



Legionnaires' Disease: Update on 2018 in Ohio

Ellen Salehi, MPH

Epidemiologist

Outbreak Response & BT Investigation Team

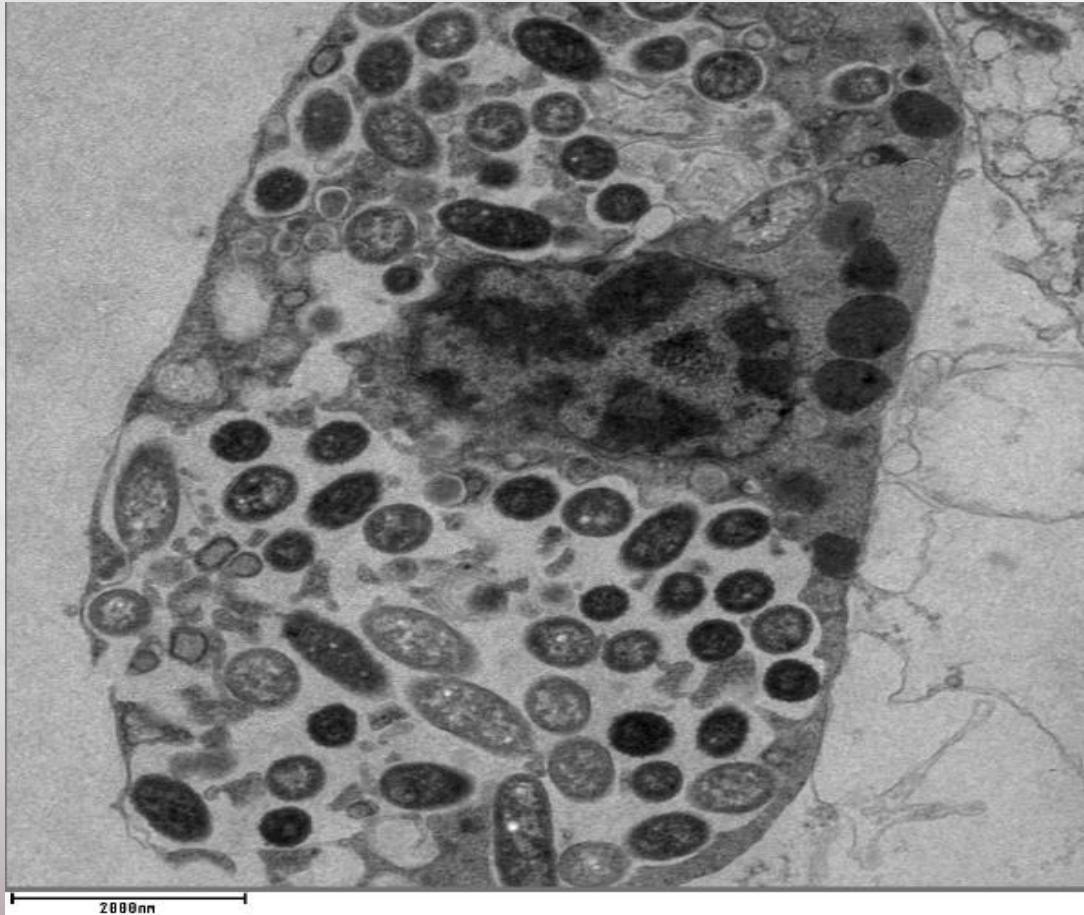
Bureau of Infectious Diseases

Event
Date

Legionellosis

- **Legionnaires' Disease:**
Anorexia, malaise, muscle aches,
headache, fever, pneumonia, cough
- **Pontiac Fever:**
Similar, but no pneumonia
(May be a reaction to inhaled antigen)

White blood cell infected with
L. pneumophila bacteria



L. pneumophila (red chains) multiplying
inside *Tetrahymena pyriformis*, a free-living
ciliate.



How is *Legionella* Transmitted?

- Inhalation of aerosolized *Legionella*

AND

- Aspiration of water.
- Person-to-person transmission does not occur.



What are Some Sources of Aerosols?

- Cooling towers
- Hot tubs
- Showers and faucets
- Decorative fountains
- Manufacturing processes



www.shutterstock.com · 563709478



shutterstock

IMAGE ID: 169674161
www.shutterstock.com



shutterstock

IMAGE ID: 107333861
www.shutterstock.com

Legionnaires' Disease

Incubation Period

- From exposure to onset of illness: 2-10 days

Diagnosis

- Urine antigen test (may stay positive up to a year)
- Culture of respiratory specimens
- Serology

