

---

# Wildfire Smoke, Excessive Heat and Health

*House Interim Committee on Environment  
and Natural Resources  
November 15, 2021*

Gabriela Goldfarb, MPP, Manager  
Environmental Public Health Section



# Health Implications: Smoke Affects...

- Heart function (heart attack, irregular heart rhythm)
- Lung function (worsened lung function, asthma attack)
- Pregnancy outcomes (pre-term birth, low birth weight)
- Nuisance symptoms (eye irritation, scratchy throat, mild cough)

# Populations at Smoke Risk

## Sensitive

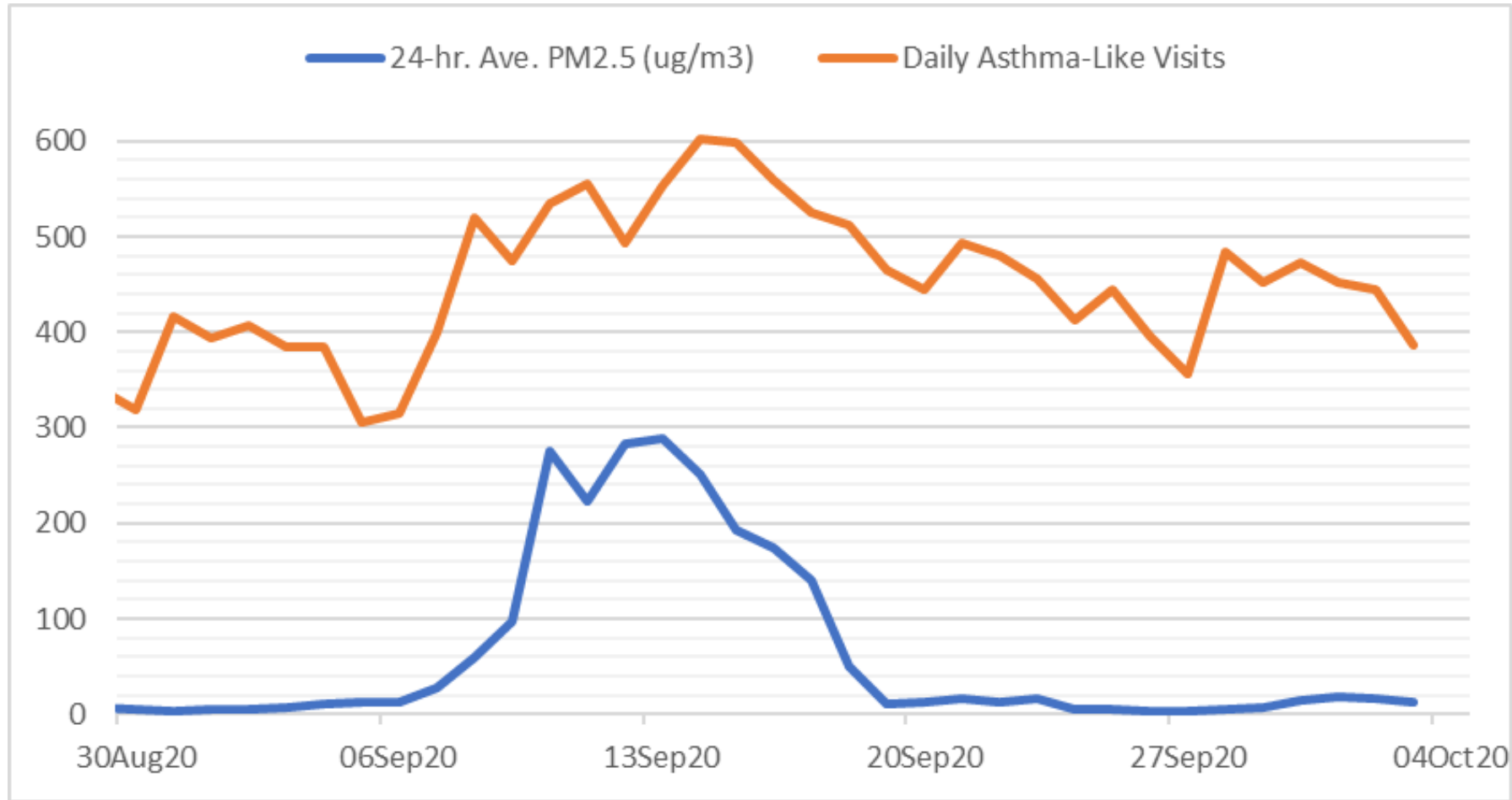
- Pre-existing heart and respiratory disease, allergies
- Elderly, infants and children, pregnant women (fetus)
- Healthy subjects can also be affected; some may not

