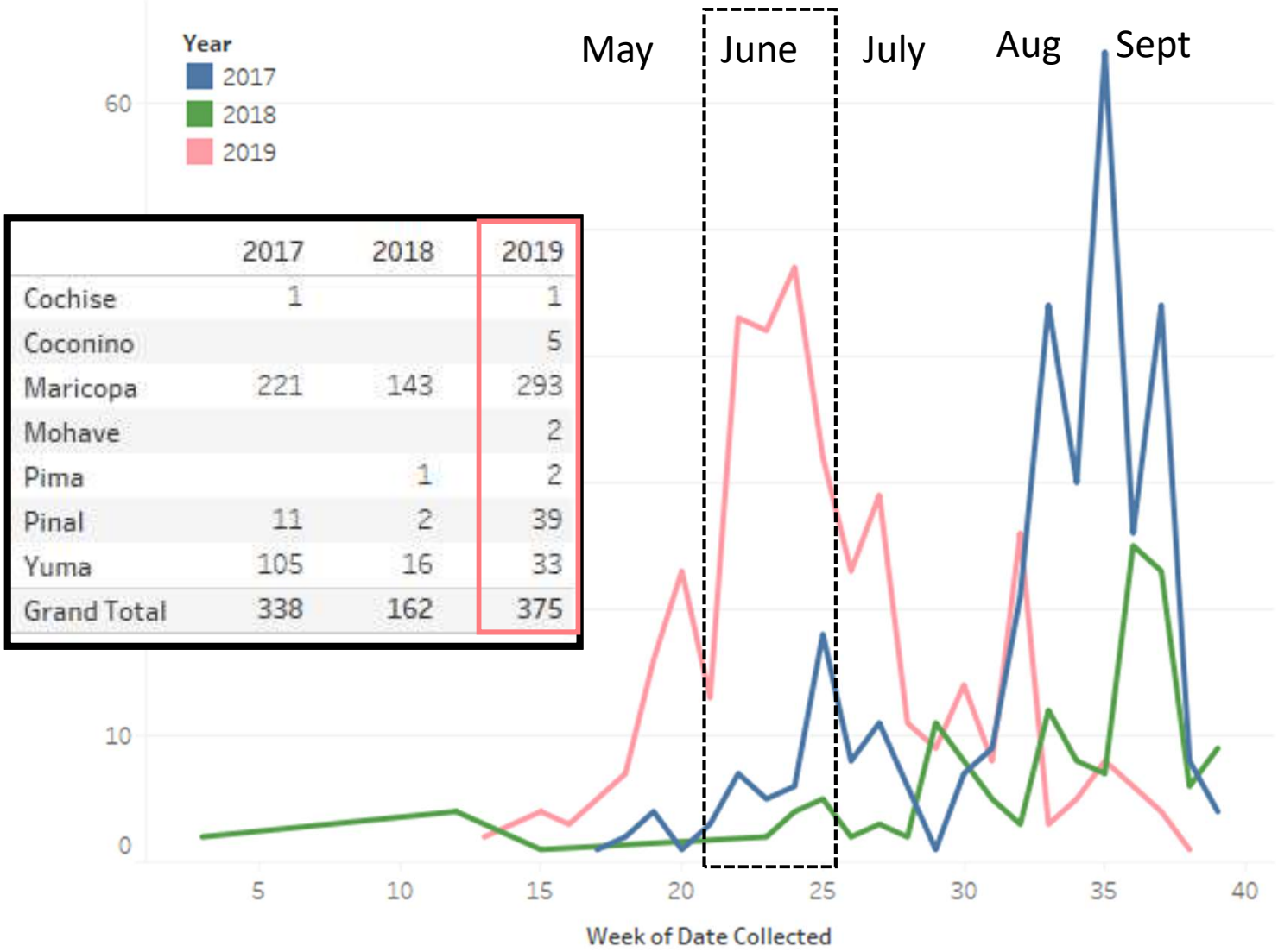
August



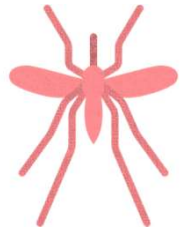
Clinical Manifestation as expected: high % of neuroinvasive disease.



More and earlier WNV+ pools in 2019.

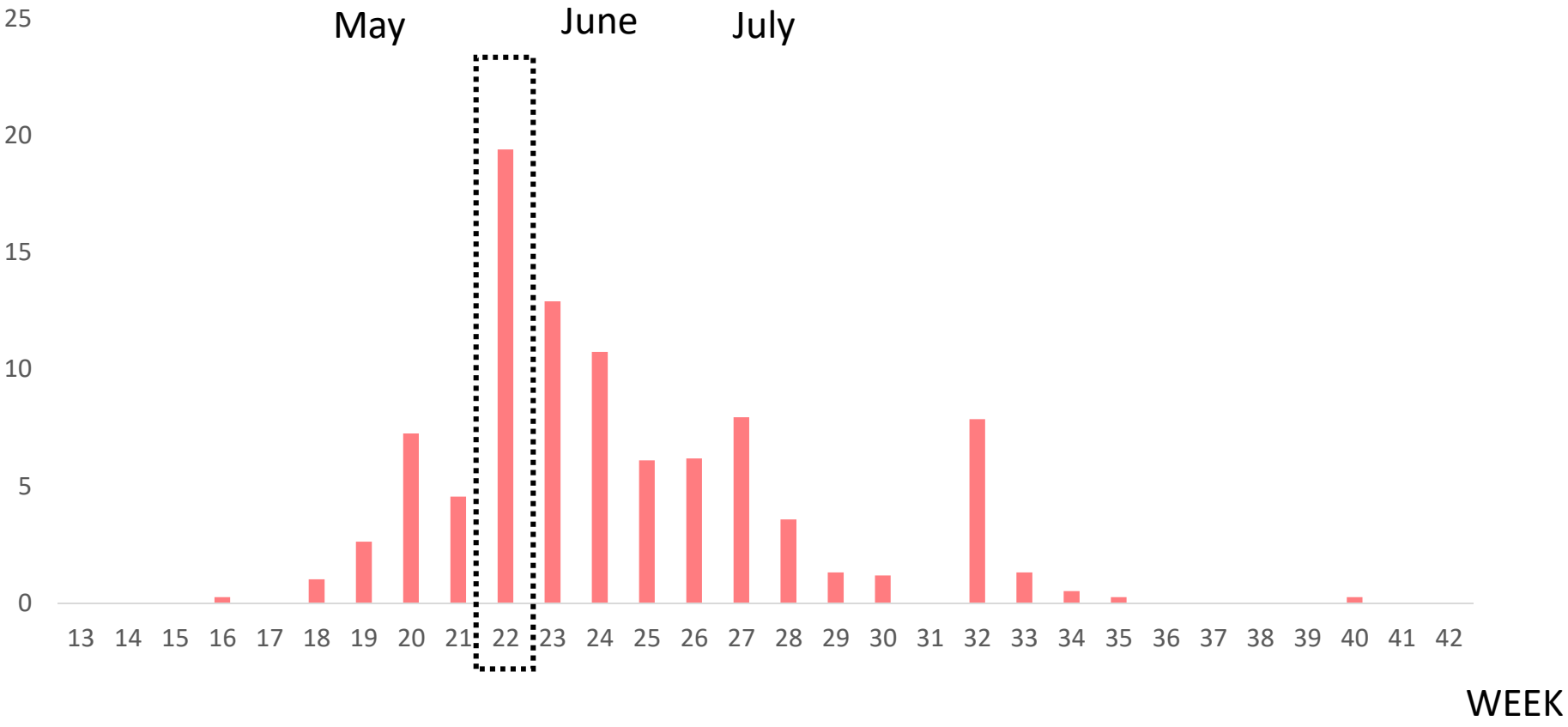


	2017	2018	2019
Cochise	1		1
Coconino			5
Maricopa	221	143	293
Mohave			2
Pima		1	2
Pinal	11	2	39
Yuma	105	16	33
Grand Total	338	162	375



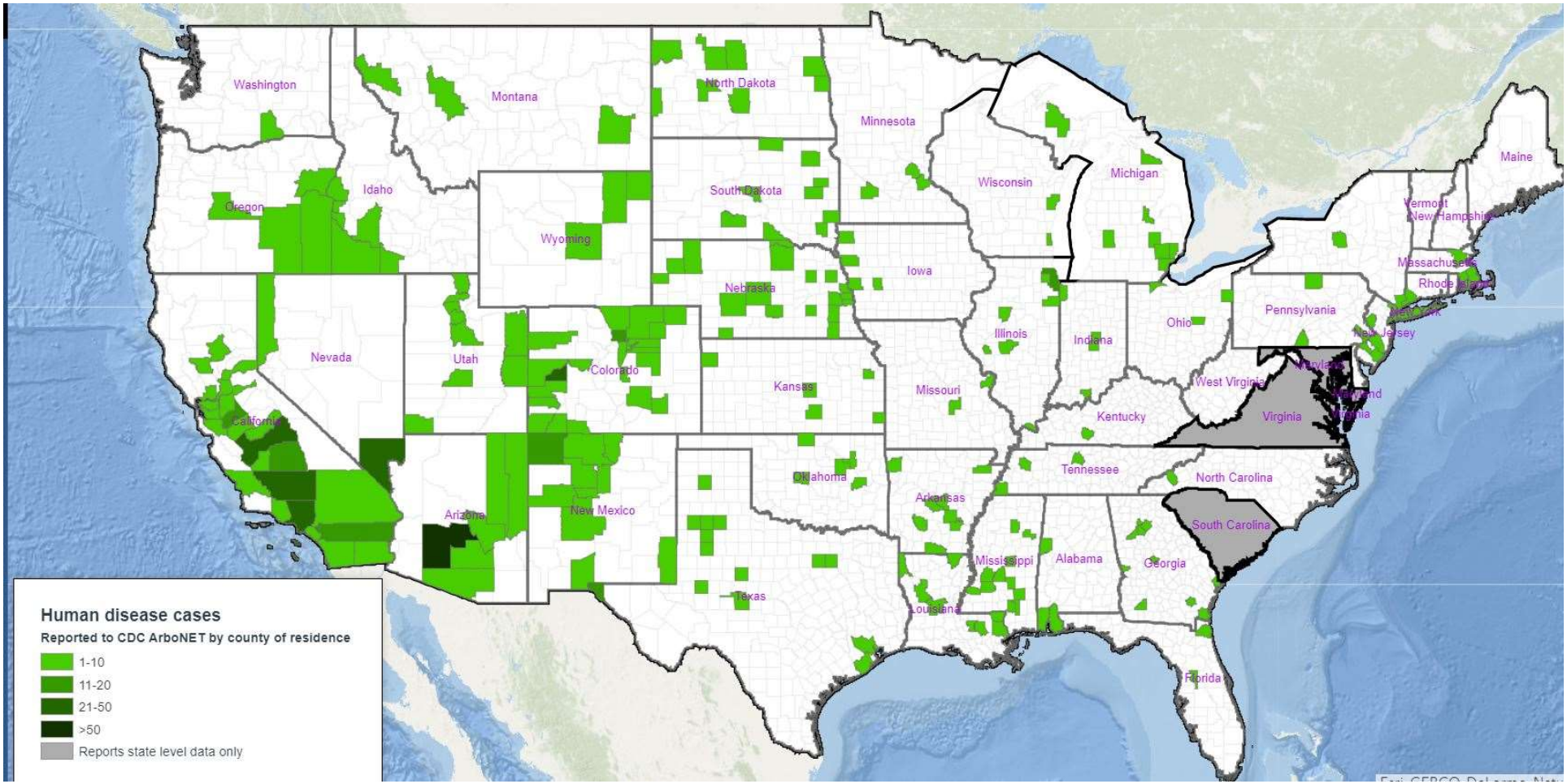
In Maricopa County high WNV Vector Index.

Cases peaked 5 weeks afterwards.



AZ had the 2nd highest cases in the US.

CA: 214, AZ: 174.



https://wwwn.cdc.gov/arbonet/maps/ADB_Diseases_Map/index.html

WNV Season 2019: Summary

- Started and peaked earlier than average (from end of May and peaked mid July).
- June was the highest ever (10X increase over median)
- Outbreak concentrated in Maricopa County.
- Cases more widespread in the Valley than average.
- Demographic and clinical profile of cases as expected.
- Normal geographical spread to the rest of the state.
- High number of positive mosquitoes and earlier than expected.

Home & Garden

Arizona Wildflower Bloom For The Ages, Cool Weather To Thank

ASU emeritus professor Juliet Stromberg says that the bloom has been unprecedented and she has seen things she's never seen before.

By Cronkite News, News Partner
Mar 25, 2019 12:50 pm MT

Like 24 Share Reply

izona out of short-term

2018 Phoenix Precipitation Statistics

	Precip Total	Departure	Rank (1=Wettest, 123=Driest)
Jan	0.21	-0.70	90th
Feb	0.52	-0.40	63rd
Mar	0.04	-0.95	106th
Apr	0.00	-0.28	Tied 123rd
May	0.00	-0.11	Tied 123rd
Jun	T	-0.02	Tied 123rd
Jul	0.70	-0.35	65th
Aug	1.50	+0.50	26th
Sep	0.43	-0.21	62nd
Oct	5.35	+4.77	1st
Nov	0.35	-0.30	Tied 64th
Dec	0.19	-0.69	Tied 86th

https://www.weather.gov/psr/Year_in_Review_2018

Prevention Methods

When possible, stay inside between dusk and dawn, when mosquitoes are most active.

Fix broken screens in windows and doors.

Empty and scrub, toss or cover items that can hold water to stop mosquitoes from breeding.

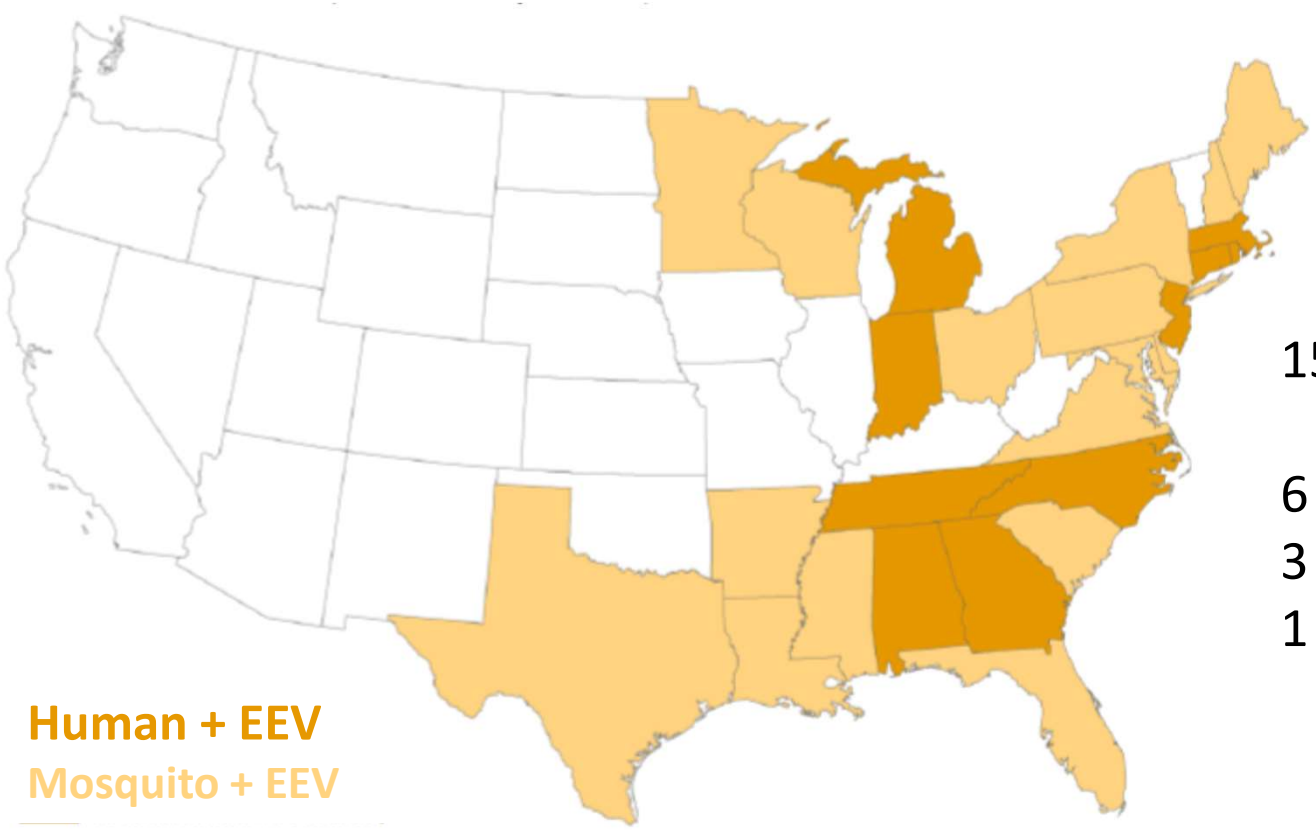
Use EPA-registered insect repellent* on exposed skin and clothes. Follow label instructions.

*With one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, PMD, 2-undecanone.

Wear clothing that covers your arms and legs.