Treatment

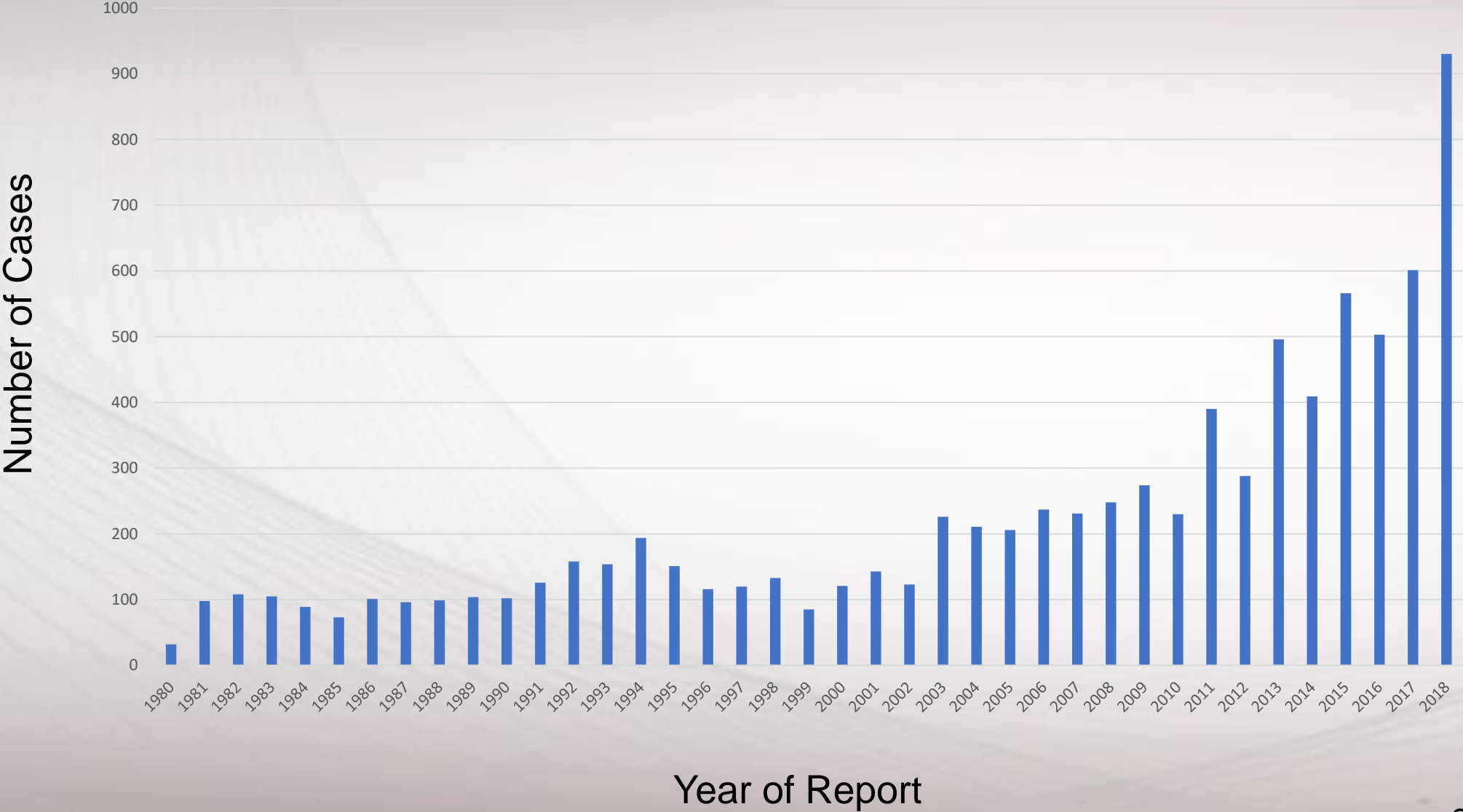
- Levofloxacin (fluoroquinolone)
- Azithromycin (macrolide)

Before it is diagnosed as Legionnaires' Disease, it may be referred to as community-acquired pneumonia or atypical pneumonia.

Who is at Risk of Getting Legionnaires' Disease?

- Seniors
- Smokers
- People taking an immune-suppressive drug
- Transplant patients
- People with:
 - Cancer
 - Diabetes
 - Chronic lung disease
 - Renal disease
 - Compromised immune system

Legionnaires' disease cases: Ohio 1980 to 2018



Source: ODRS

Legionnaires' disease cases: 2018

For 2018: Ohio reported 930 confirmed cases

This is ~300 over 2017's year-end total: 601; ~55% increase

Next highest:

