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HEALTH DEPARTMENT

Air Quality Related Respiratory Diseases in Pima County

Background

- Goal is to protect public health of the residents
- Formation of a County interdepartmental working group to discuss environmental public health topics
- Ongoing County respiratory surveillance reflective of air quality
- Health related concerns in areas of high dust
- Unpaved roads can contribute to air quality public health concerns

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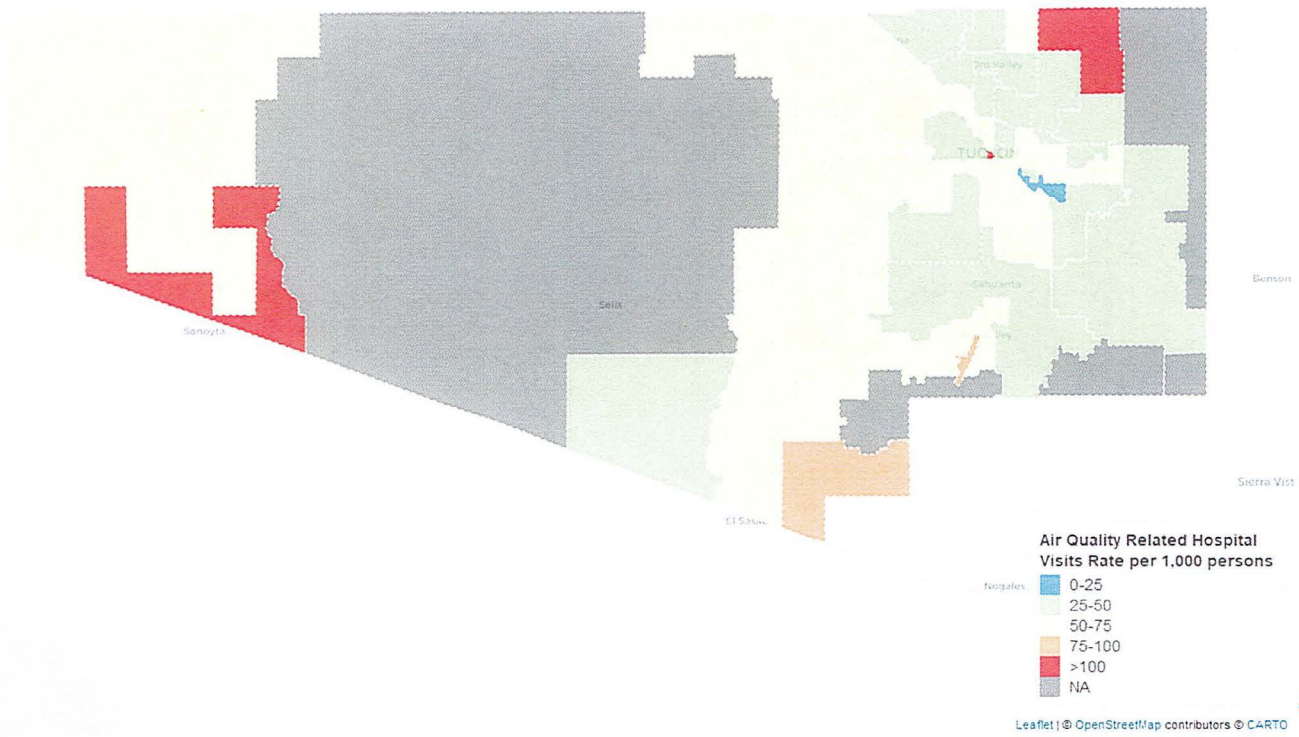
Public Health Concerns for Pima County

Populations At Risk	Learn More
Total Population:	**1,063,162**
Children Under 18:	205,102
Adults 65 & Over:	234,094
Pediatric Asthma:	16,534
Adult Asthma:	88,255
COPD:	50,455
Lung Cancer:	403
Cardiovascular Disease:	70,848
Pregnancy:	11,131
Poverty Estimate:	144,676
People of Color:	516,317

Source: American Lung Association
https://www.lung.org/research/sota/city-rankings/states/arizona/pima

- Air quality-related respiratory illness
  - acute bronchitis, emphysema, chronic obstructive airway disease, asthma, bronchoasthma, reactive airway disease, acute respiratory distress syndrome, difficulty breathing, chest tightness, dyspnea, shortness of breath, wheezing
- Coccidioidomycosis (Valley fever)

Pima County Air Quality-Related Hospital Visit Rates, 2025 YTD



Sources: ESSENCE for Air Quality Related Respiratory Visits. US Census American Community Survey (2023) for Zip Code Population Estimates. PimaMaps for geolocation of Zip Codes for this Map.