Eastern Equine Encephalitis (EEE)

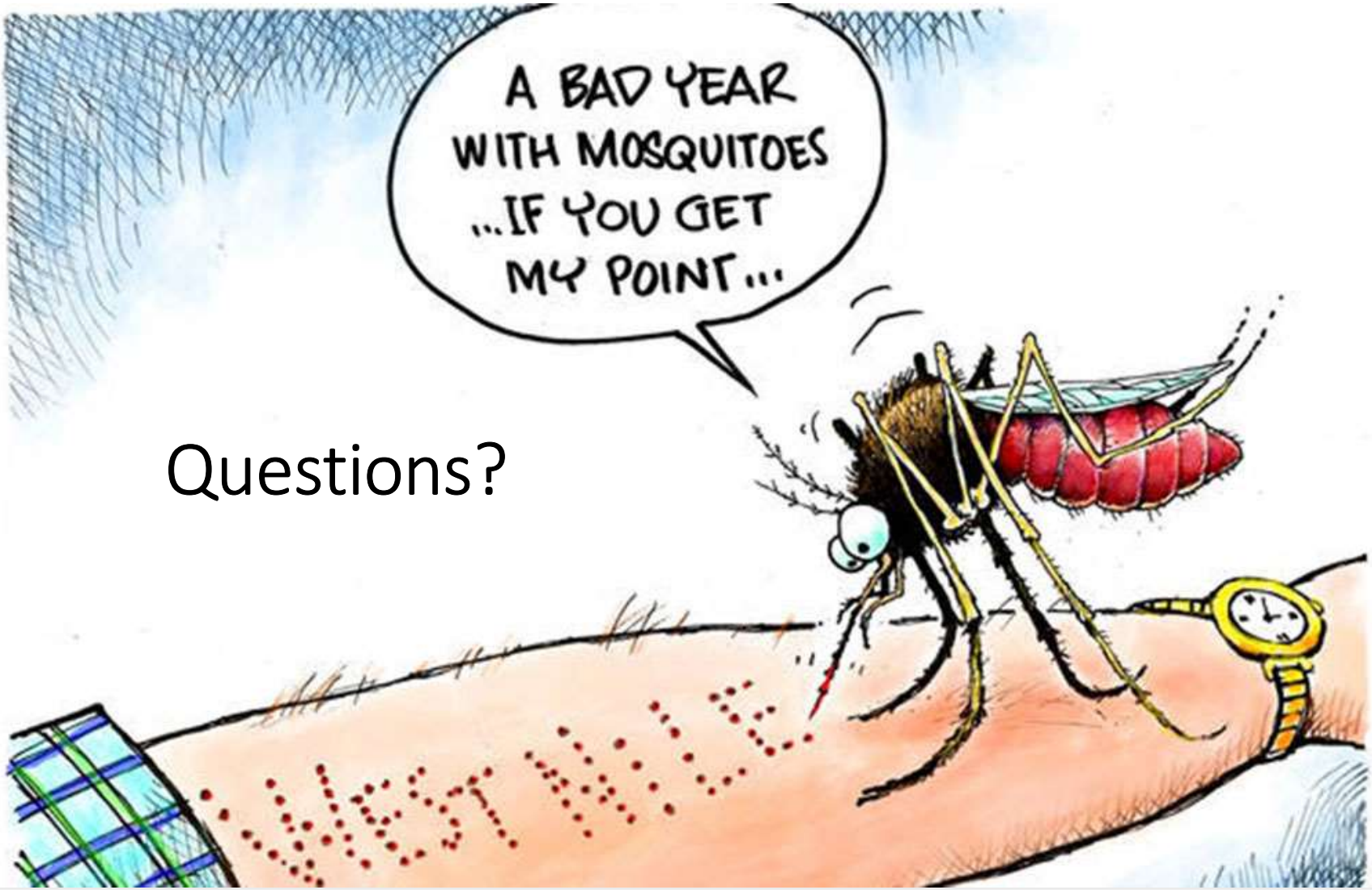
38 cases and 15 deaths in 2019 (vs average of 7 per year)



15 deaths:

6 in MI,
3 in MA and CT,
1 in AL, RI and IN

EEEV infection can result in a systemic febrile illness or neurologic disease. Approximately a third of all people with encephalitis due to EEEV infection die.



Questions?

ARIZONA DEPARTMENT OF HEALTH SERVICES

Health and Wellness for all Arizonans

Irene Ruberto | VBZD Epidemiologist

vbzd@azdhs.gov

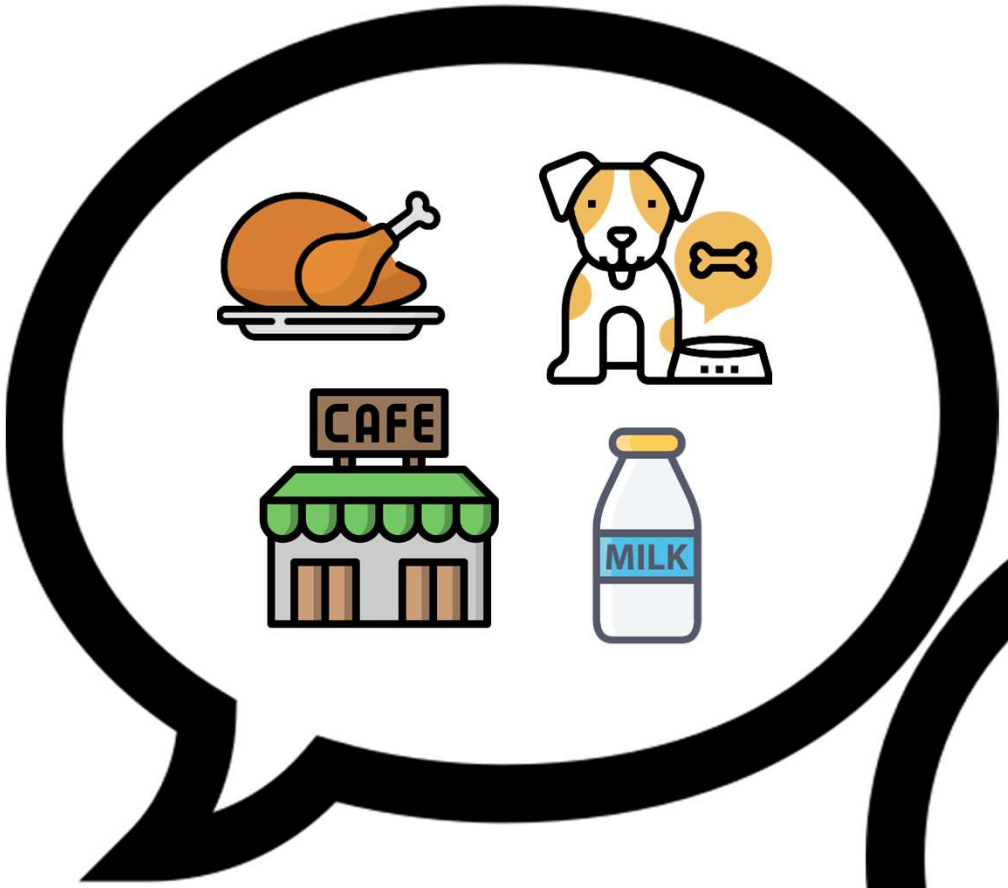
Campy Summer

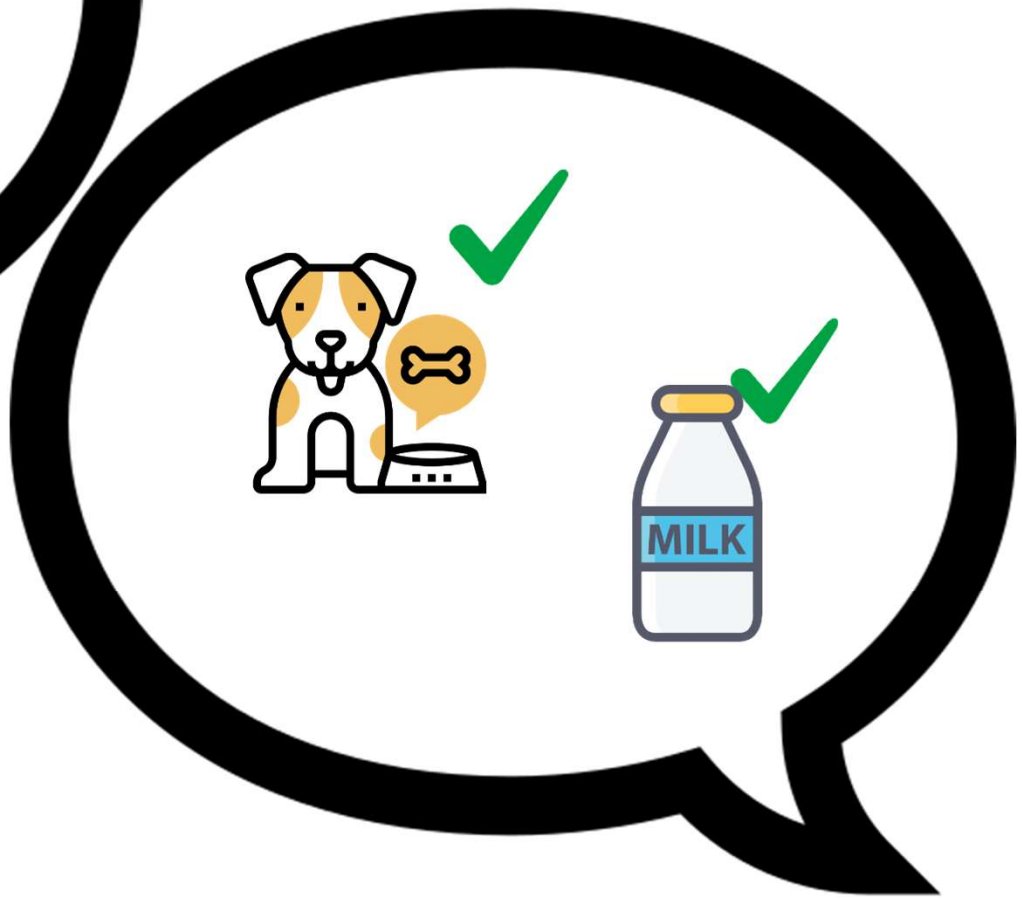
Brenna Garrett

Arizona Department of Health Services

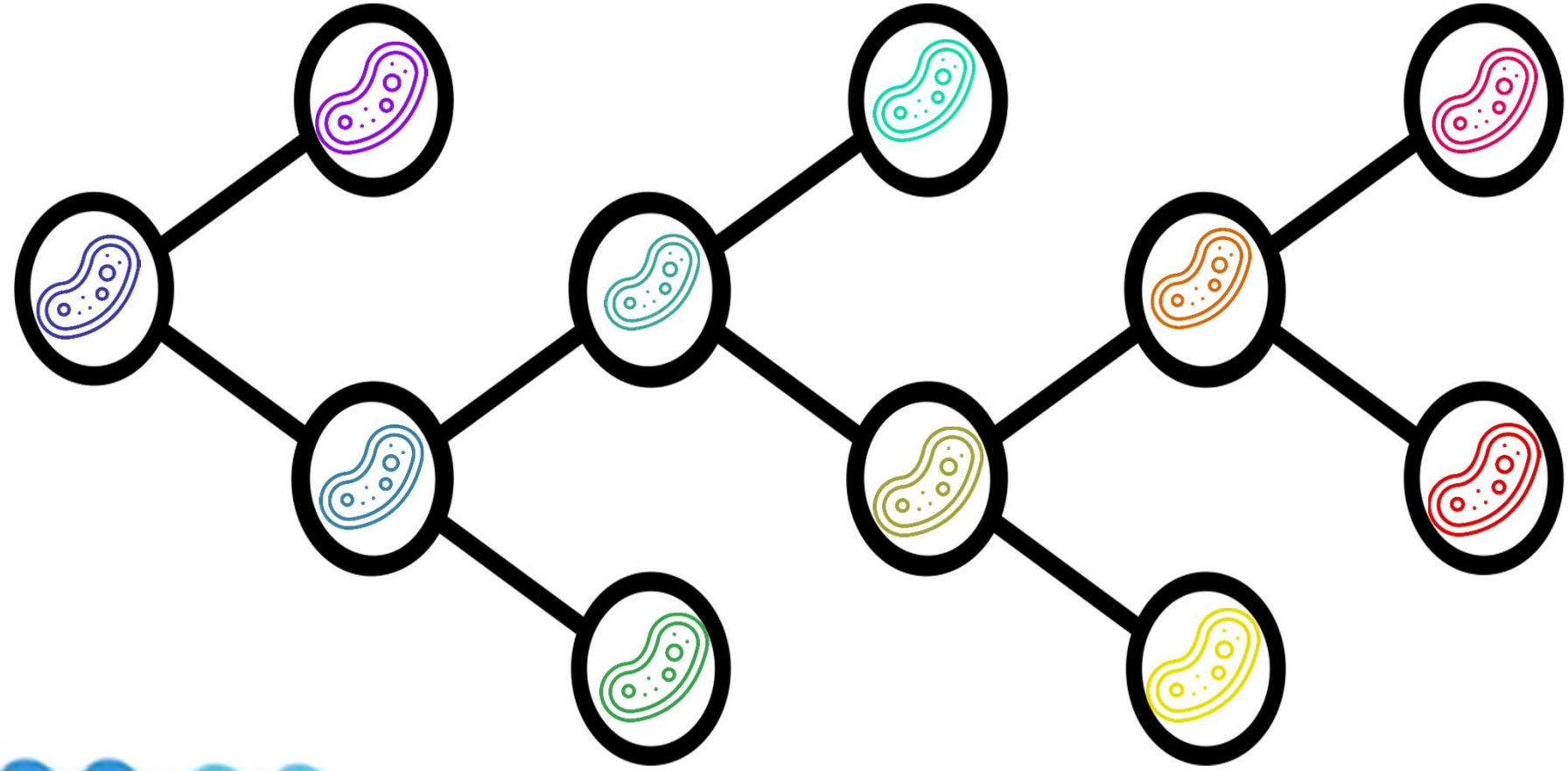
Campylobacter

40%

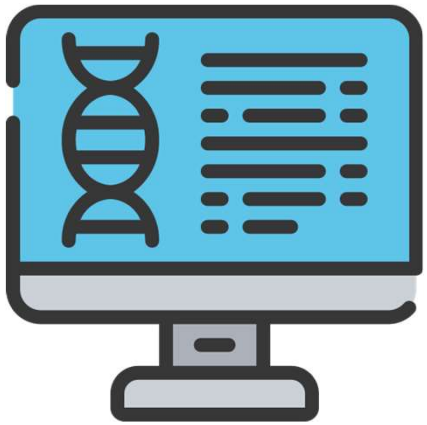

CAFE
MILK


MILK

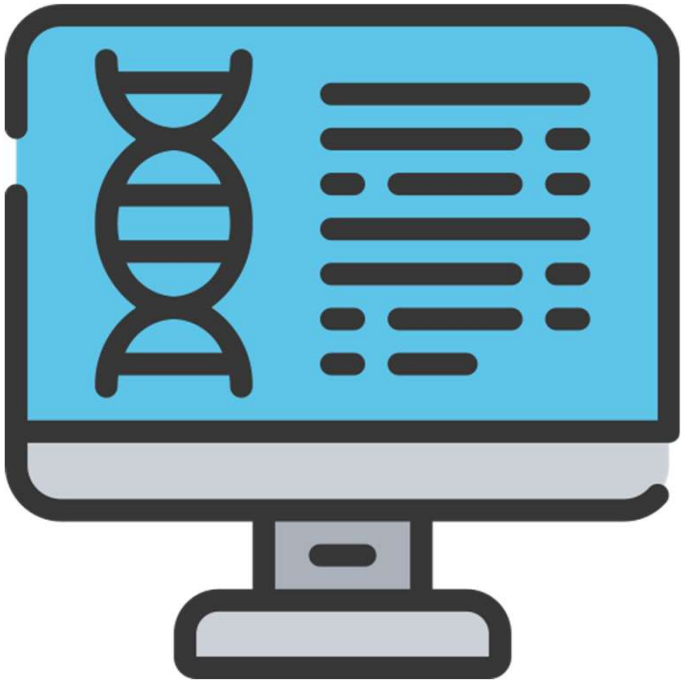
Whole Genome Sequencing (WGS)