NY state (excluding NY City): 771

NY City: 654

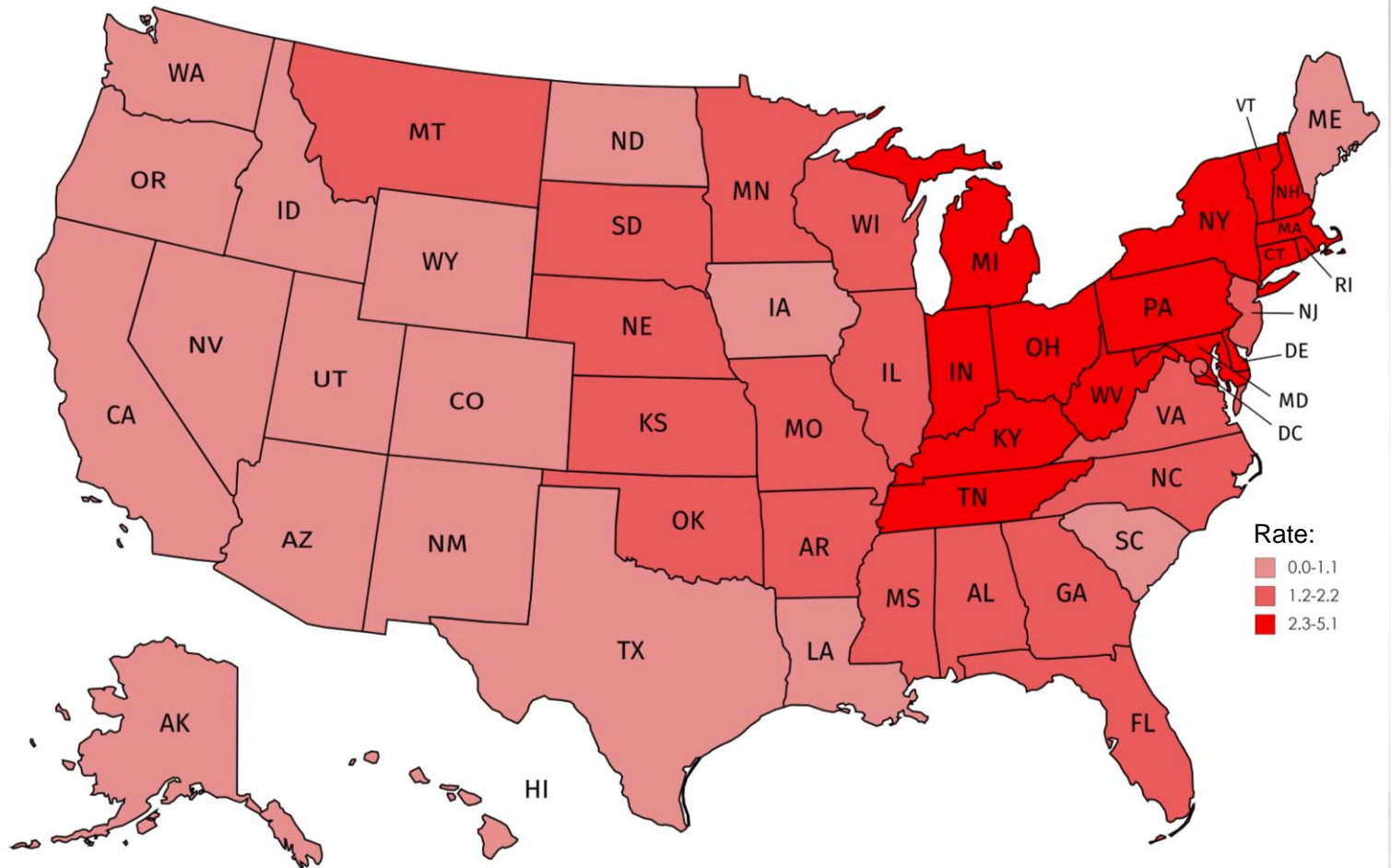
PA: 590

MI: 579

(Data for 2018 is preliminary.)

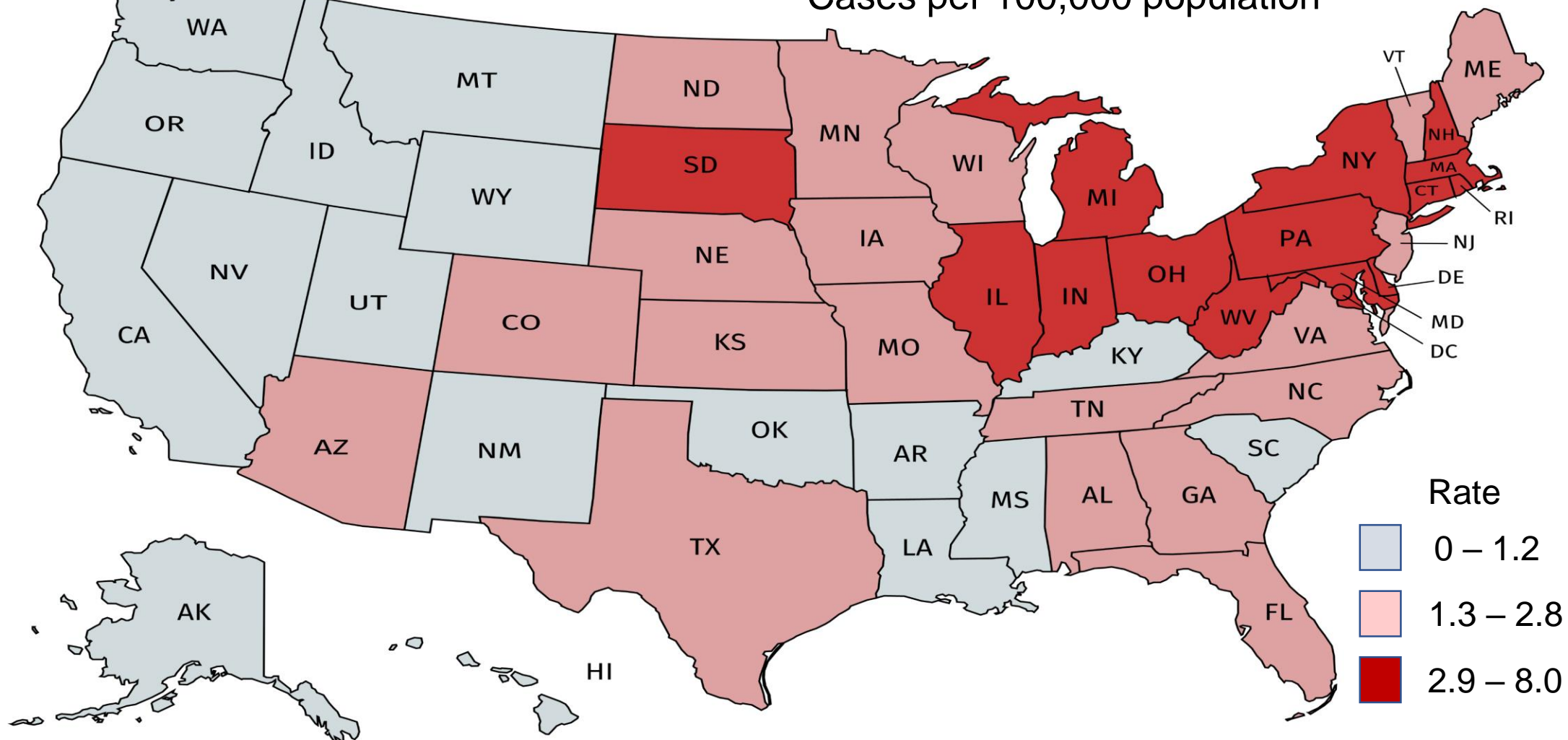
Source: CDC

Legionnaires'
Disease
United States: 6,140
cases, 2017
Rate (cases/100,000
population)