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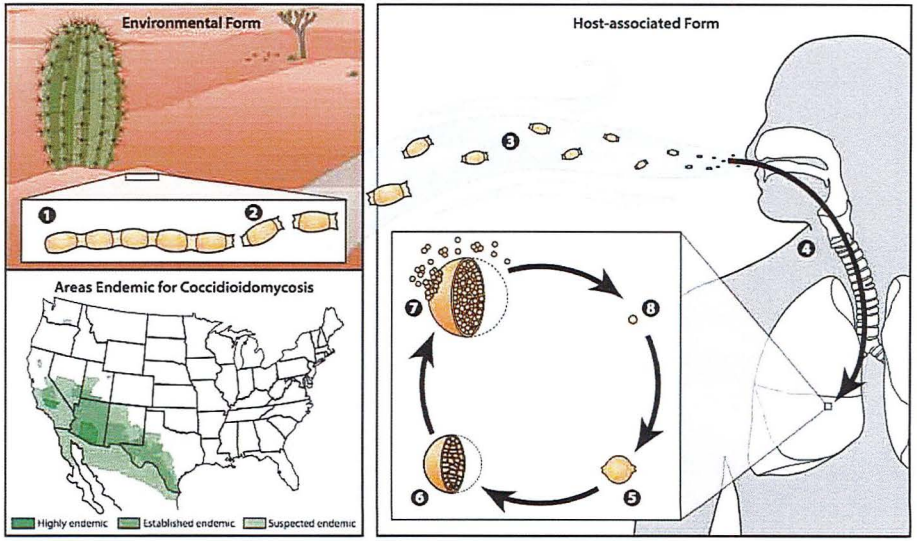
Coccidioidomycosis

- Coccidioides spp. (Valley fever) lives in soils of the desert Southwest.
- Infectious spores can become airborne and inhaled due to soil disturbances.
  - Construction, dust storms, etc.
- It's an environmental infection, not a person-to-person (or animal) illness.
- Although highly endemic in Pima County, only 8.9% of soil samples tested near known infections were found to be positive (Barker, et al. 2012).

Biology of Coccidioidomycosis



In the environment, *Coccioides spp.* exists as a mold (1) with septate hyphae. The hyphae fragment into arthroconidia (2), which measure only 2-4 µm in diameter and are easily aerosolized when disturbed (3). Arthroconidia are inhaled by a susceptible host (4) and settle into the lungs. The new environment signals a morphologic change, and the arthroconidia become spherules (5). Spherules divide internally until they are filled with endospores (6). When a spherule ruptures (7) the endospores are released and disseminate within surrounding tissue. Endospores are then able to develop into new spherules (6) and repeat the cycle.