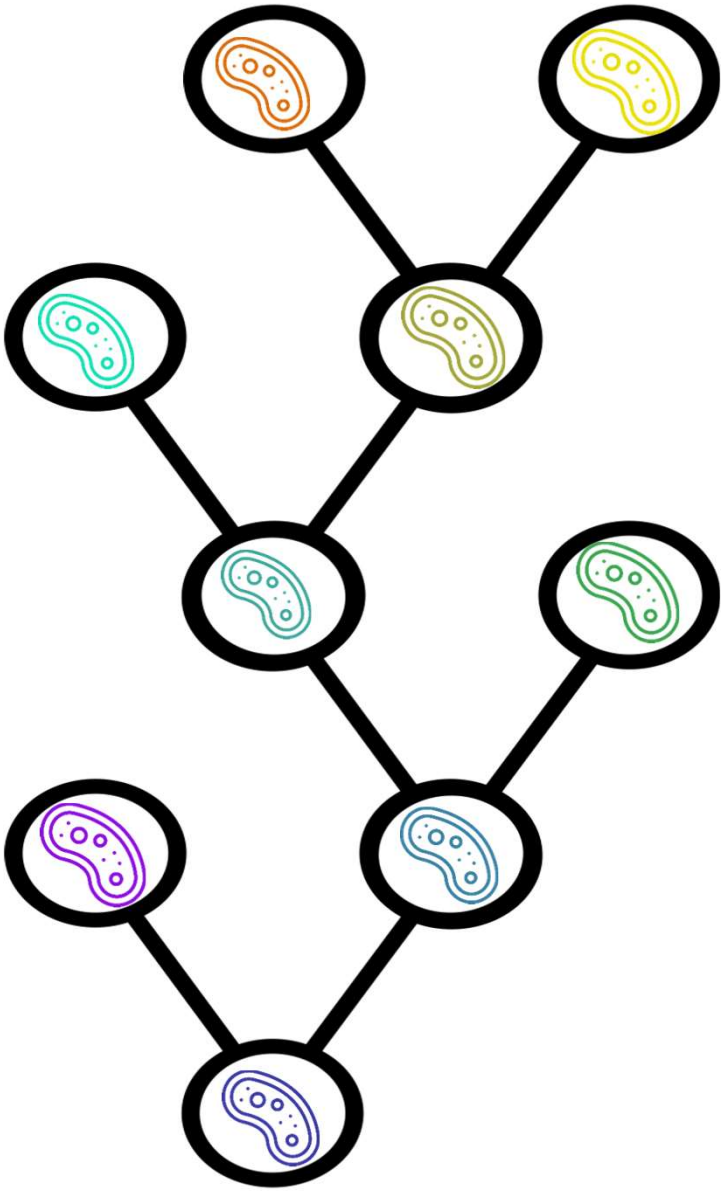


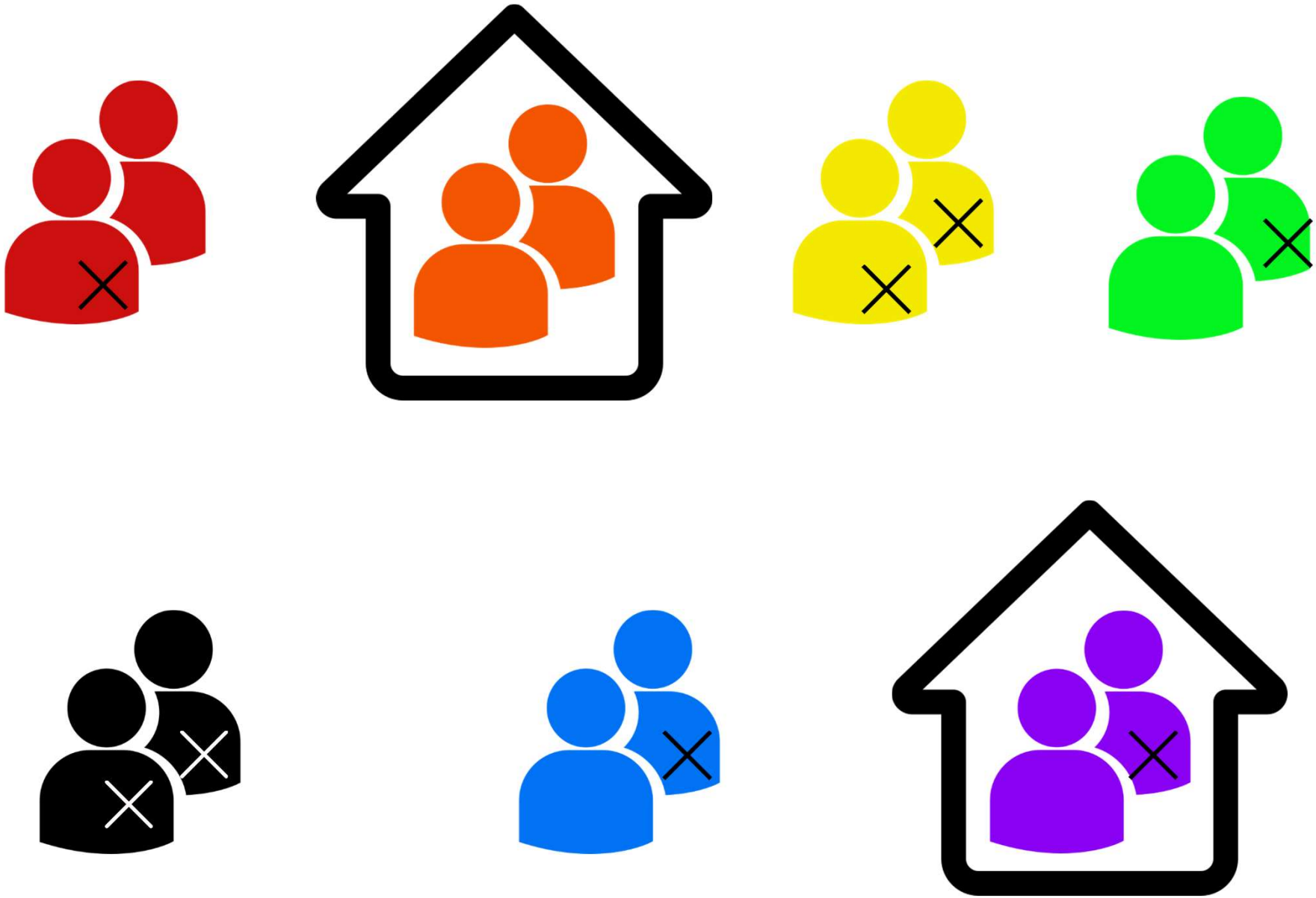
Sonora Quest Laboratories™



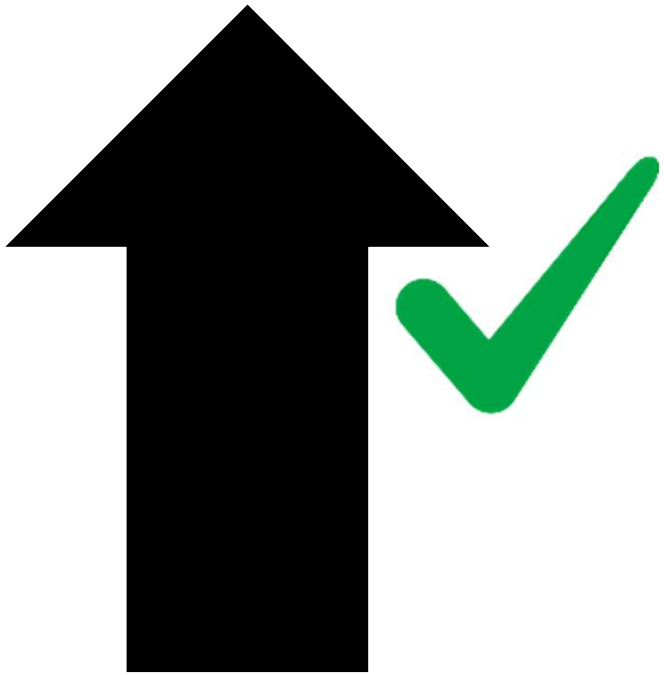
tgen®
AN AFFILIATE OF City of Hope

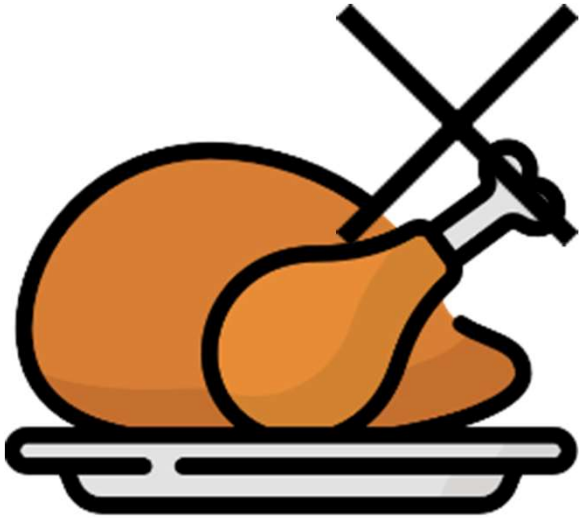


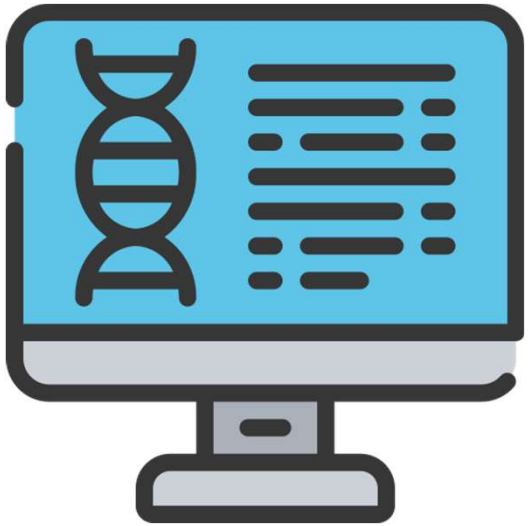




Whole Genome Sequencing is only meaningful in public health with interview data.







Questions?

Thank you

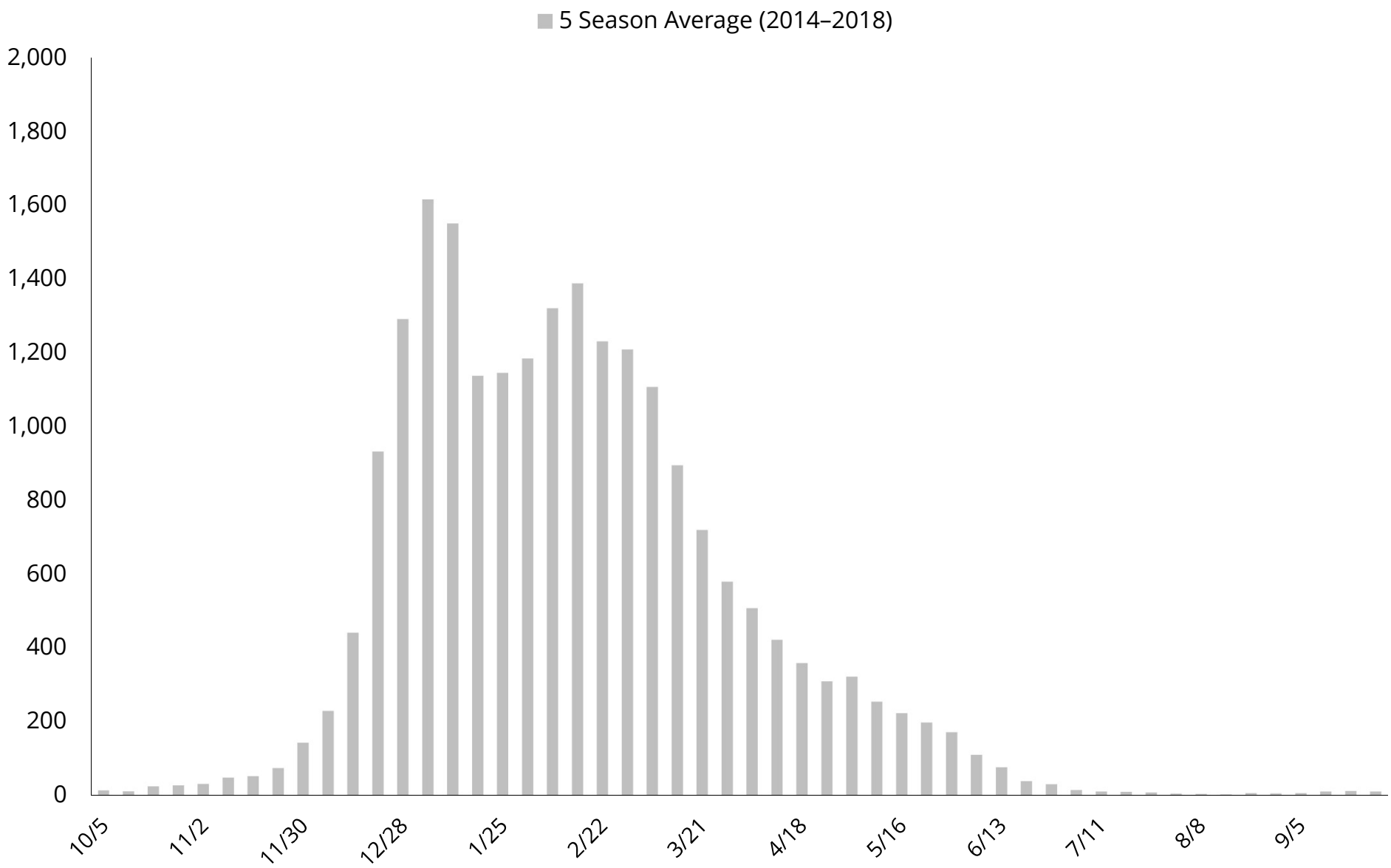
Sonora Quest Laboratories™

tgen® AN AFFILIATE OF City of Hope

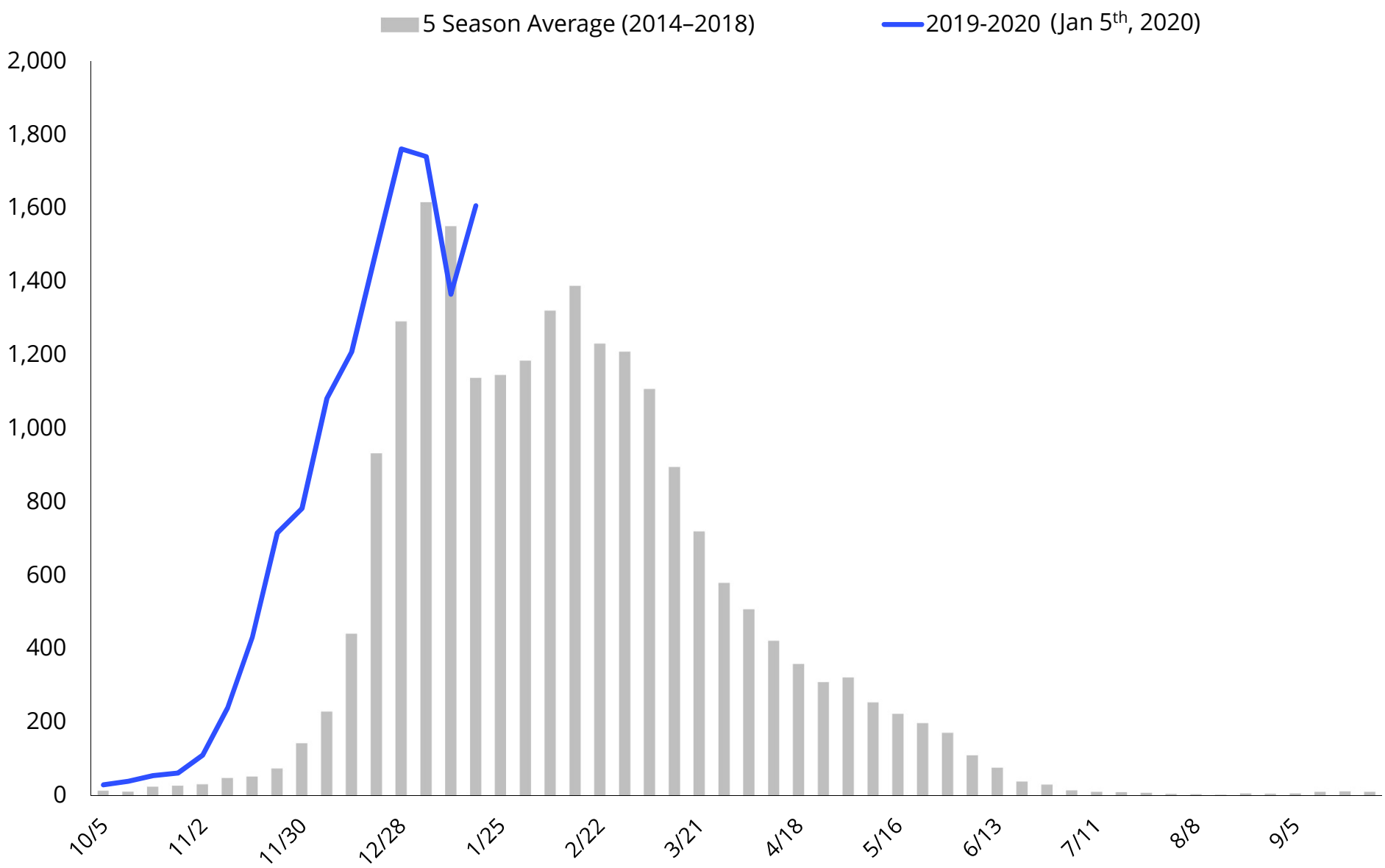
ADHS
Public Health Lab


Influenza

Lab Confirmed Cases



Lab Confirmed Cases



Lab Confirmed Cases

Location of Sedona

Show map of Arizona

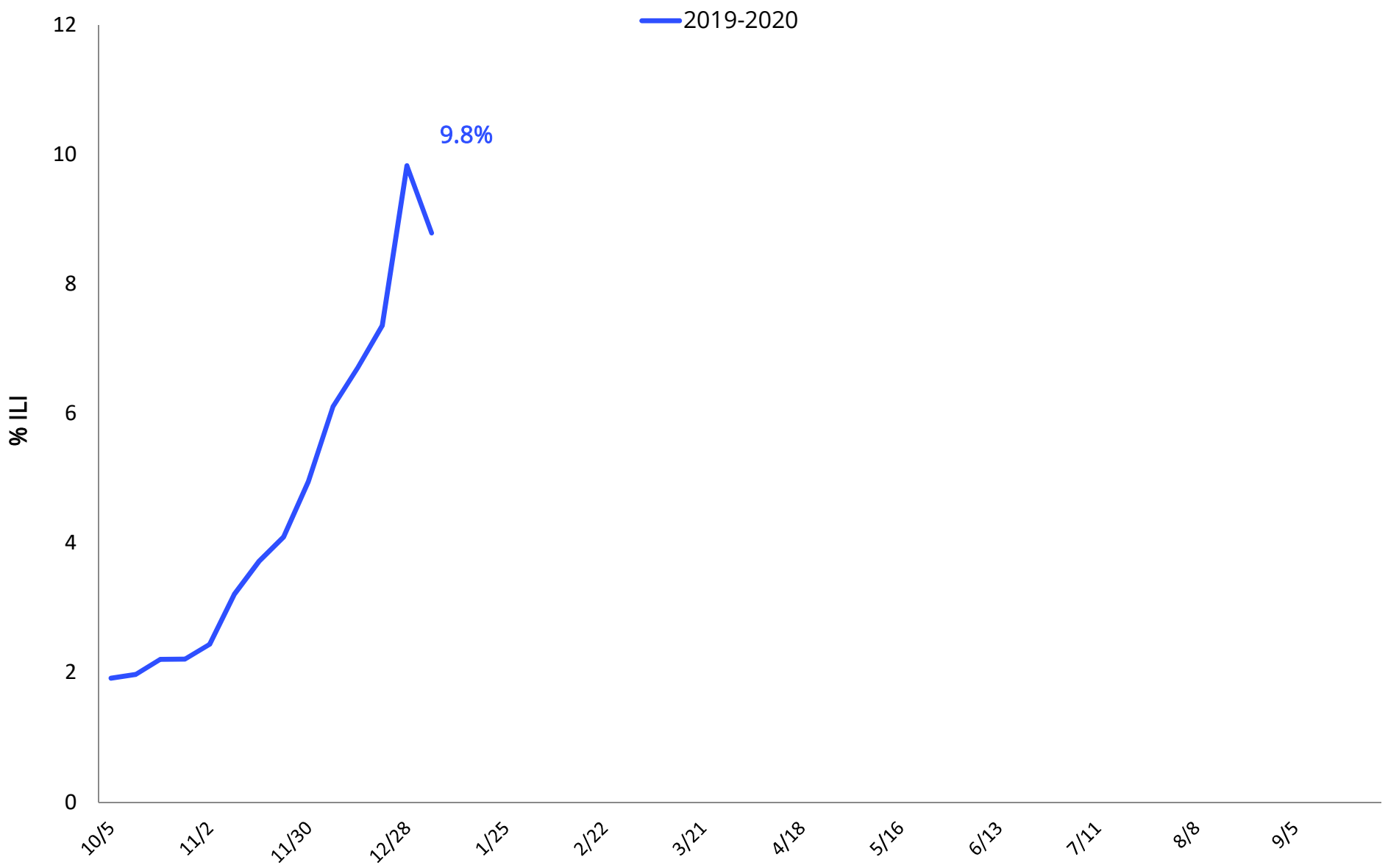
Show map of the United States

Show all

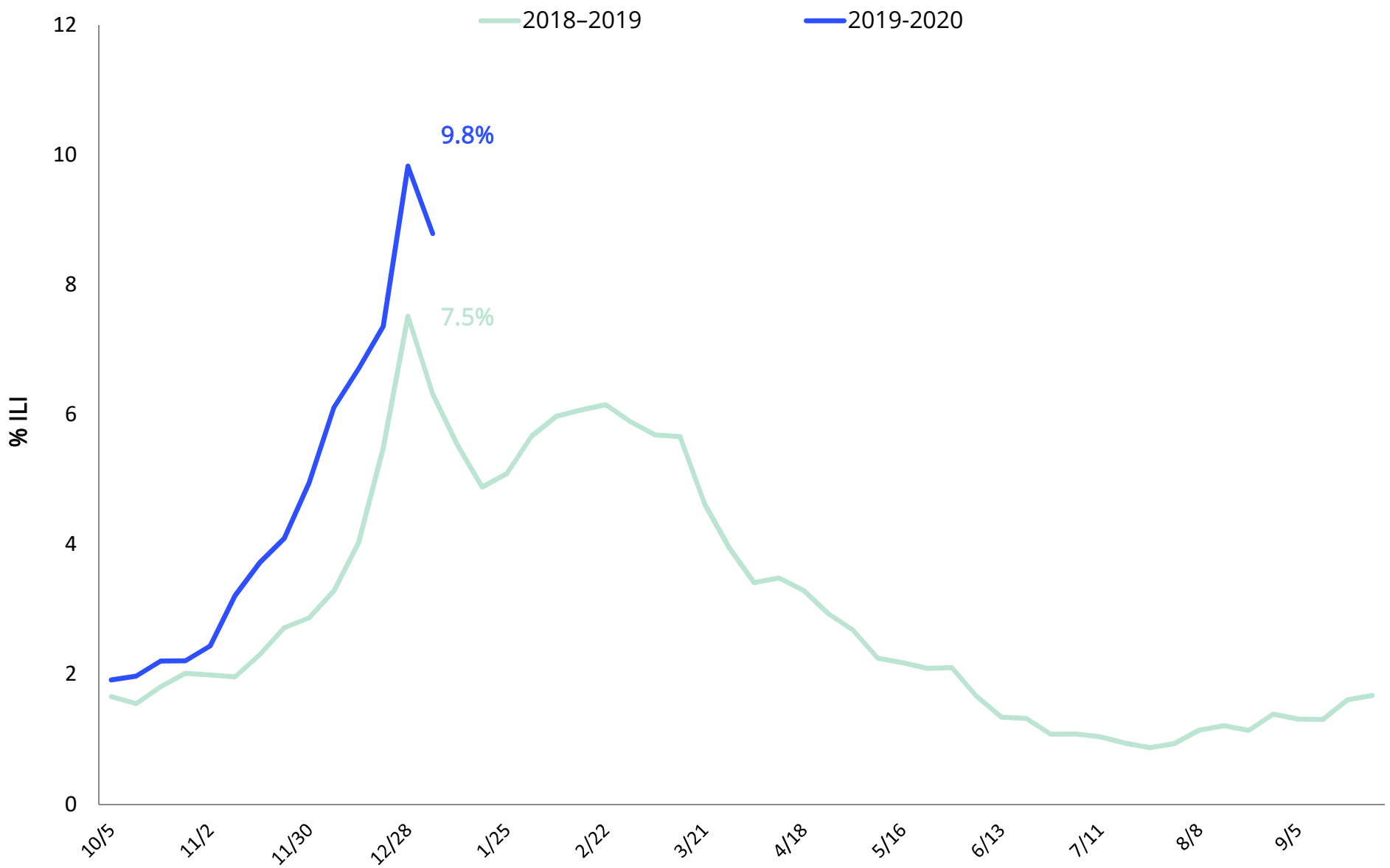
Coordinates: 34°52′11″N 111°45′40″W[1]