Source: MMWR

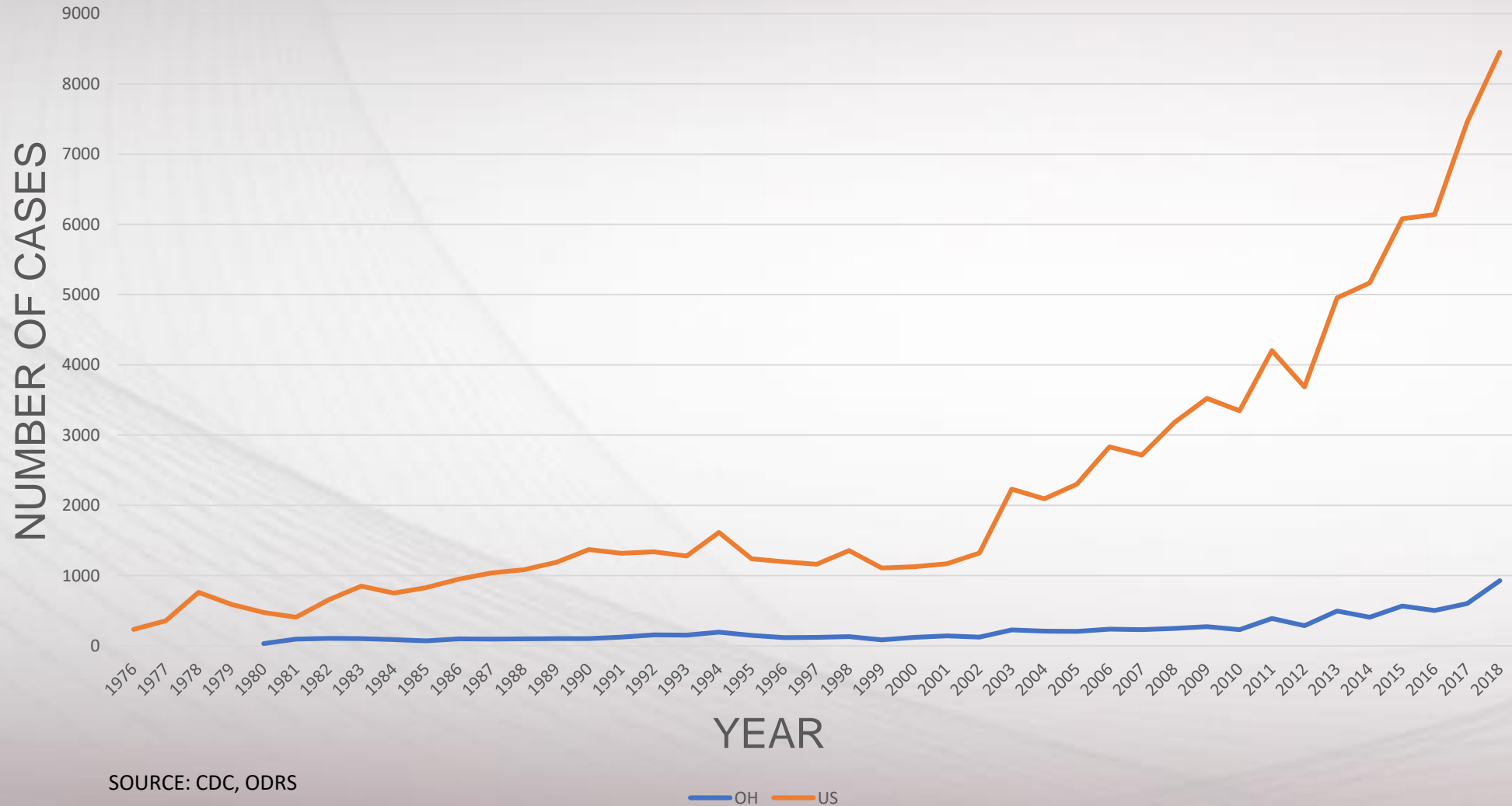
Legionnaires' Disease: 2018 (preliminary data): 8464 cases
Cases per 100,000 population



Source: MMWR (2018 data is preliminary)