CDC

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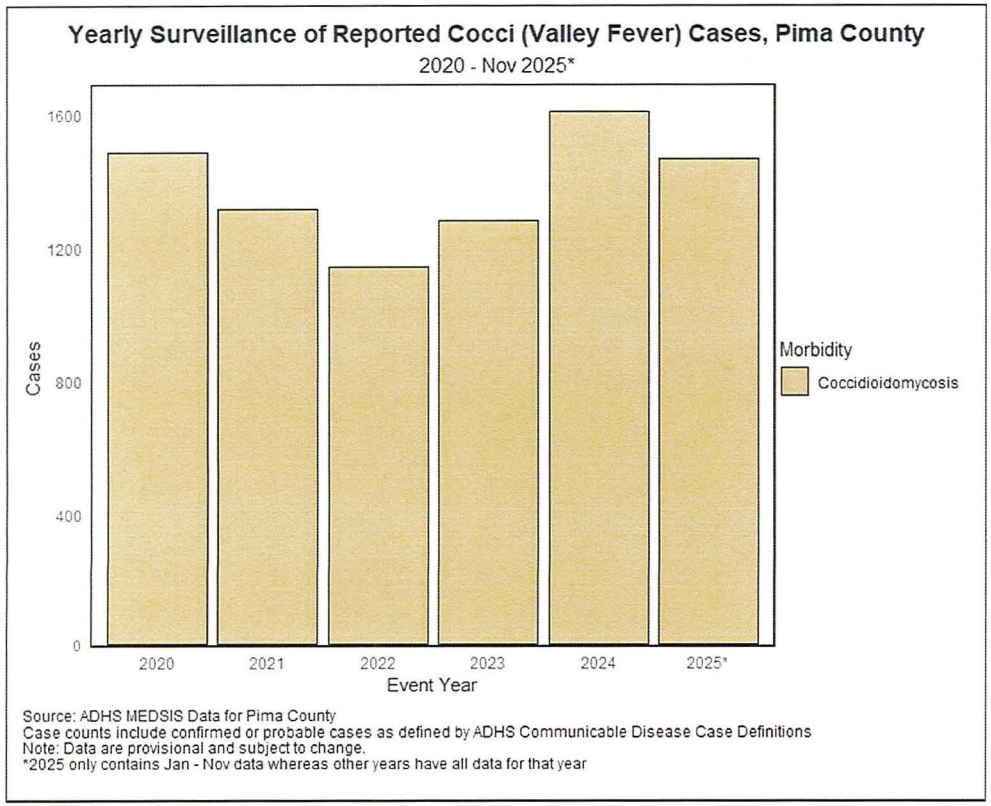
2025 Valley Fever YTD– Pima County