Country	United States
State	Arizona
Counties	Yavapai, Coconino
Founded	1902
Incorporated	1988
Government	
• Type	Council–Manager
• Mayor	Sandy Moriarty
Area[2]	
• Total	19.07 sq mi (49.40 km²)
• Land	19.03 sq mi (49.29 km²)
• Water	0.04 sq mi (0.11 km²)
Elevation[1]	4,350 ft (1,330 m)
Population (2010)[3]	
• Total	10,031
• Estimate (2018)[4]	10,335
• Density	543.03/sq mi (209.66/km²)

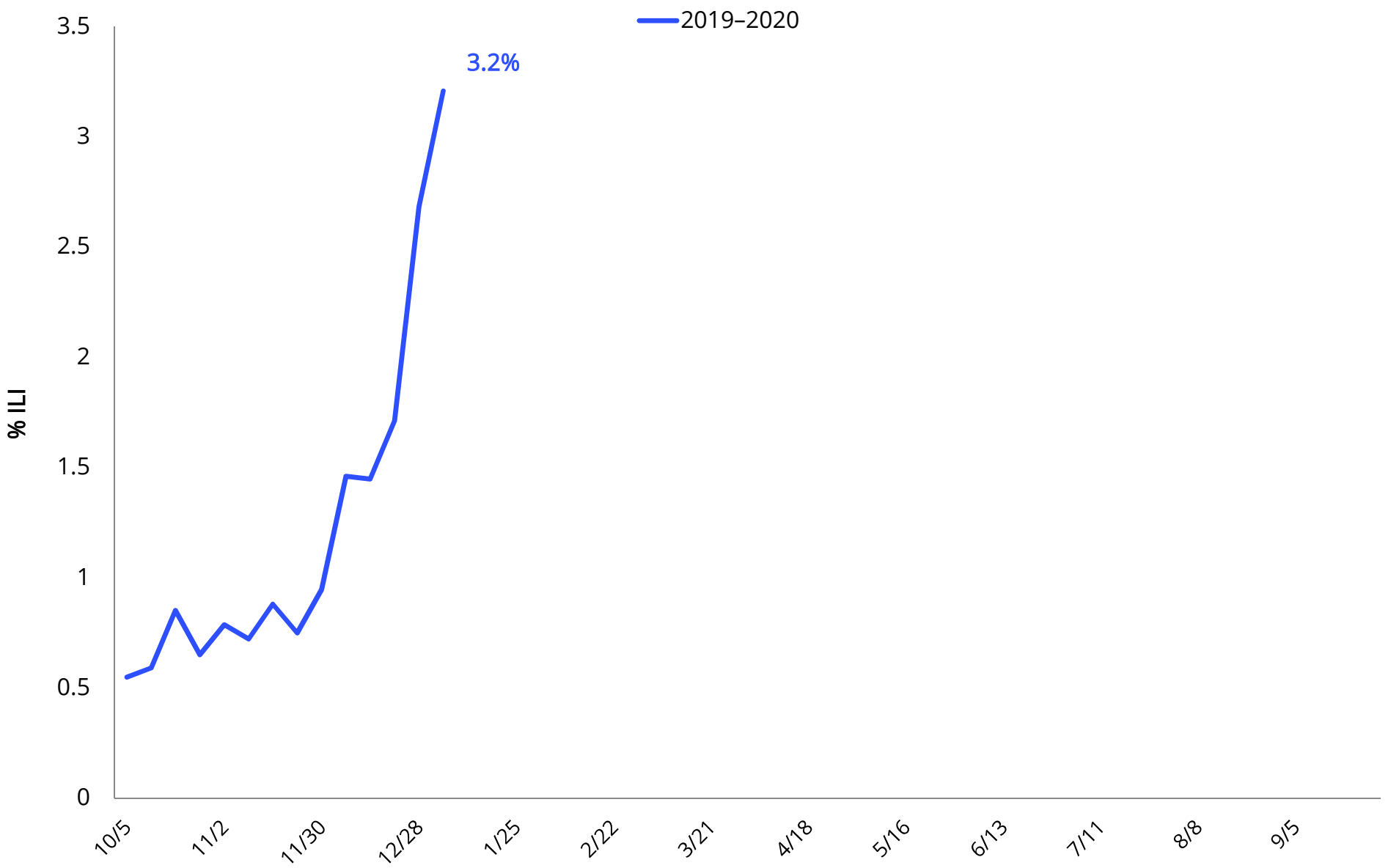
Influenza Like Illness - ED



Influenza Like Illness - ED

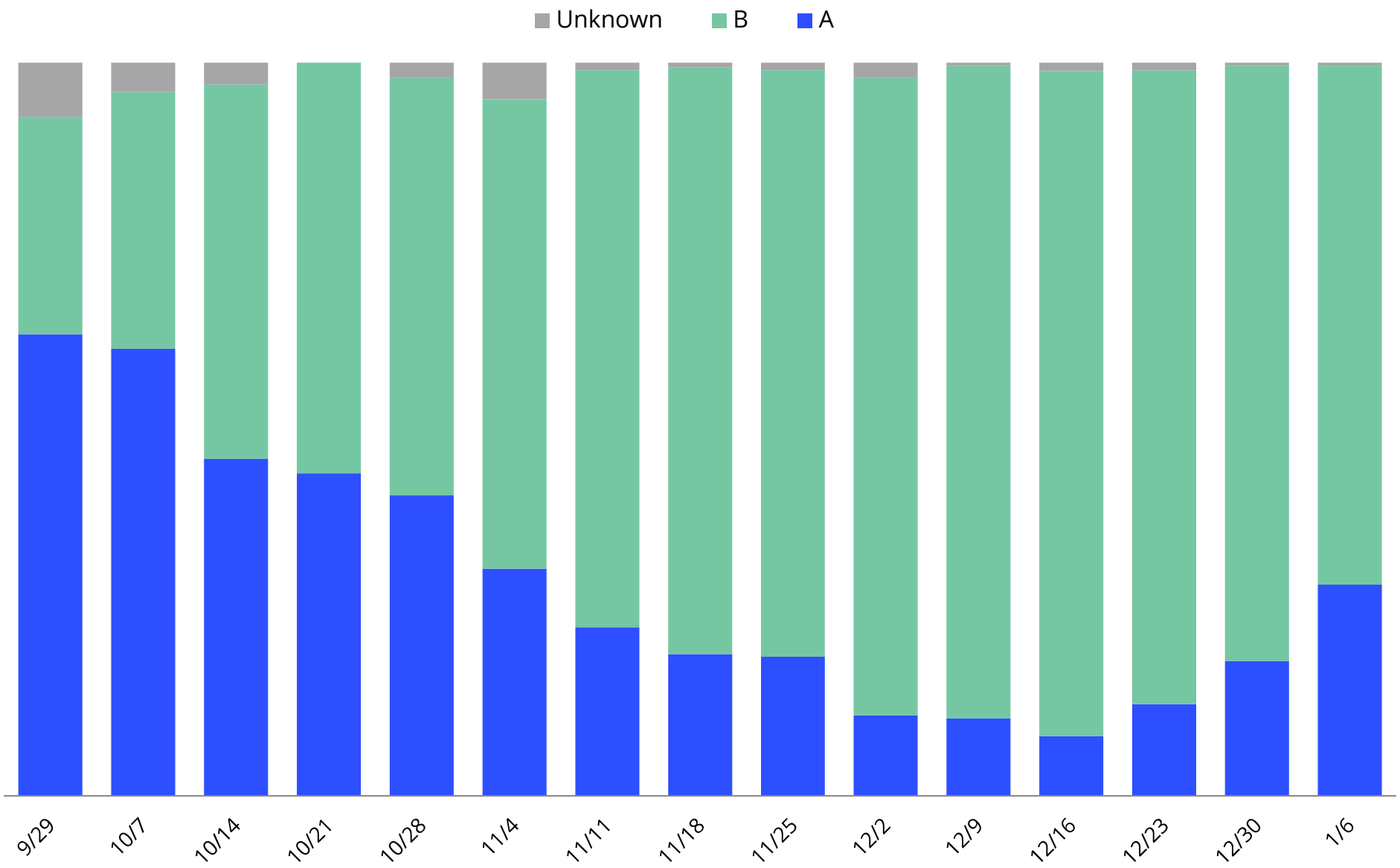


Influenza Like Illness - Inpatient

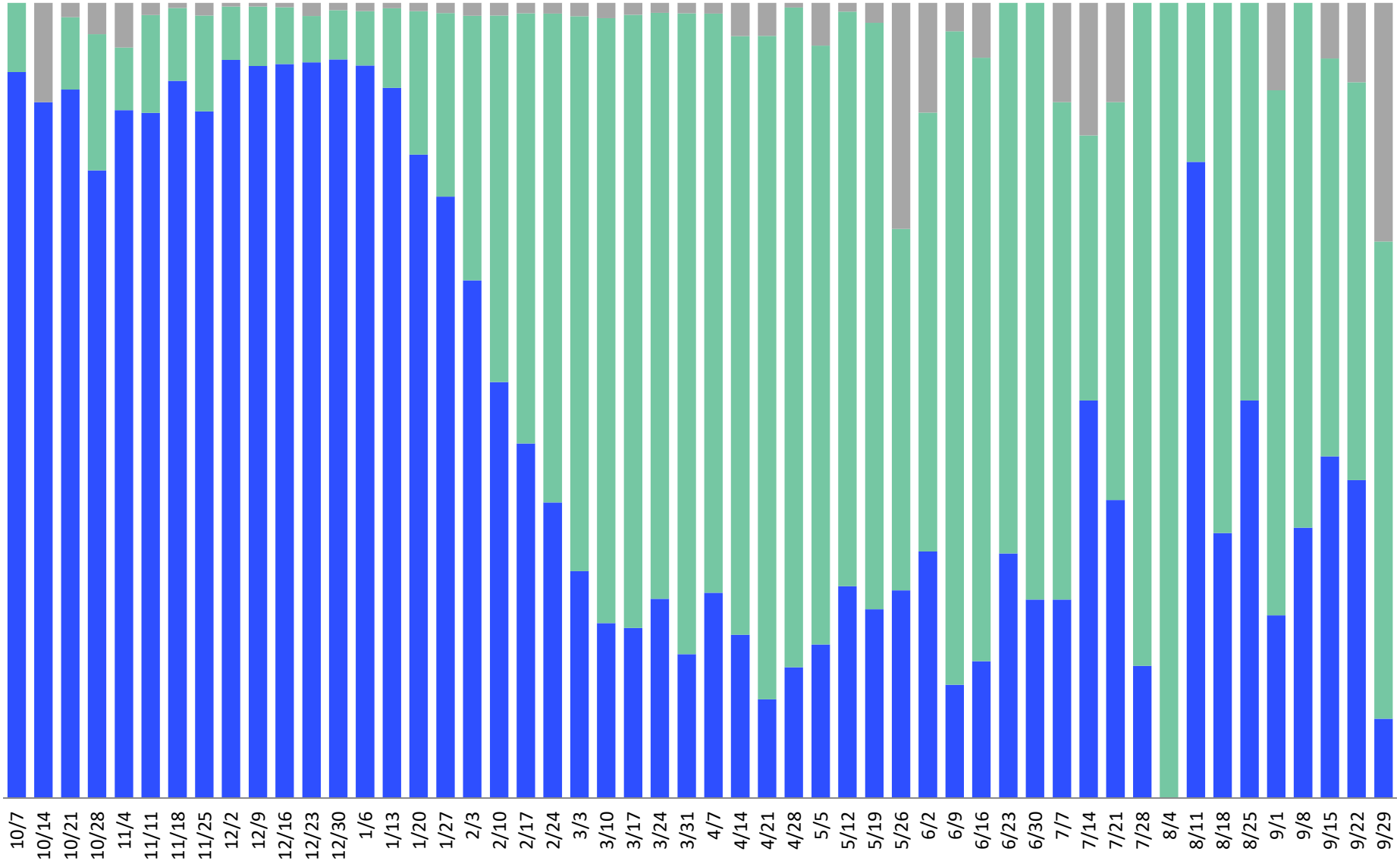


Influenza Like Illness - Inpatient

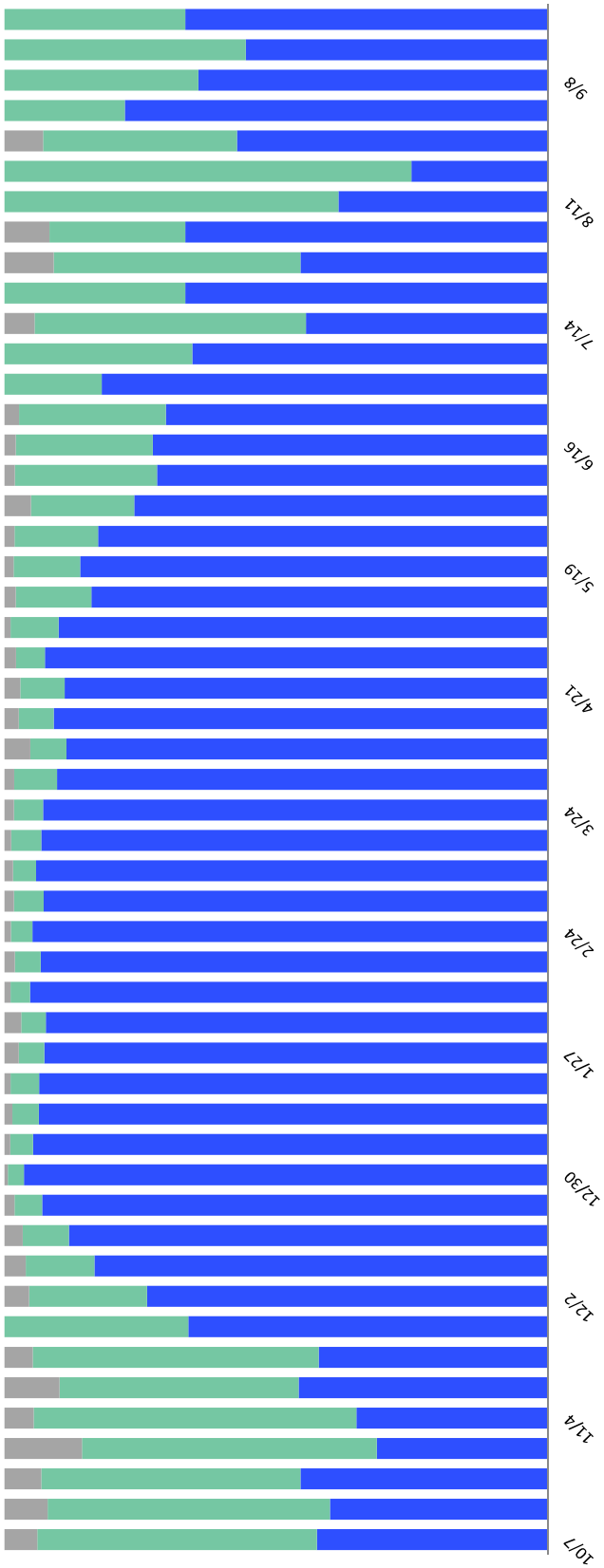
Types of Influenza Virus Circulating



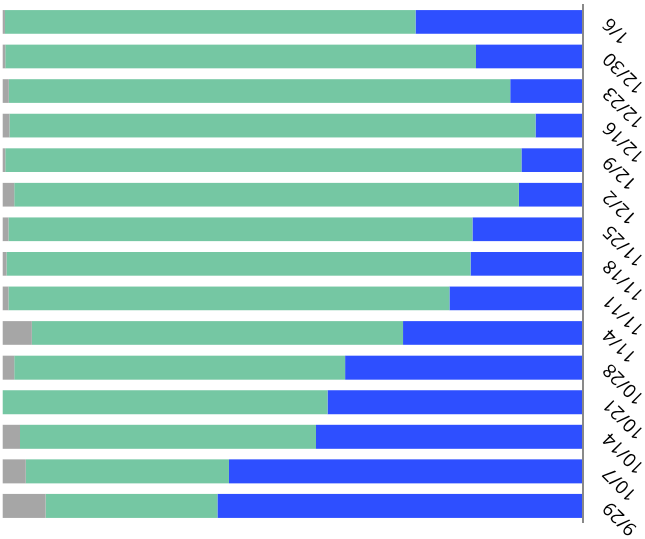
The 2017-18 season represents a typical Influenza A predominant season. Influenza A surges at the beginning of the season, followed by an increase cases associated with Influenza B later in the season.