Legionnaires' Disease: US and Ohio

1976 - 2018



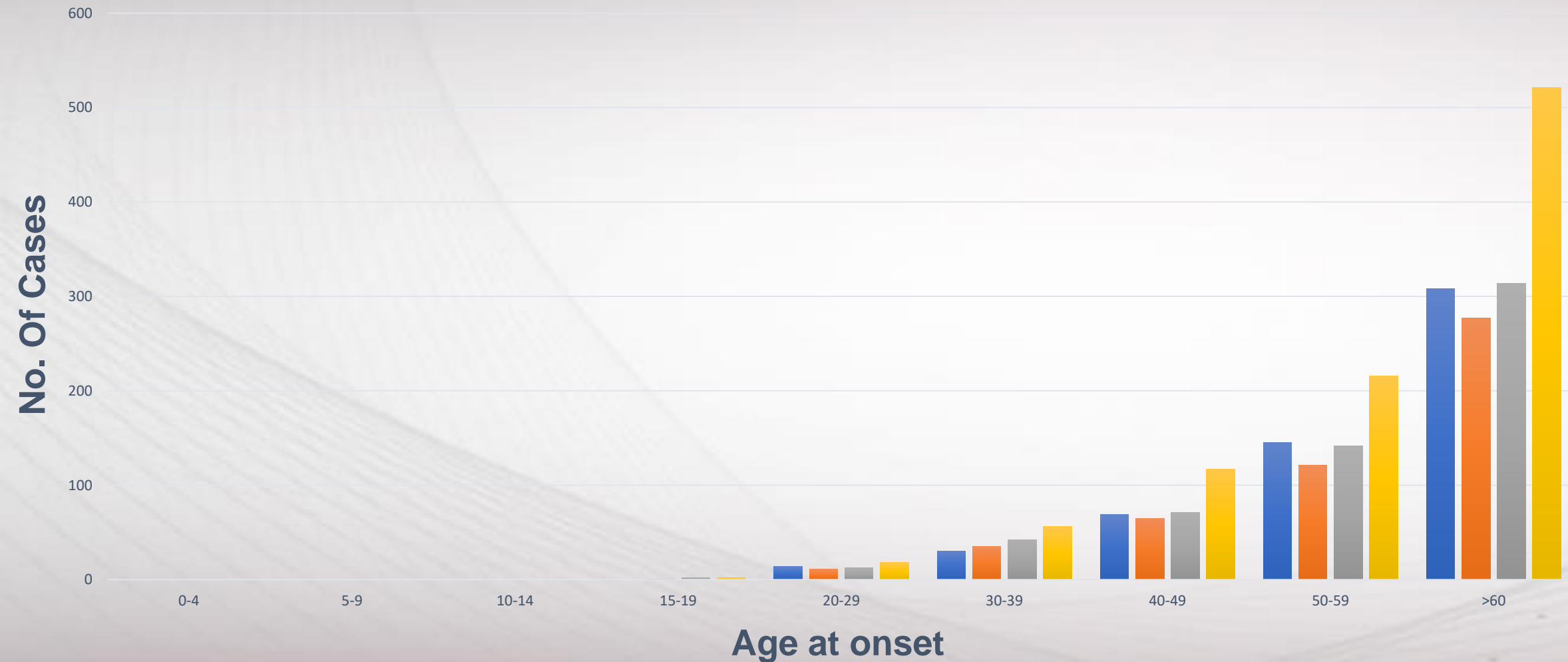
Why is Legionnaires' Disease Increasing?

More people are at risk because:

- Population is aging
- More use of immune-suppressive drugs
- Higher prevalence of co-morbid conditions
- Growing dependence on heating/vent/cooling systems
- Increased complexity of indoor plumbing in large buildings
- Inadequate maintenance of public water supplies.

Legionnaires' disease: Ohio 2015-2018

Age at Onset



Source: ODRS

■ 2015 ■ 2016 ■ 2017 ■ 2018

Median Age for Legionnaires' Disease in Ohio

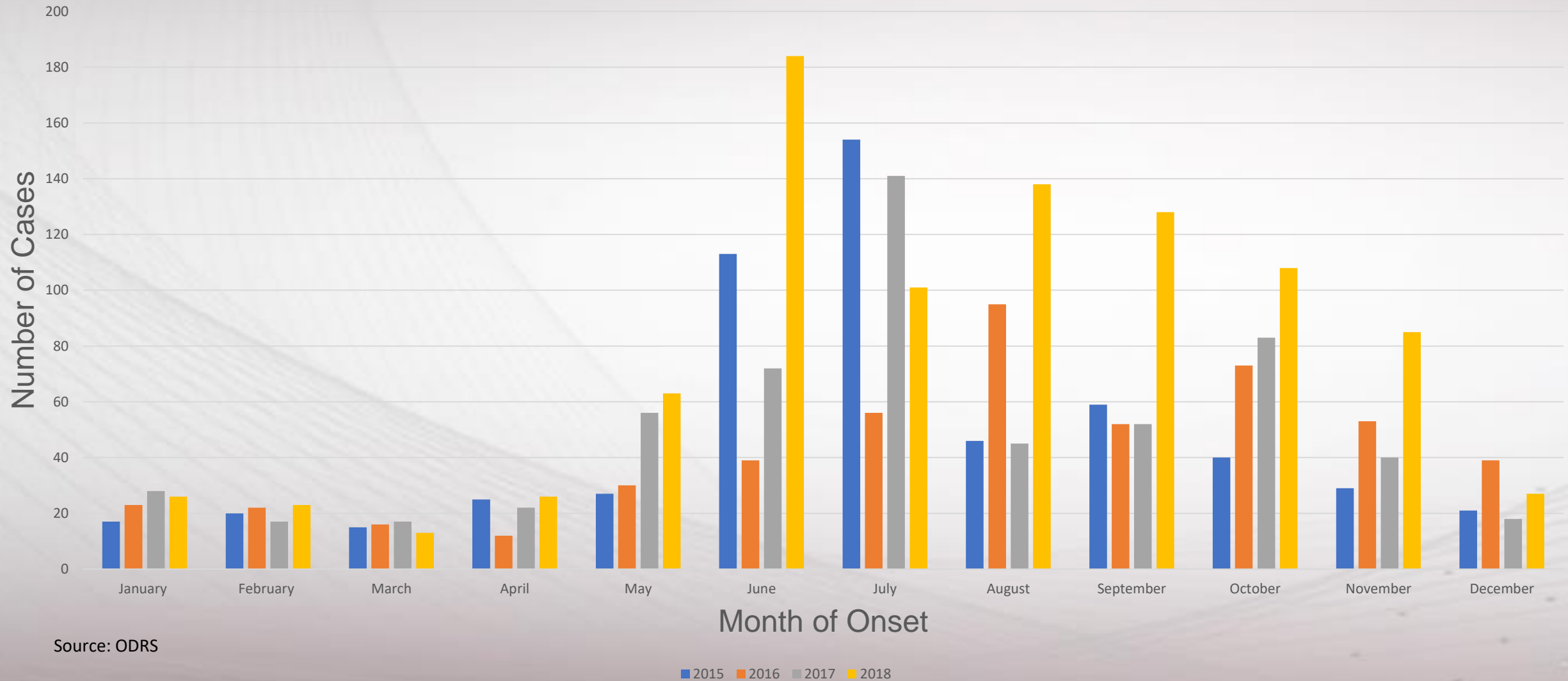
Year	Median	Range
2018	61	19-96
2017	61	16-99
2016	61	19-99
2015	61	21-99
2014	61	15-94
2013	62	1-99
2012	60	14-96