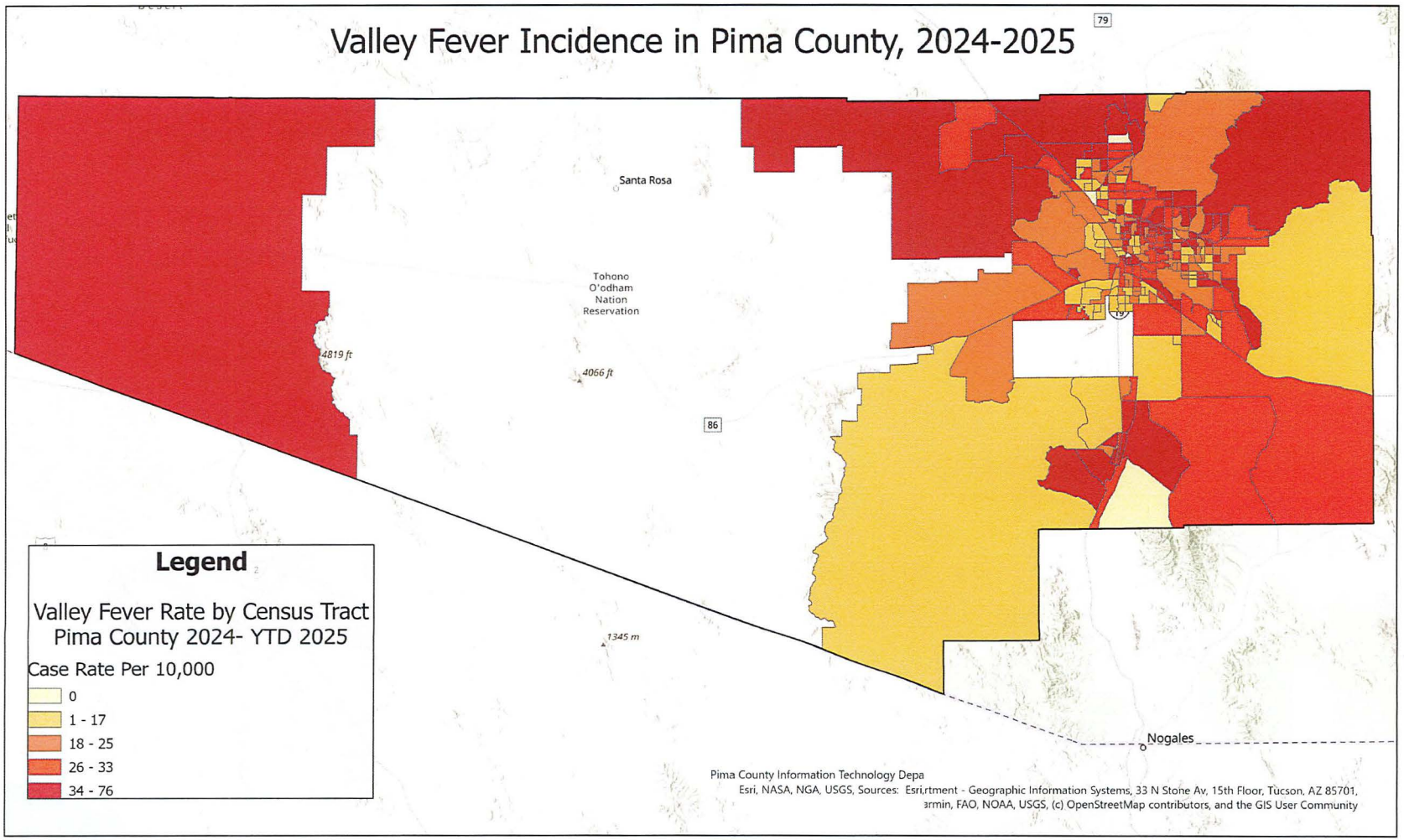


Cocci (Valley Fever) Case Counts by Morbidity, Pima County

January 2025 - November 2025

	November			Year-to-Date		
	2025	2024	5 Year Average	2025	2024	5 Year Average
Coccidioidomycosis	98	139	118.6	1465	1417	1,219.4

Source: ADHS MEDSIS Data for Pima County.
Cases counted were classified as confirmed or probable as defined by ADHS Communicable Disease Case Definitions.
Note: Data are provisional and subject to change.



*Tribal lands show no data due to data sovereignty

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Valley Fever Exposure Risk

- **Anyone** who lives in/visits areas where Valley fever is common can get it.
  - 60% of infections are mild and patients typically do not seek care
  - ~1% of cases become severe and the infection spreads from the lungs to other parts of the body
- Those most at risk of serious illness have conditions or factors that weaken the immune system such as:
  - Diabetes, HIV/AIDS, cancer, COPD, heart disease
  - Organ transplant recipients
  - Pregnancy
- Occupations where work increases exposure to dust:
  - Construction
  - Farm workers
  - Archaeology
  - Military training/exercises
- Pets, ***especially dogs***, can get Valley fever due to their digging and sniffing behaviors.

Symptoms to watch for

- **Humans**
  - Cough
  - Fever, fatigue, night sweats
  - Rash
  - Chest pain
  - Muscle and/or joint pain
- Can look a lot like flu or pneumonia initially
  - The duration of symptoms tends to range from weeks to months.

- **Pets** (especially dogs)
  - Cough or labored breathing
  - Limping or stiffness
  - Loss of weight or appetite
  - Sleeping more or lethargic
  - Fever
- If a pet's symptoms don't improve after antibiotics, consider Valley fever.

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Valley Fever - Control and Prevention

- **At Work**
  - Stop outdoor work in windy conditions and avoid dust-producing activities to minimize soil disturbance when possible.
  - Reduce exposure to airborne dust by wetting soil piles and using tarps to contain dust.
  - Keep windows and doors closed when possible.
  - Clean and maintain AC units and avoid dry sweeping of accumulated dust.

- **At Home**
  - Stay indoors and close windows/vents during a dust storm and wear a mask if you must go out. Keep pets inside too.
  - Add ground cover (including plants) to your property to help reduce dust.
  - Be cautious of construction zones and areas prone to airborne dust near your home.
  - Being aware means better outcomes! Be sure to ask your doctor or veterinarian about Valley Fever if illnesses linger.

Source: Valley Fever (Coccidioidomycosis) - Control Prevention | Occupational Safety and Health Administration

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Questions?