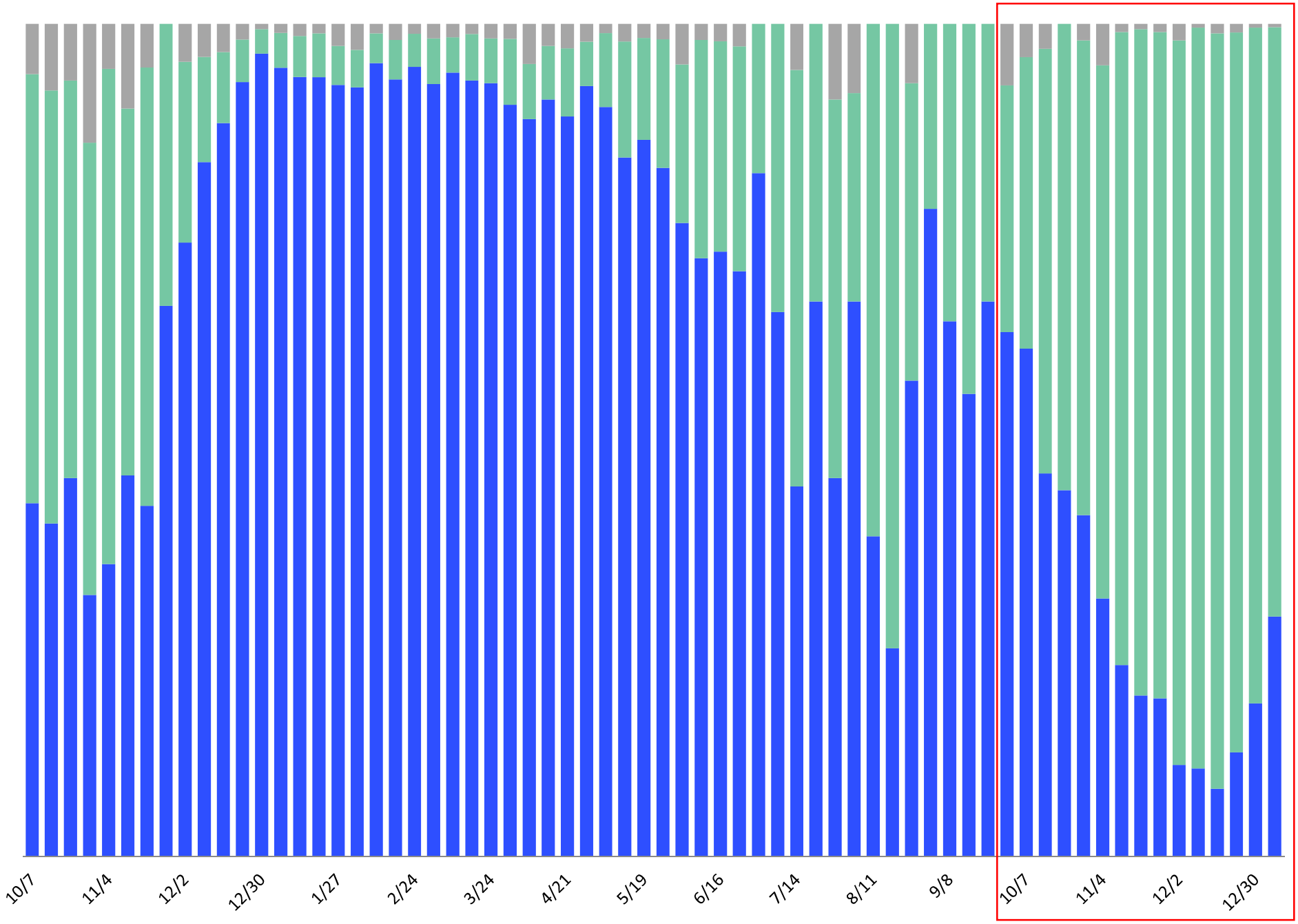


2018-2019

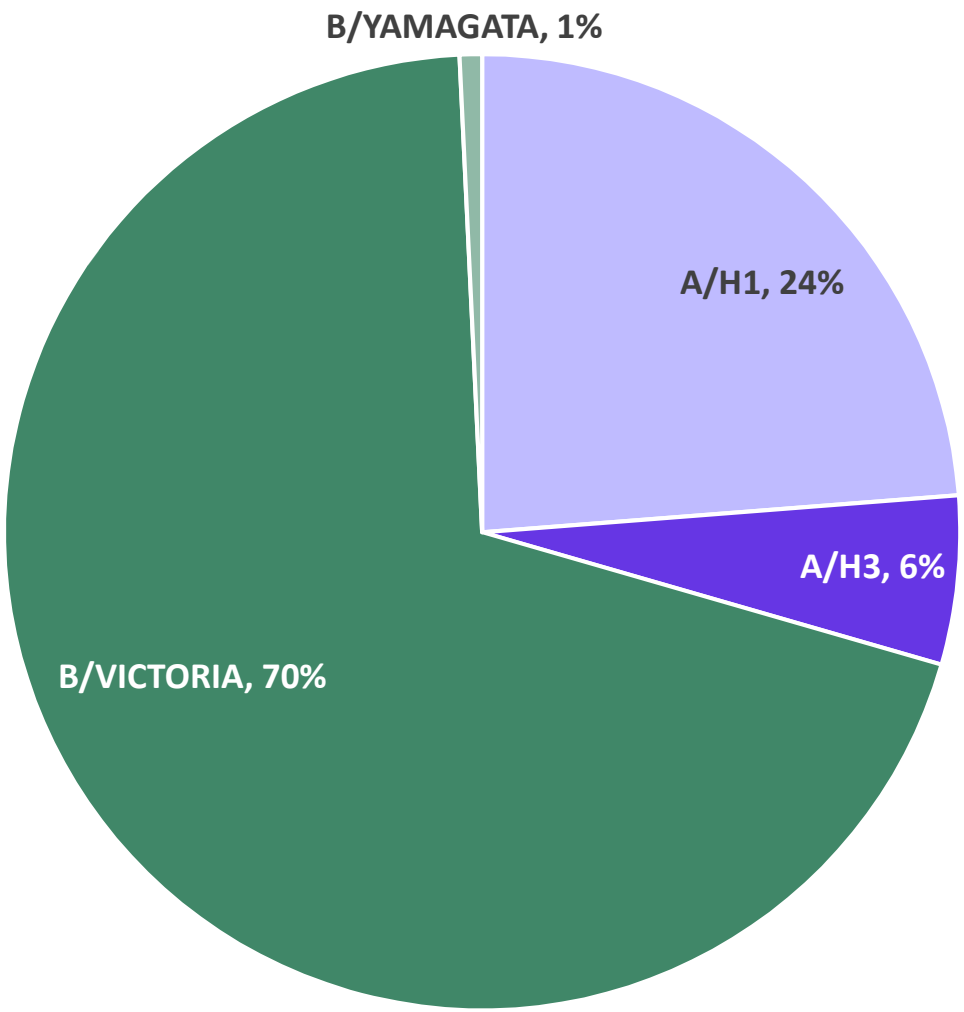


2019-2020




10/7
11/4
12/2
12/30
1/27
2/24
3/24
4/21
5/19
6/16
7/14
8/11
9/8
10/7
11/4
12/2
12/30

Types of Influenza Virus Circulating



Antiviral Resistance

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    - **99%** (706/707) **were susceptible** to Oseltamivir, Peramivir, and Zanamivir.

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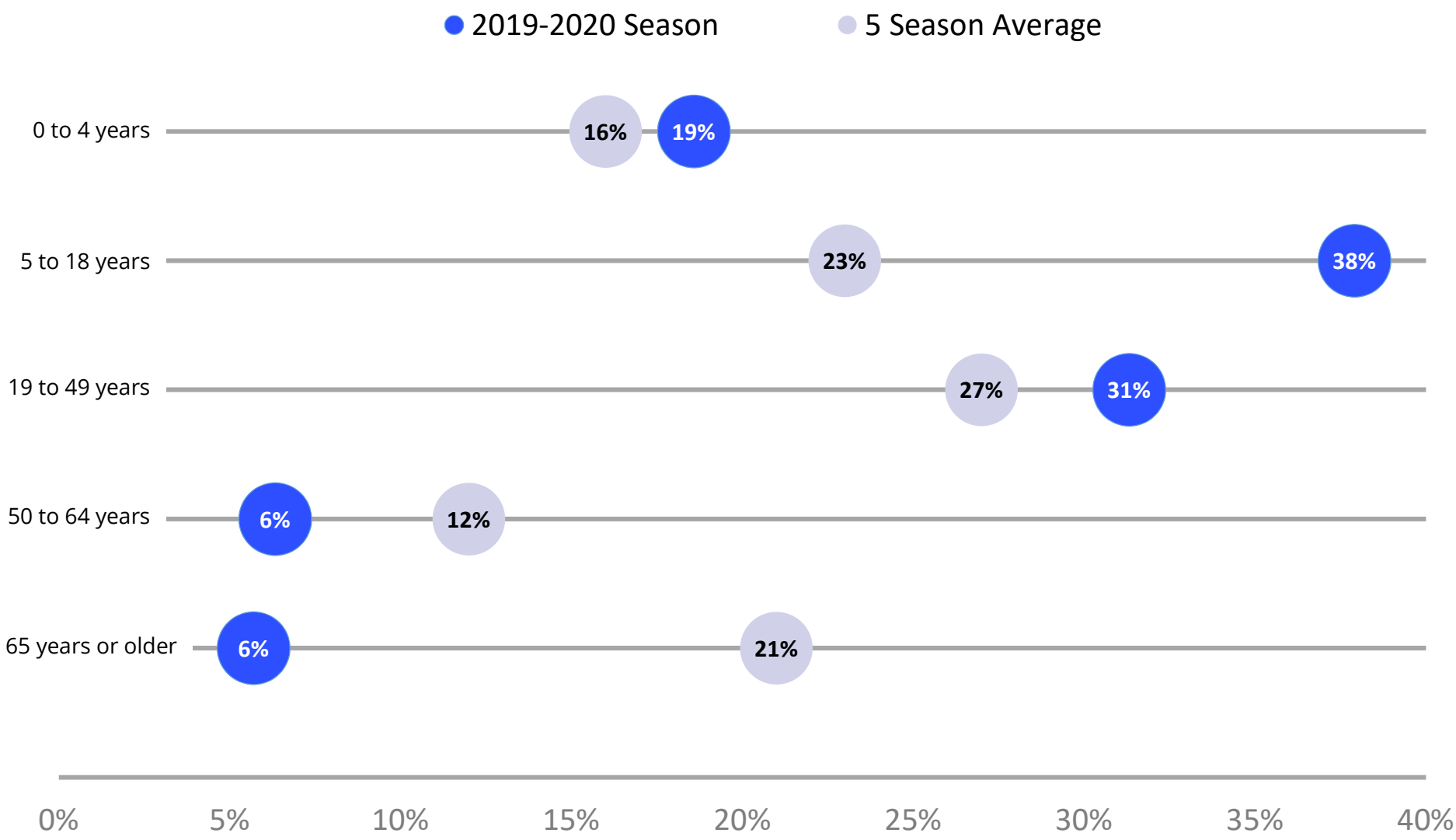
Age Groups Affected this Season



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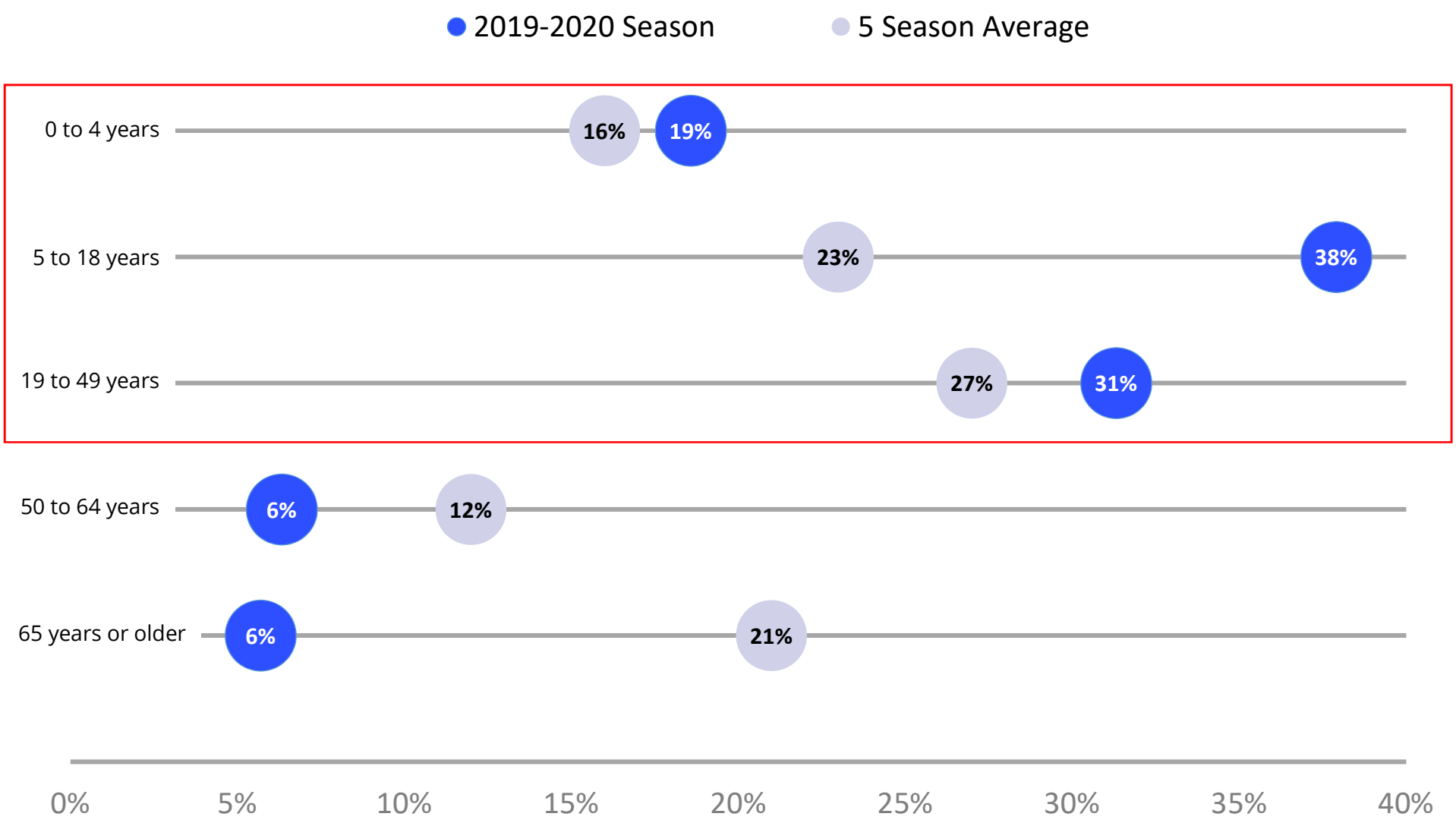

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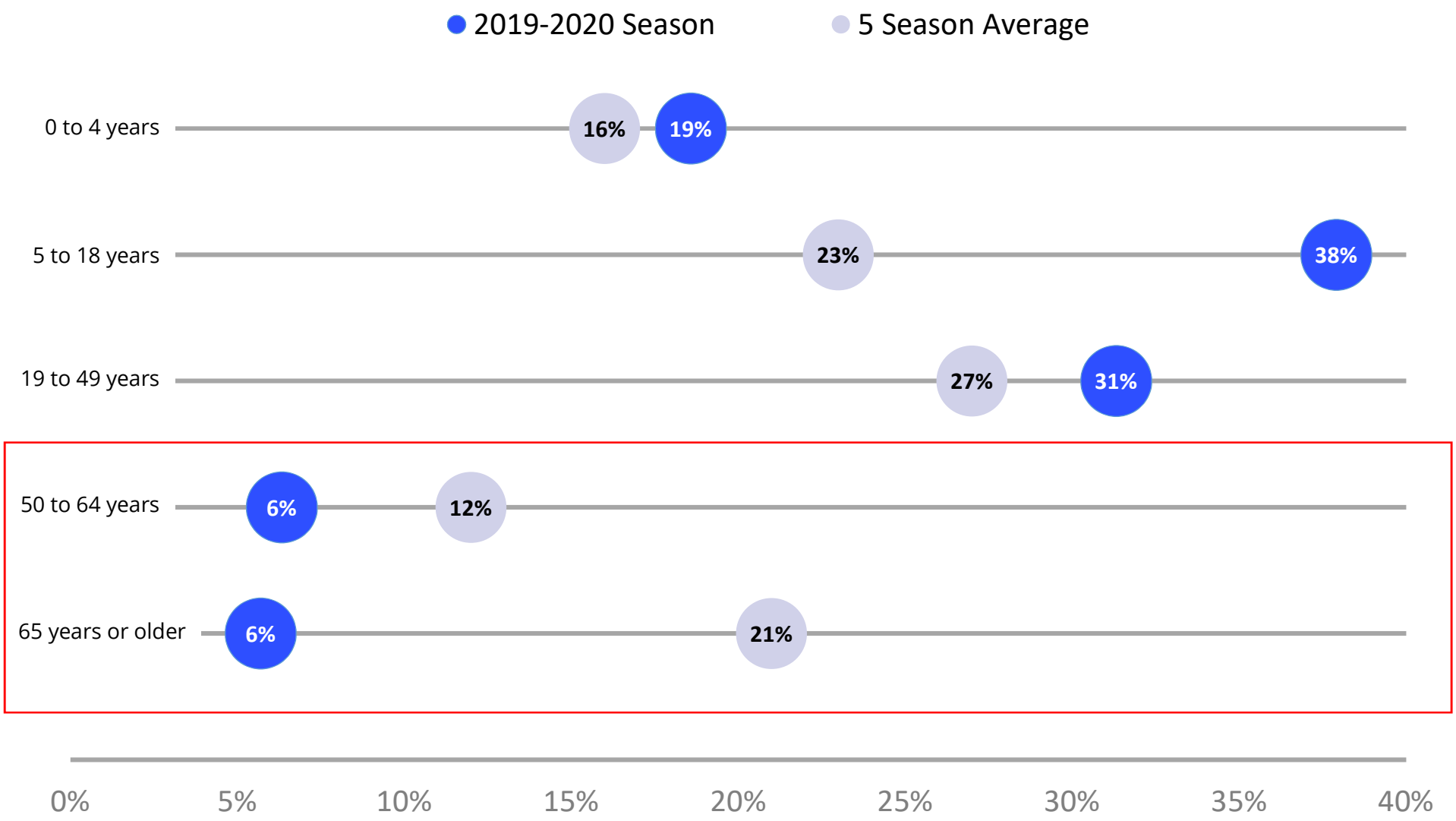

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- One influenza-associated pediatric death has occurred in Arizona during the 2019-20 season
  - Lineage was determined as B/Victoria

Concluding Remarks

- 12,710 laboratory reported cases of influenza so far this season
- Early start to the season
- B/Victoria are dominant
- Young kids and adolescents mostly affected
- One influenza-associated pediatric death

2019-nCoV (Novel Coronavirus)

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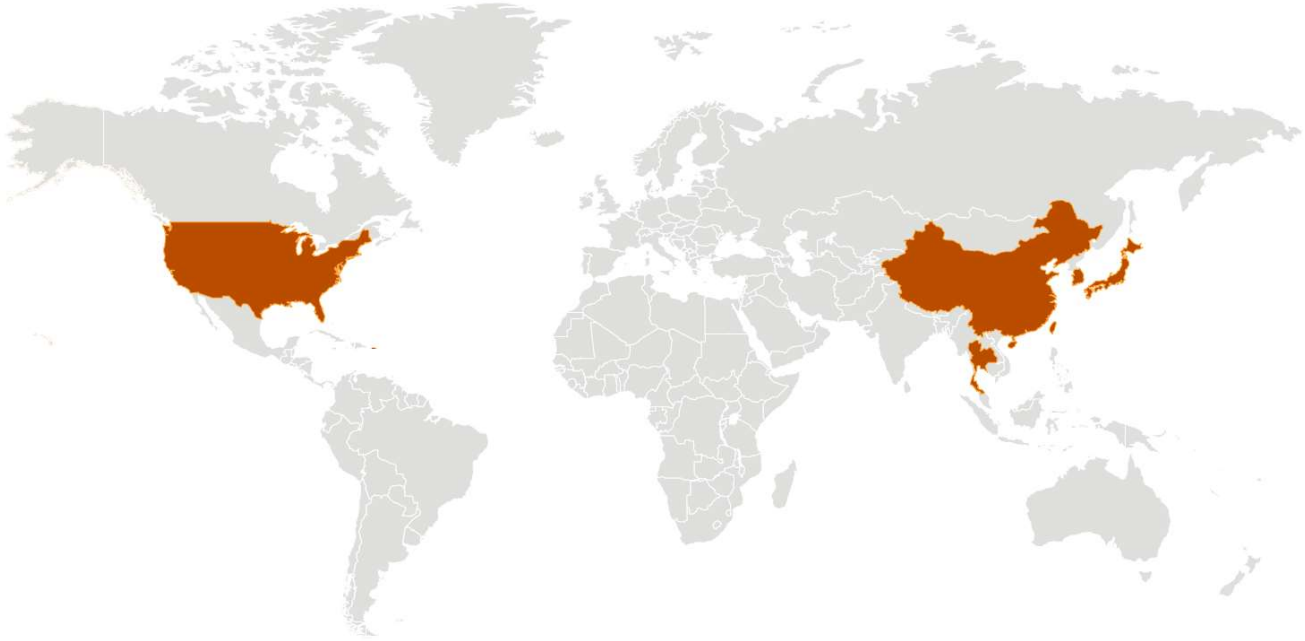
    - Cases have been confirmed in Taiwan, Thailand, Japan, South Korea, and the United States (Washington State) (No Cases in Arizona).