Source: ODRS

Legionnaires' disease

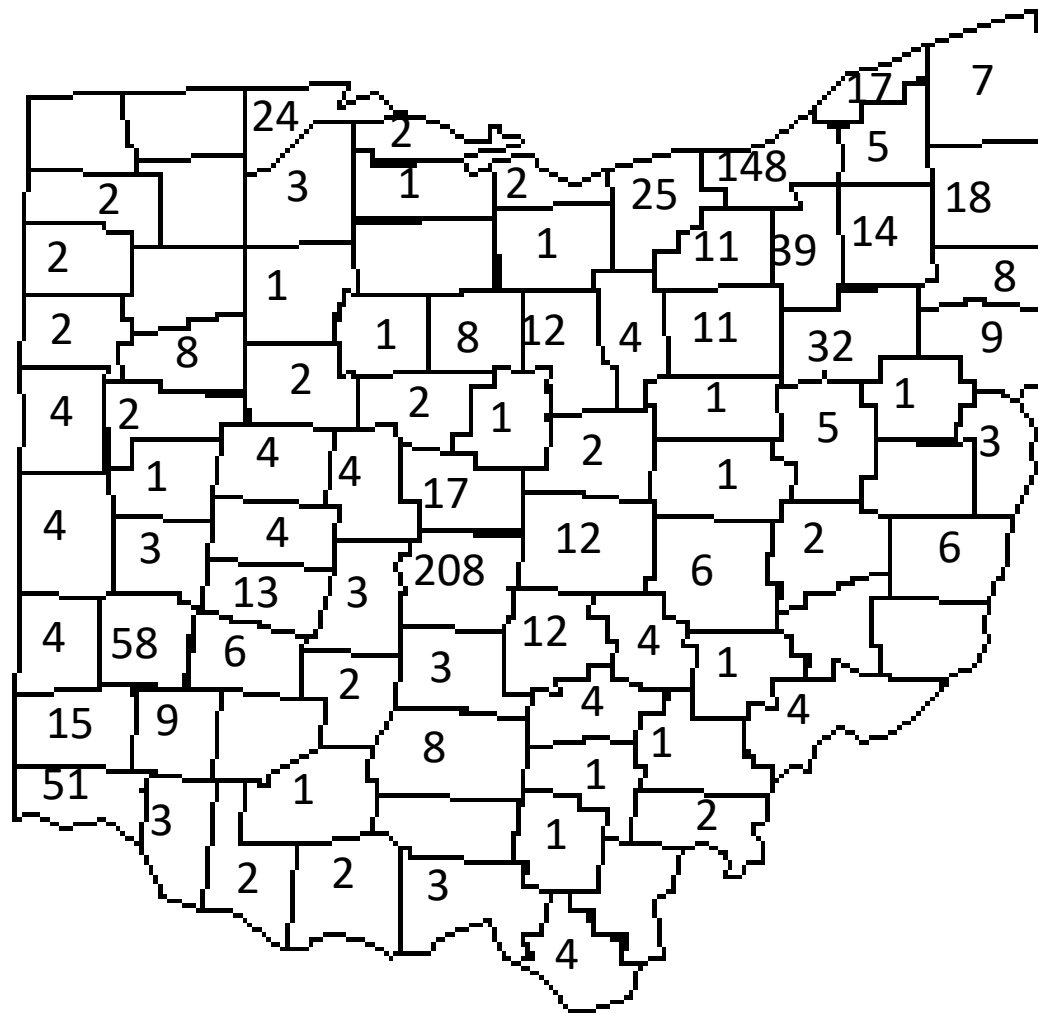
Ohio: 2589 cases

Month of Onset: 2015-2018



Legionnaires' disease in Ohio: 2018

930 cases



Source: ODRS

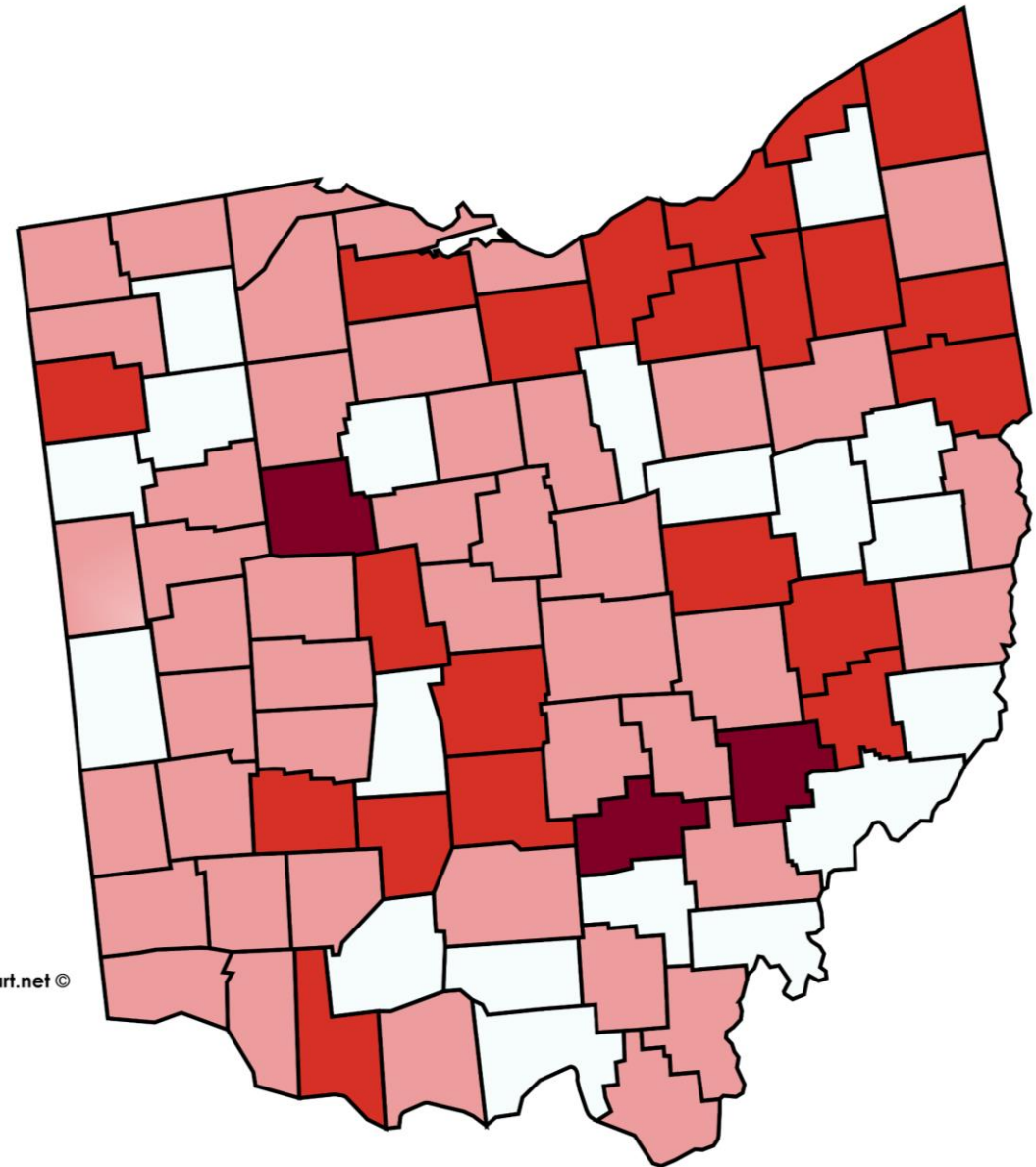
Legionnaires' Disease

Ohio: 601 cases in 2017

Rate (cases/100,000 population)

Rate:

- 0
- 1-4
- 5-9.9
- 10+



Created with mapchart.net ©

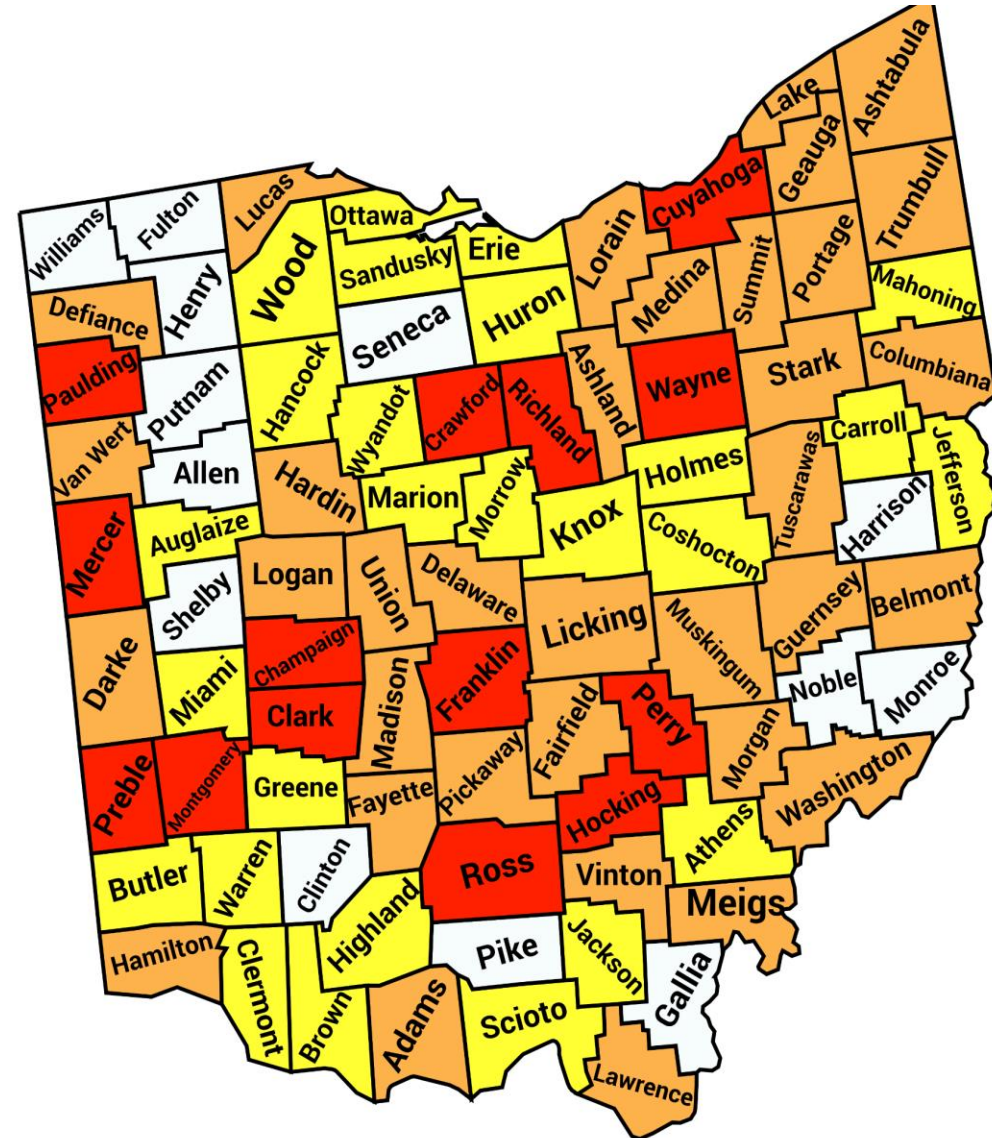
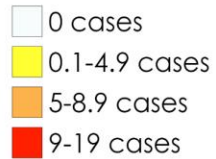
Source: ODRS