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- Rarely, animal coronaviruses can evolve and infect people and then proceed to spread between people
  - MERS-CoV and SARS-CoV

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- Healthcare personnel entering the room should use standard precautions, contact precautions, airborne precautions, and use eye protection (e.g., goggles or a face shield).
- Immediately notify your healthcare facility's infection control personnel and local health department.
- Coordinate with the local health department for specimen collection, transport, and testing for suspect cases.

Name that Parotitis!

Is it mumps or something else…?

Considerations for Parotitis

- Influenza season!

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- Human parainfluenza viruses!

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- Influenza season
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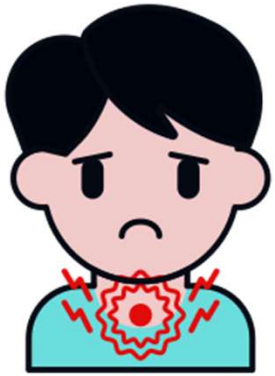
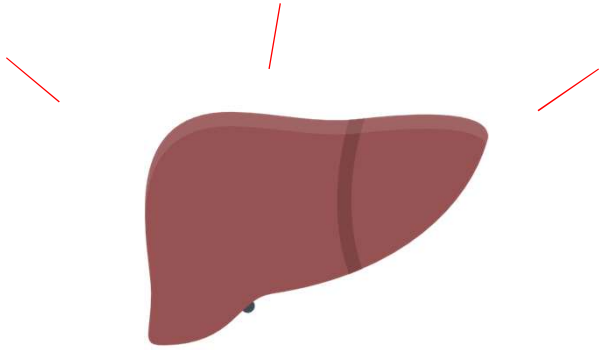
- Group A strep!



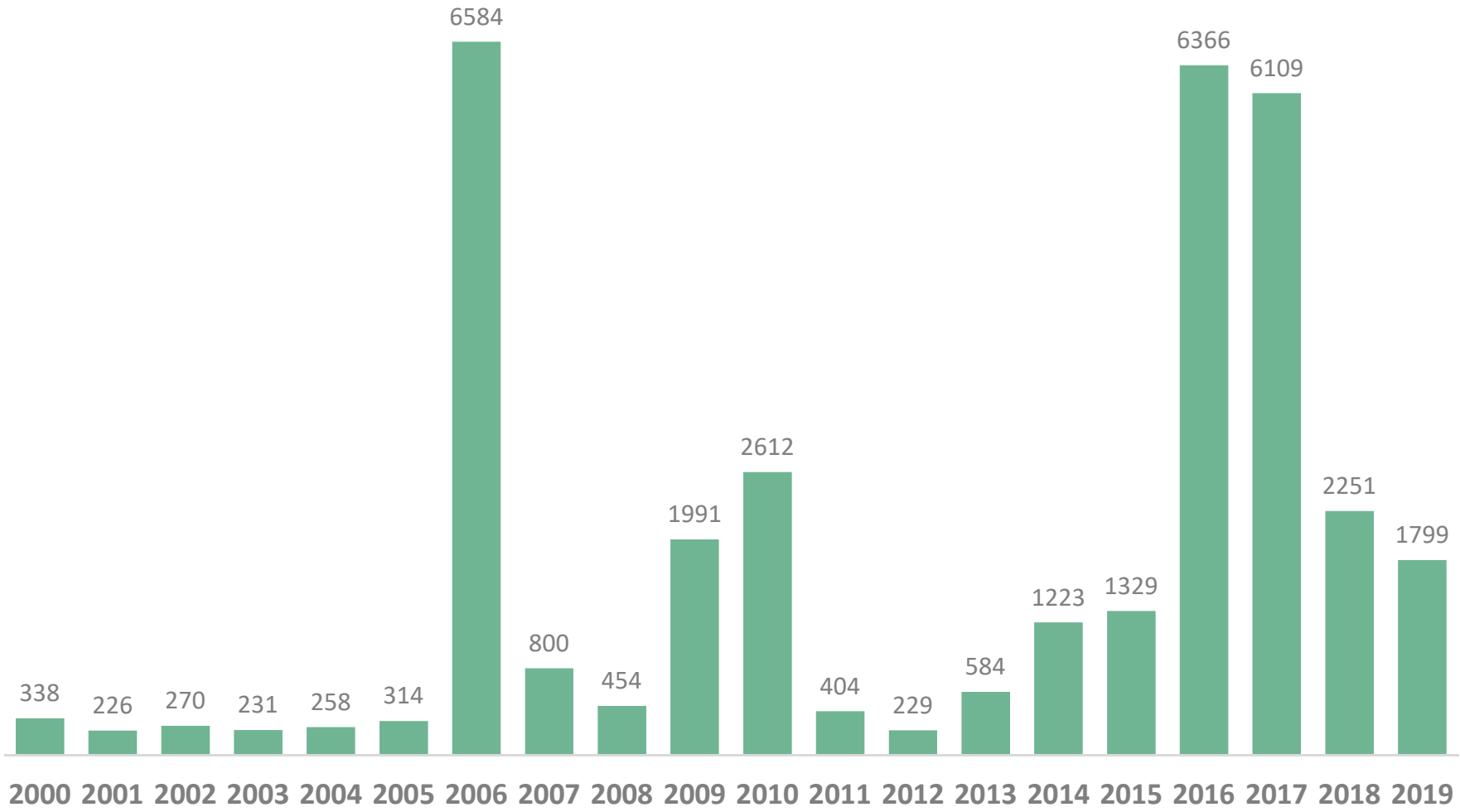
Considerations for Parotitis

- Influenza season
- Human parainfluenza viruses
- Group A strep
- Epstein-Barr Virus!



Is mumps on your differential?

Reported mumps cases-United States, 2000-2019*



Outbreaks: 2009-2019

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More than 1,000 get mumps in New York, New Jersey since August

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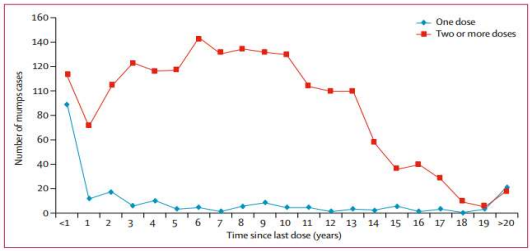
Mumps in a highly vaccinated Marshallese community in Arkansas, USA: an outbreak report



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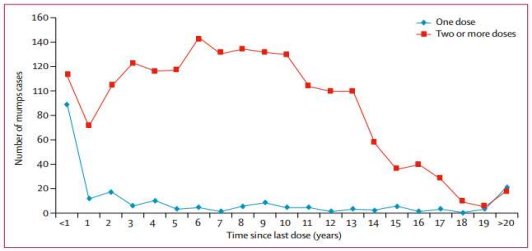

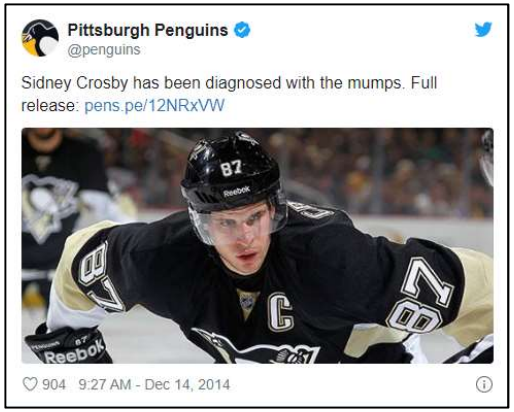

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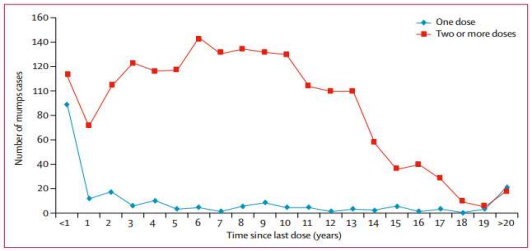


THIS IS A PROBLEM

ICE is struggling to contain spread of mumps in its detention centers

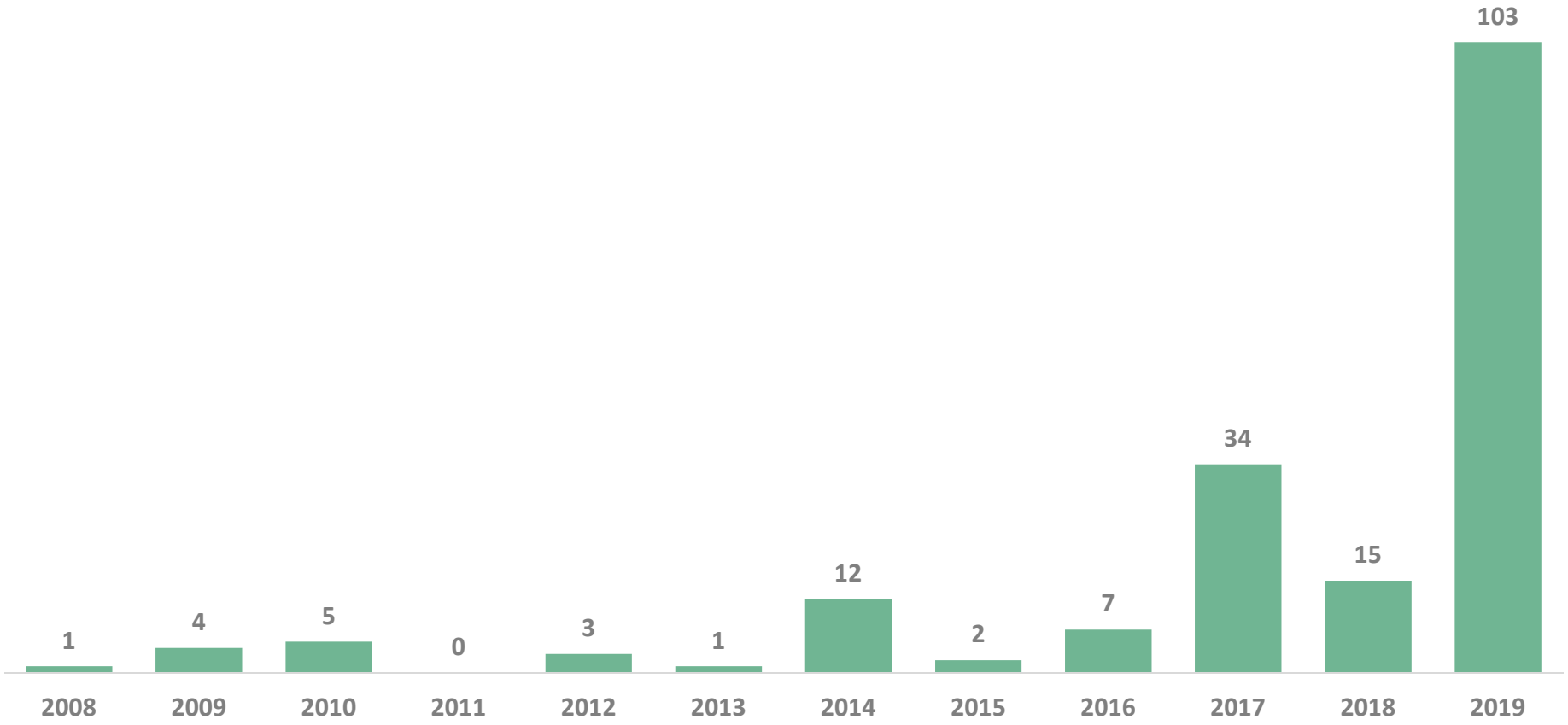
By Heather Timmons & Justin Rohrlich • June 3, 2019

Pittsburgh Penguins
@penguins

Sidney Crosby has been diagnosed with the mumps. Full release: pens.pe/12NRxVW

♡ 904 9:27 AM - Dec 14, 2014

Reported mumps cases- Arizona, 2008-2019

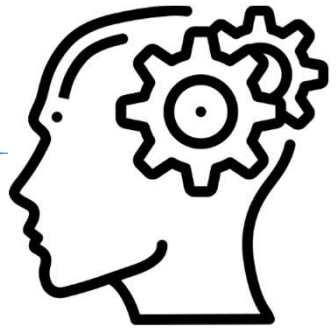


Mumps- Signs and Symptoms

Prodrome:

- Low grade fever
- Headache
- Muscle aches
- Loss of appetite

Could be a lot of things…



Mumps- Signs and Symptoms

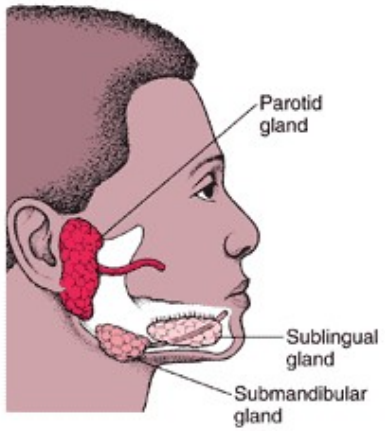
Prodrome:

- Low grade fever
- Headache
- Muscle aches
- Loss of appetite

~30% are asymptomatic

Followed by:

- Swelling in one or both parotid salivary glands
- Orchitis (common complication)

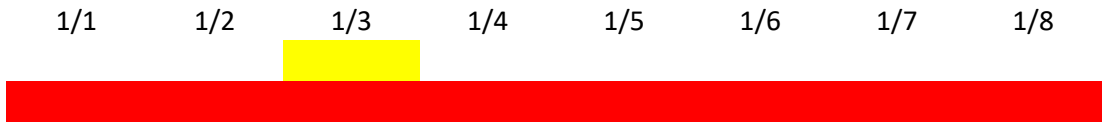


Transmission

Droplet or Direct contact with respiratory secretions

Communicability

- 2 days before parotitis onset to 5 days after
  - Parotitis onset is critical to understanding communicable period for public health recommendations



Parotitis onset
Period of communicability

Vaccination

- 1st dose of MMR or MMRV~ 78% effective

Vaccination

- 1st dose of MMR or MMRV~ 78% effective
- 2nd dose of MMR or MMRV~ 88% effective

Clinical Picture + Epidemiology

- Vaccination status

Clinical Picture + Epidemiology

- Vaccination status
- High risk groups/ transmission setting
  - College
  - High Risk occupation (health care personnel)
  - MSM population
  - Religious/ cultural practice
  - Athletes

Clinical Picture + Epidemiology

- Vaccination status
- High risk groups/ transmission setting
  - College
  - High Risk occupation (health care personnel)
  - MSM population
  - Religious cultural practice
  - Athletes
- Travel in past 12-25 days from symptom onset

Mumps Laboratory Testing

Arizona State Public Health Laboratory

(Communicate with your local public health to test)

- PCR
  - Buccal
  - Urine
  - Turn around time (~2-3 business days)

Commercially available (ARUP, Quest)

- PCR
  - Buccal
  - Turn around time (~7-8 business days)
- Serology- IgM and IgG

Mumps Laboratory Testing

Questions to consider before testing:

- When was parotitis onset?
- Was this individual vaccinated within 45 days?

Laboratory Testing

Questions to consider before testing:

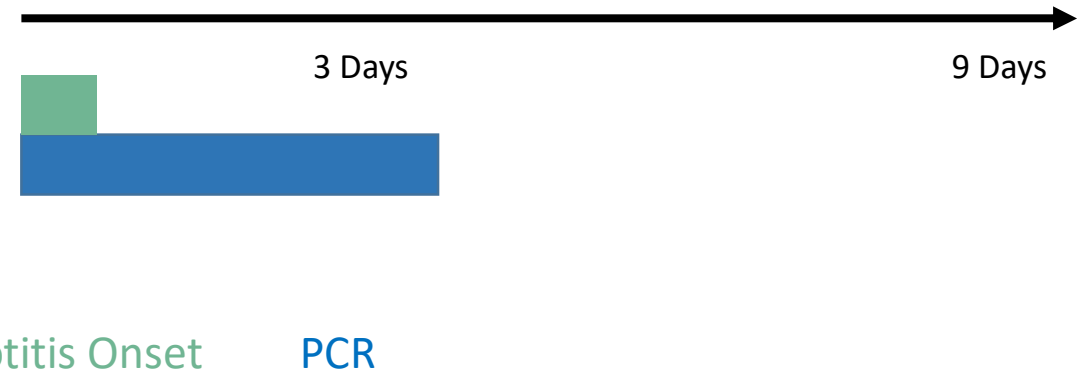
- When was parotitis onset?
- Was this individual recently vaccinated within 45 days?

Parotitis Onset

Laboratory Testing

PCR testing (Specimen collection)

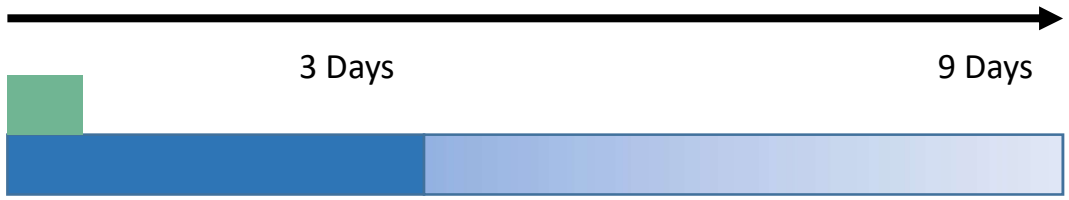
- Optimally 0-3 days from parotitis onset



Laboratory Testing

PCR testing (Specimen collection)

- Optimally 0-3 days from parotitis onset
- Can be utilized on specimens collected up to 9 days from parotitis onset

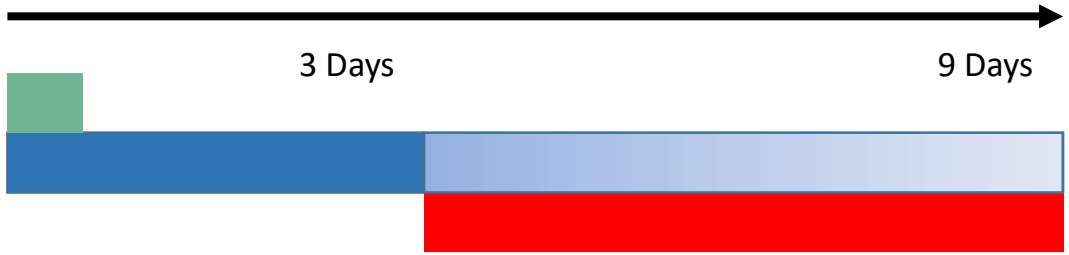


Parotitis Onset PCR

Laboratory Testing

Serology (Specimen collection)

- Optimally 3-9 days from parotitis onset

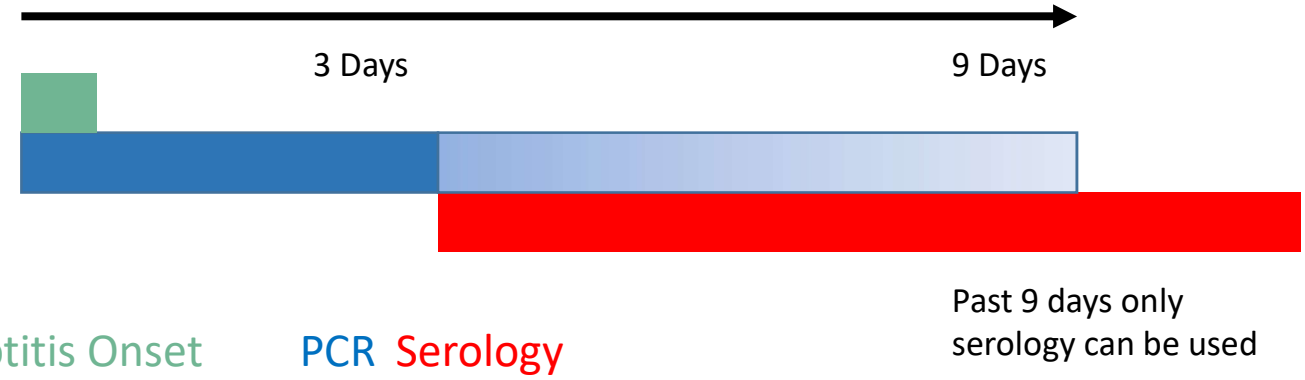


Parotitis Onset PCR Serology

Laboratory Testing

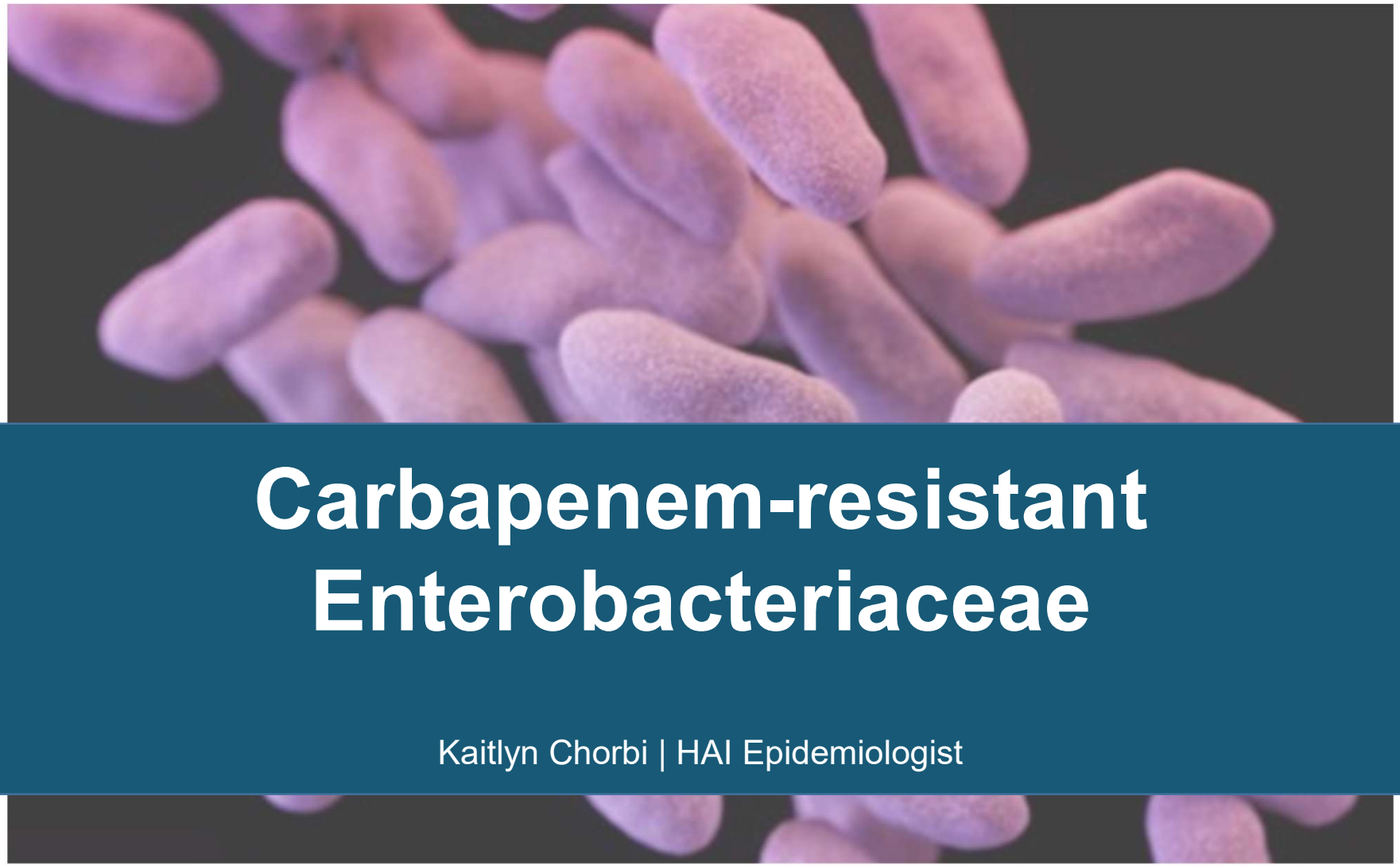
Serology (Specimen collection)

- Optimally 3-9 days from parotitis onset
- Becomes the only option past nine days



Summary

- Many causes of parotitis
- Clinical picture + patient history important for detecting mumps
- Consult with LHDs for testing
- Obtain parotitis/orchitis onset dates!
- Vaccination $\neq$ immunity



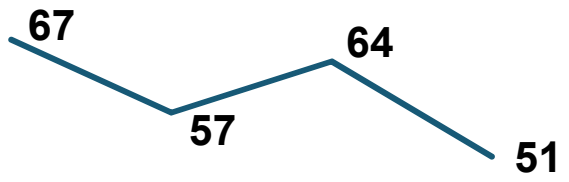
Carbapenem-resistant Enterobacteriaceae

Kaitlyn Chorbi | HAI Epidemiologist

Case Counts

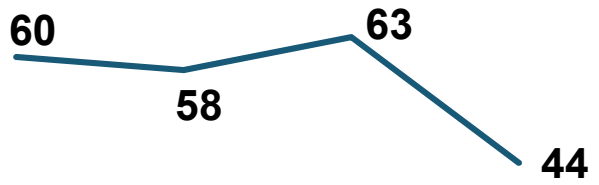
2018

239 Confirmed and probable cases of CRE were reported in 2018.



2019

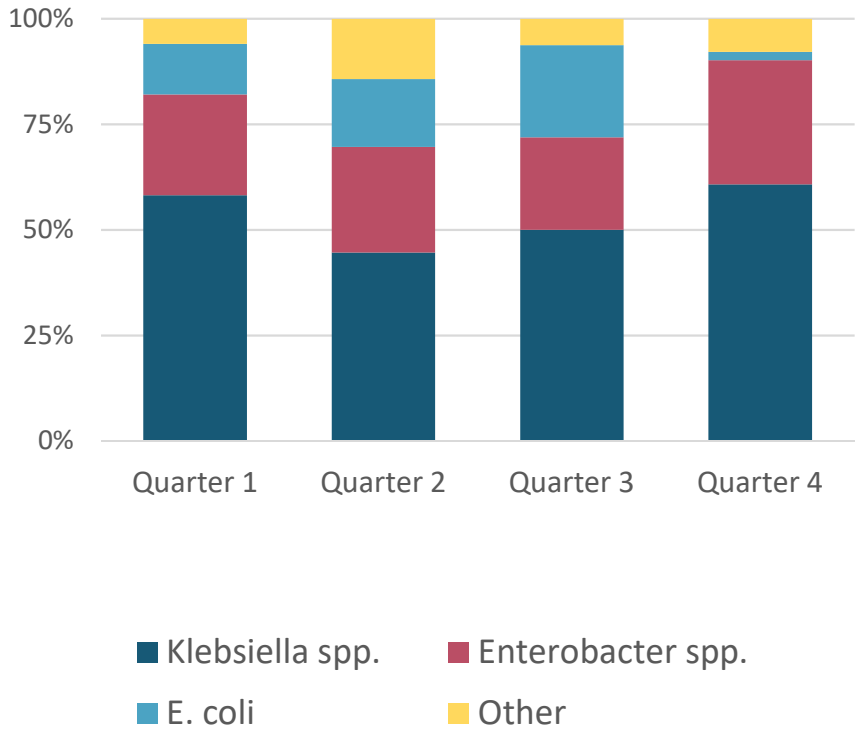
225 Confirmed and probable cases of CRE were reported in 2019.



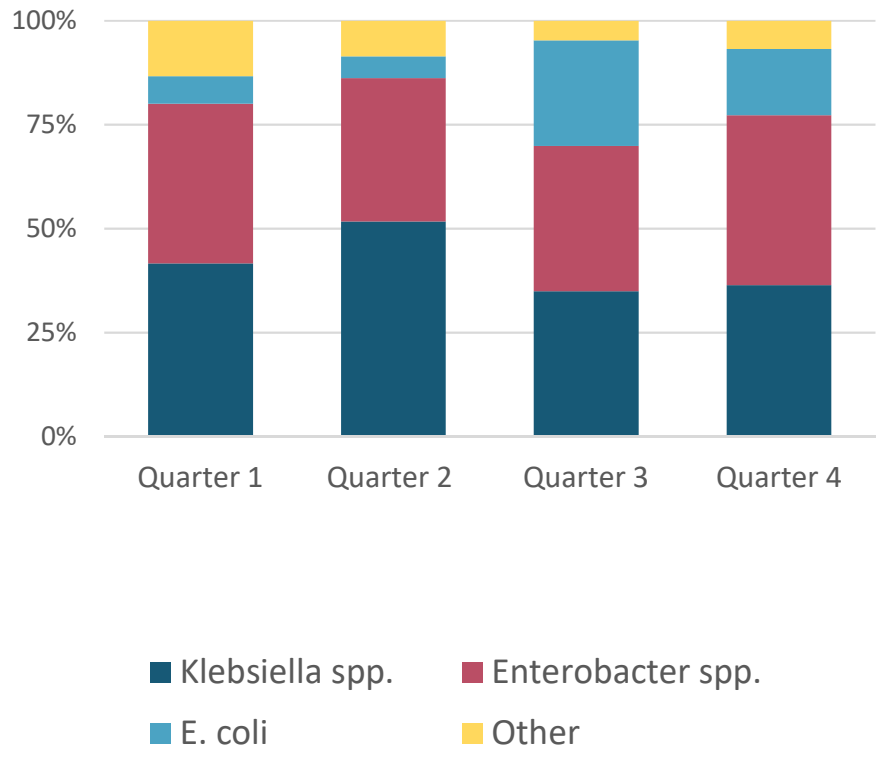
Organisms

Most of the confirmed and probable CRE cases were species of ***Klebsiella*** and ***Enterobacter***.

2018



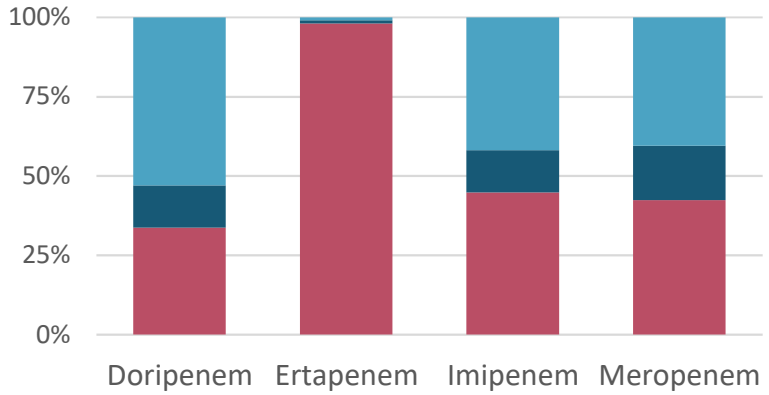
2019



Resistance

2018

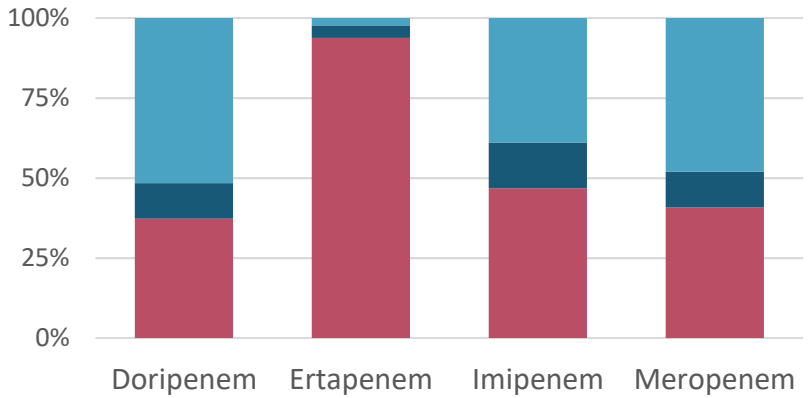
98% of confirmed CRE cases were resistant to at least Ertapenem.



31%
Were resistant to **all 4** Carbapenems

2019

94% of confirmed CRE cases were resistant to at least Ertapenem.



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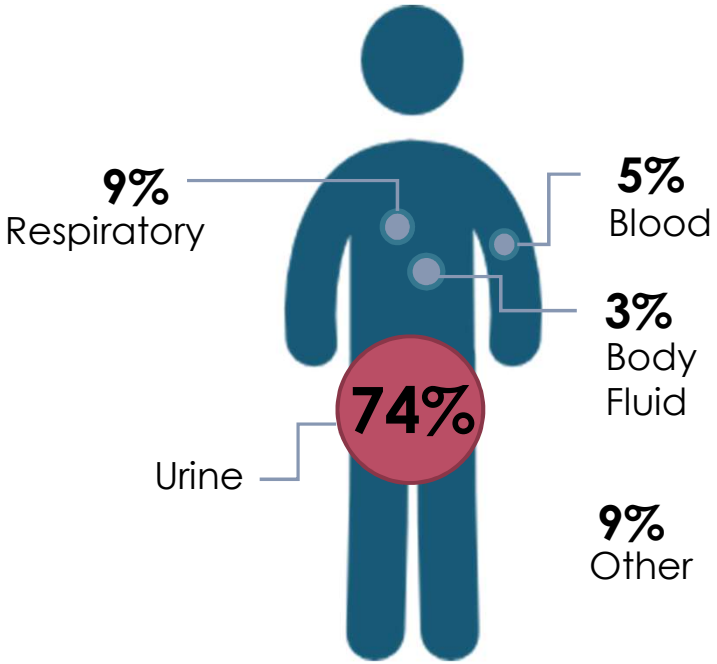
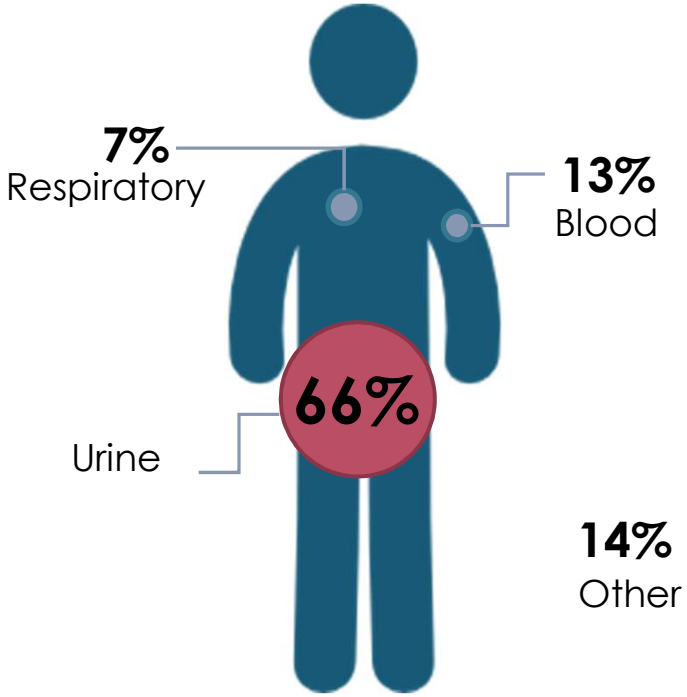
Specimen Collection

2018



74% of CRE cases were identified from **urine** cultures.