Legionnaires' Disease: 2018

County Rate Map

Cases per 100,000 population

Legionnaires cases per 100,000 population
(2018)

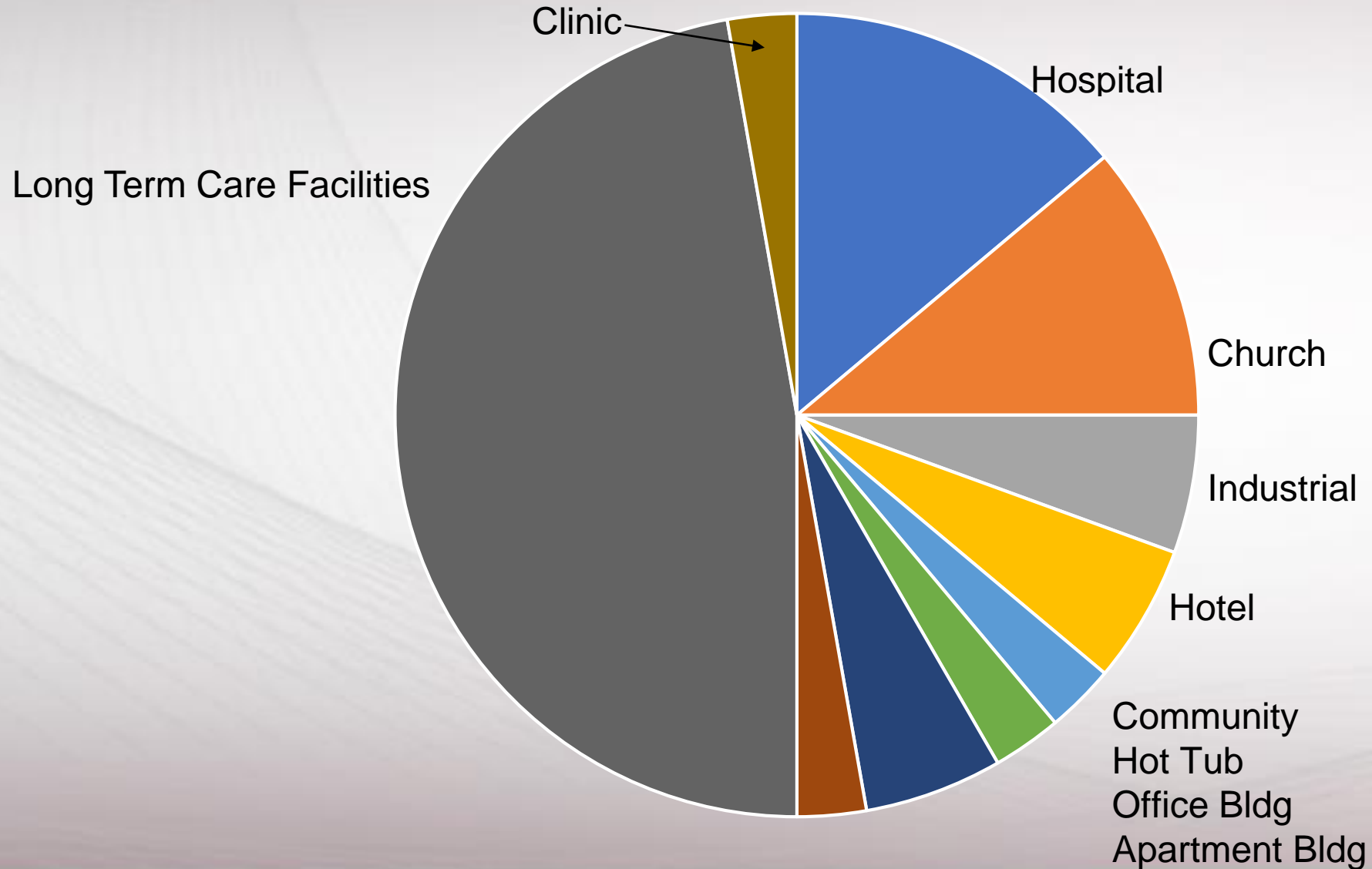


Source: ODRS

Created with mapchart.net ©

Legionnaires' Disease Outbreaks in Ohio: 2008-2018

Total = 36



Contact Information

Ellen Salehi

Ohio Department of Health

(614) 466-0231

Ellen.Salehi@odh.ohio.gov

ORBIT (614) 995-5599