2019

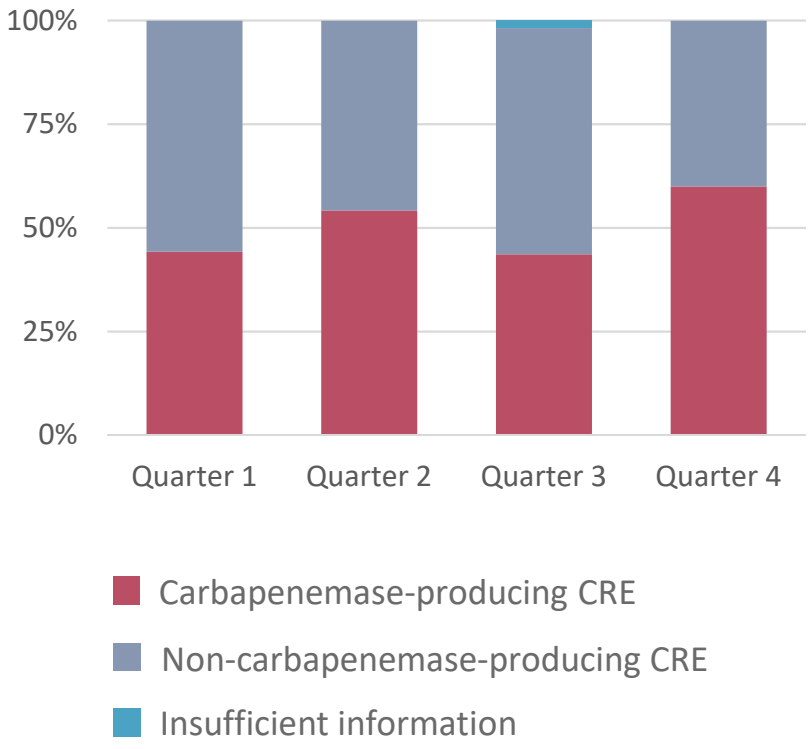


66% of CRE cases were identified from **urine** cultures.

Resistance Mechanisms

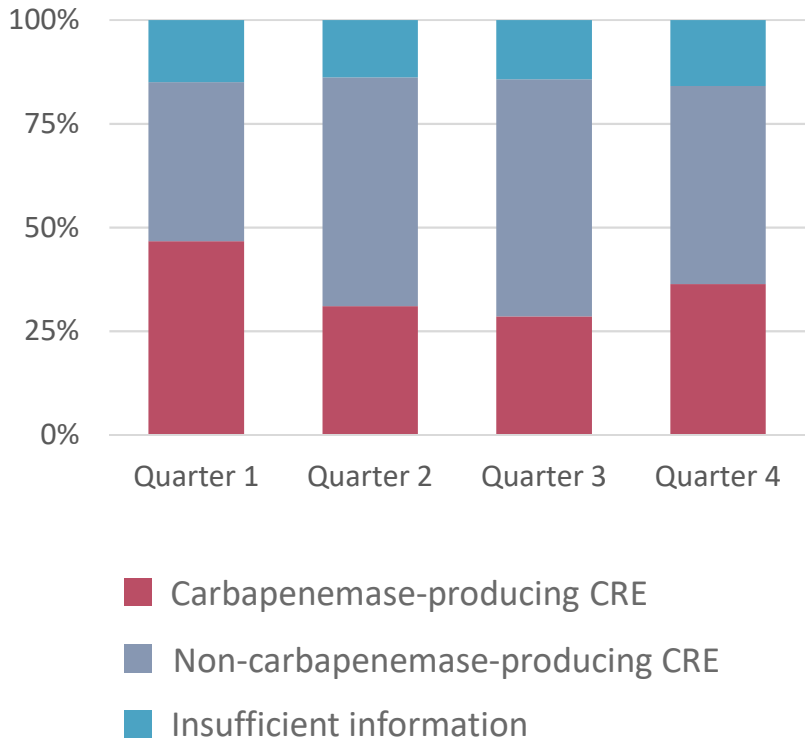
2018

Around half of the confirmed CRE cases each quarter were **carbapenemase-producing** CRE.



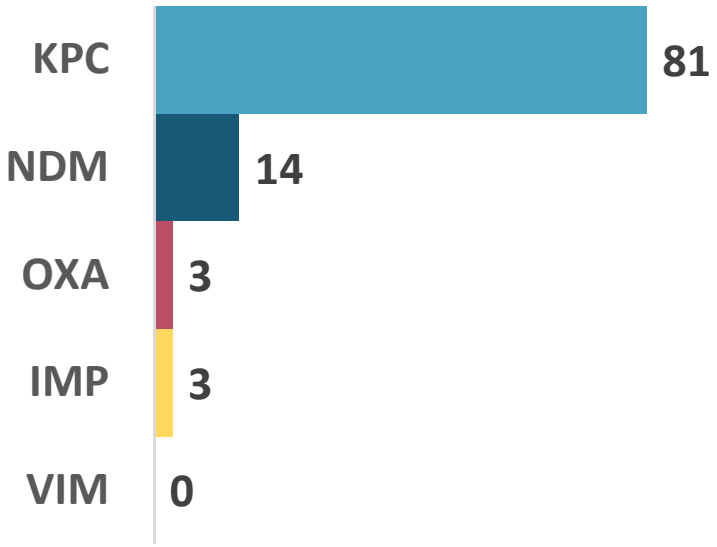
2019

Less than half of the confirmed CRE cases each quarter were **carbapenemase-producing** CRE.



Resistance Mechanisms

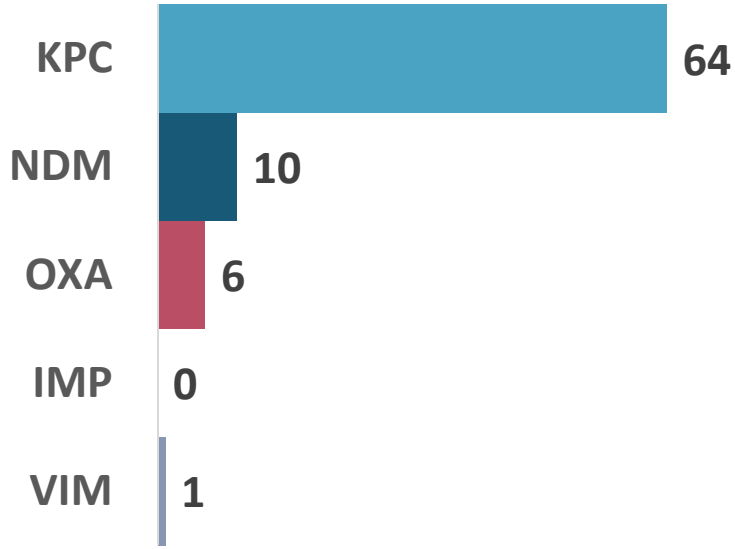
2018



3 2 KPC + NDM
1 NDM + OXA

Dual Mechanism Cases

2019



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Dual Mechanism Cases

Thank You!

Kaitlyn Chorbi

HAI Epidemiologist

Arizona Department of Health Services

Kaitlyn.Chorbi@azdhs.gov

HAI@azdhs.gov

CRE Reports can be found here:
https://www.azdhs.gov/preparedness/epidemiology-disease-control/healthcare-associated-infection/index.php#hai-cre

Antibiotic Stewardship in Ambulatory Healthcare Facilities (and related updates)

APIC State of the State

January 24, 2020

THE UNIVERSITY OF ARIZONA College of Pharmacy

ADHS PREPAREDNESS

Antibiotic Resistance Threats in the US
2019 Summary Update

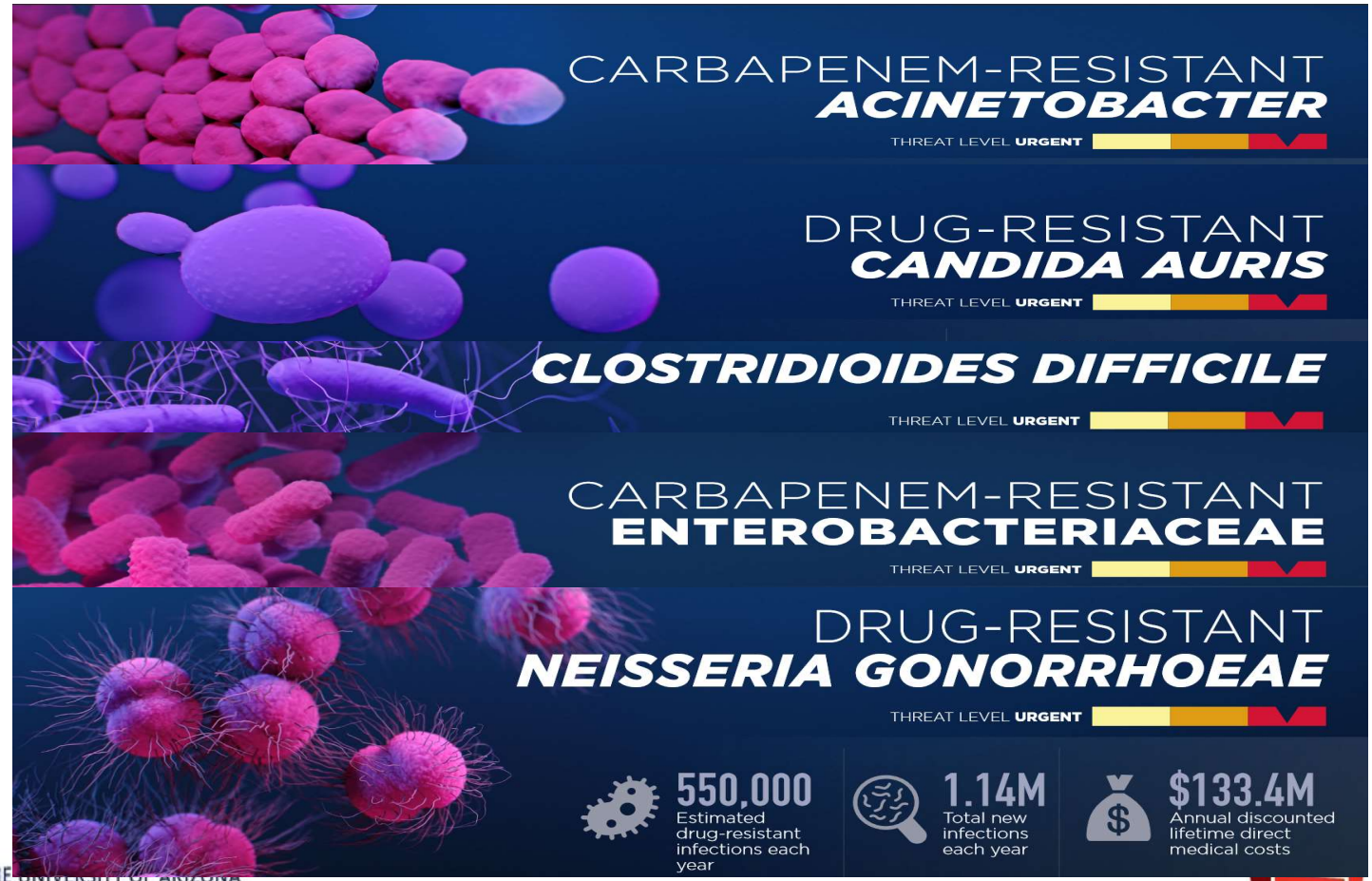
- ≥ 2.8 million antibiotic-resistant (AR) infections per year
  - ≥ 35,000 deaths per year

- Urgent threat pathogens expanded to five:
  - Carbapenem-resistant *Acinetobacter* (CRAB)
  - *Candida auris*
  - *Clostridioides difficile* (C. diff)
  - Carbapenem resistant-*Enterobacteriaceae* (CRE)
  - Drug-resistant *Neisseria gonorrhoeae*

- Since 2013, prevention reduced deaths from AR infection by 18% overall and nearly 30% in hospitals

Antibiotic Resistance Threats in the US

2019 Summary Update



THE UNIVERSITY OF ARIZONA
College of Pharmacy

ADHS
PREPAREDNESS

CDC Core Elements of Hospital ASPs

2019 Summary Updates

- Hospital Leadership Commitment – stratified by priority
  - Dedicated time and resources to operate program

- Accountability
  - Appoint co-leaders (physician and pharmacist)

- Pharmacy Expertise (*previously "Drug Expertise"*)
  - Appoint a pharmacist to lead implementation

- Action – stratified by priority
  - Prospective audit and feedback, preauthorization, and treatment recs
  - Importance of actions focused on common indications
  - ★Nursing-based actions added★

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ADHS PREPAREDNESS

CDC Core Elements of Hospital ASPs

2019 Summary Updates

- Tracking – stratified by priority
  - Electronically submit antibiotic use data to NHSN Antimicrobial Use (AU) Option for monitoring and benchmarking

- Reporting
  - Effectiveness of provider level data reporting

- Education
  - Case-based education through prospective audit and feedback as effective method

★Engaging nurses in patient education efforts★

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ADHS PREPAREDNESS

Outpatient Antibiotic Stewardship

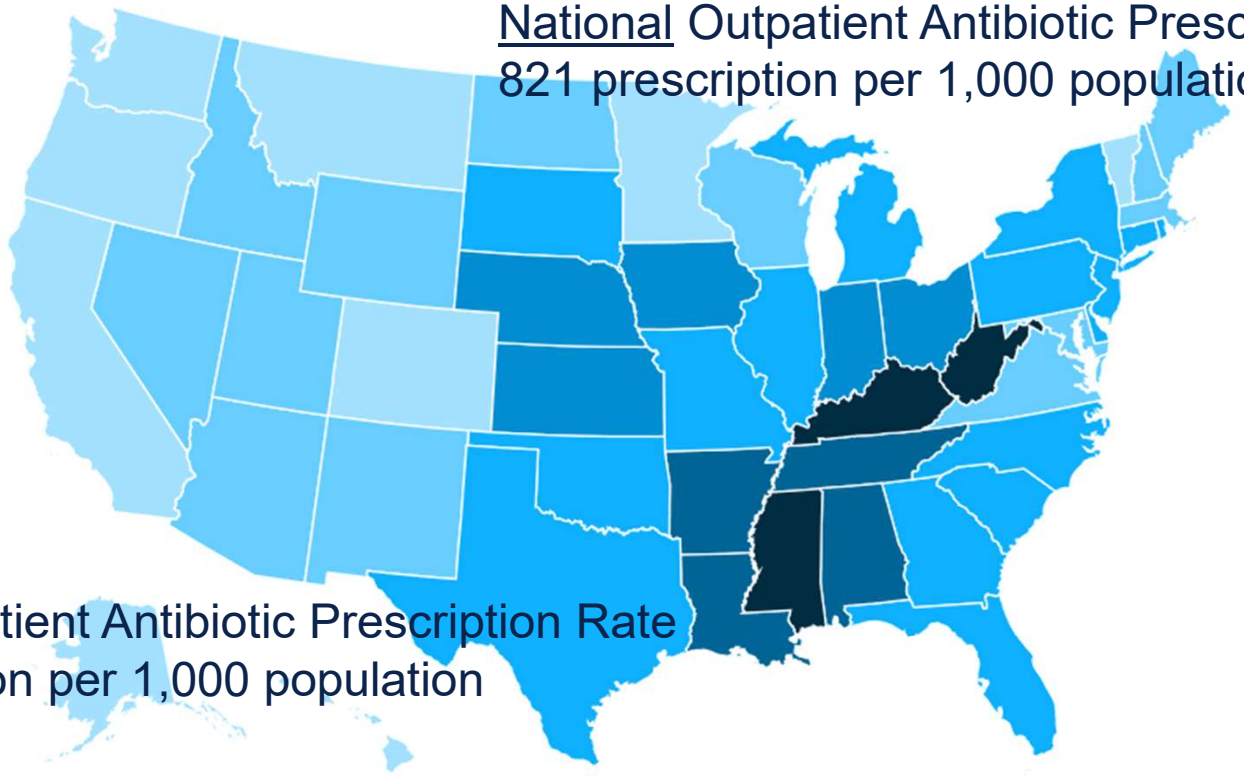
THE UNIVERSITY OF ARIZONA
College of Pharmacy

ADHS
PREPAREDNESS

Outpatient Prescription Rate in US (2017)

All Antibiotic Classes Dispensed

National Outpatient Antibiotic Prescription Rate
821 prescription per 1,000 population



Arizona Outpatient Antibiotic Prescription Rate
735 prescription per 1,000 population

All Antibiotic Classes Prescriptions Dispensed per 1,000 Population

501 - 674 | 674 - 812 | 812 - 931 | 931 - 1,107 | 1,107 - 1,222 | 1,222 - 1,355

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Antibiotic Stewardship in Ambulatory Care

Regulatory Requirements

- Effective January 1, 2020
- Includes: medical or dental services, episodic care, occupational/worksite health, urgent care, or convenient care
- NOT applicable to ambulatory surgery centers or office-based surgery programs
- Elements of performance address the following concepts:
  1. Identifying an antimicrobial stewardship leader
  2. Establishing an annual antimicrobial stewardship goal
  3. Implementing evidence-based practice guidelines
  4. Providing clinical staff with educational resources
  5. Collecting, analyzing, and reporting data

Antibiotic Stewardship in Ambulatory Care

CDC Core Elements

Commitment

Tracking and Reporting

Action for Policy and Practice

Education and Expertise

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Antibiotic Stewardship in Ambulatory Care

Urgent Care Association

- Provides an estimated 160 million patient visits per year
- Requires urgent care centers to provide evidence demonstrating their compliance with core elements
- Goal is to encourage urgent care centers to become more proactive in their stewardship efforts
- Commendation is three years

ANTIBIOTIC STEWARDSHIP COMMENDATION
THE COLLEGE OF URGENT CARE MEDICINE

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Antibiotic Stewardship in Ambulatory Care

Commendation Program Requirements

- Antibiotic stewardship champion identified
- Compliance with each of four core elements

1. Commitment: demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety

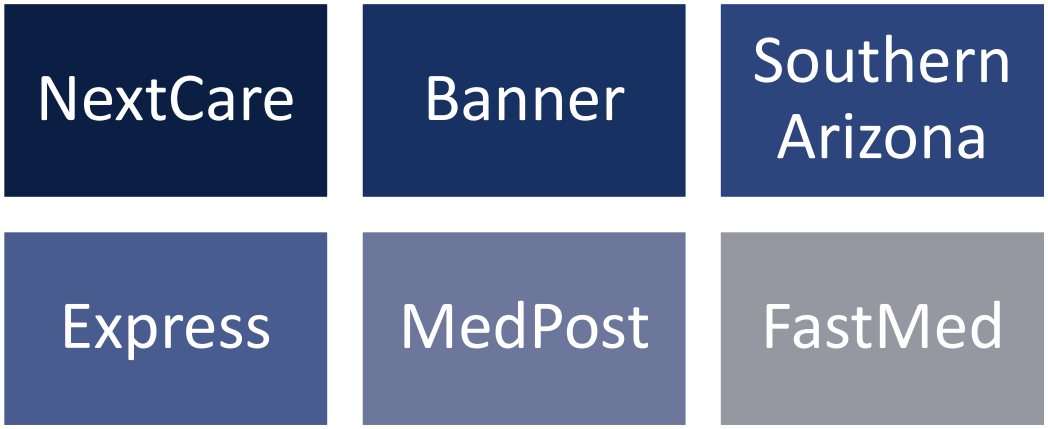
2. Action for Policy and Practice: Implement at least ONE action to improve antibiotic prescribing

3. Tracking & Reporting Data: Monitor antibiotic prescribing

4. Education & Expertise: Provide education resources to clinicians and patients to optimize antibiotic prescribing

Antibiotic Stewardship in Ambulatory Care
Future Directions

- Identified ~183 urgent cares in Arizona



- Reach out to determine healthcare facility needs
  - Tracking & Reporting
- Provide antibiotic stewardship support

Questions?

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That’s all folks!

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