## Vulnerable

- Working or living downwind of smoke (e.g. migrant and seasonal farmworkers)
- Labored breathing (heavy work, exercise)
- Unsheltered people
- Low income

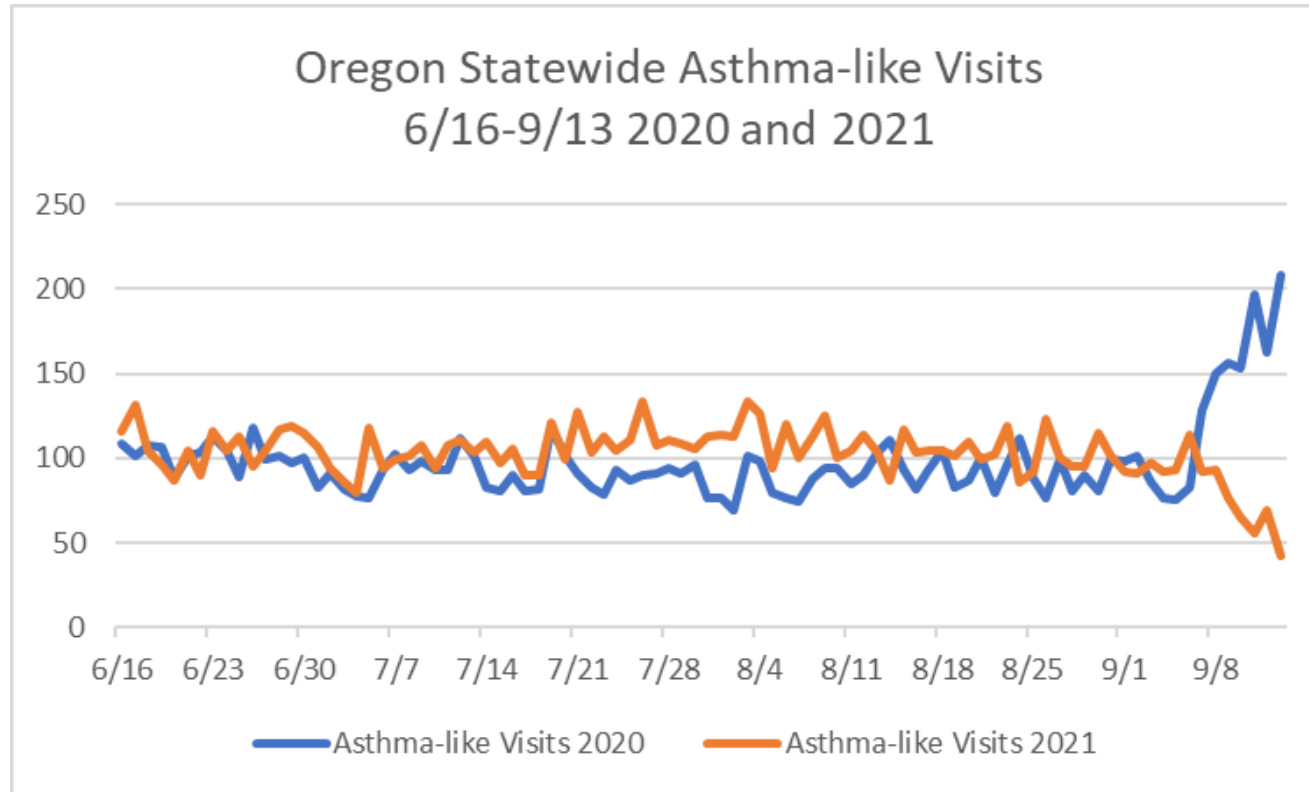


# September 2020 Wildfire Health Impacts



- PM2.5 daily 24-hr average concentrations (provisional data from state, regional and tribal air quality monitoring)
- Emergency department and urgent care asthma-like visits from near-real-time syndromic surveillance (ESSENCE)

# Oregon Statewide Wildfire Smoke Health Impacts: 2021 vs 2020



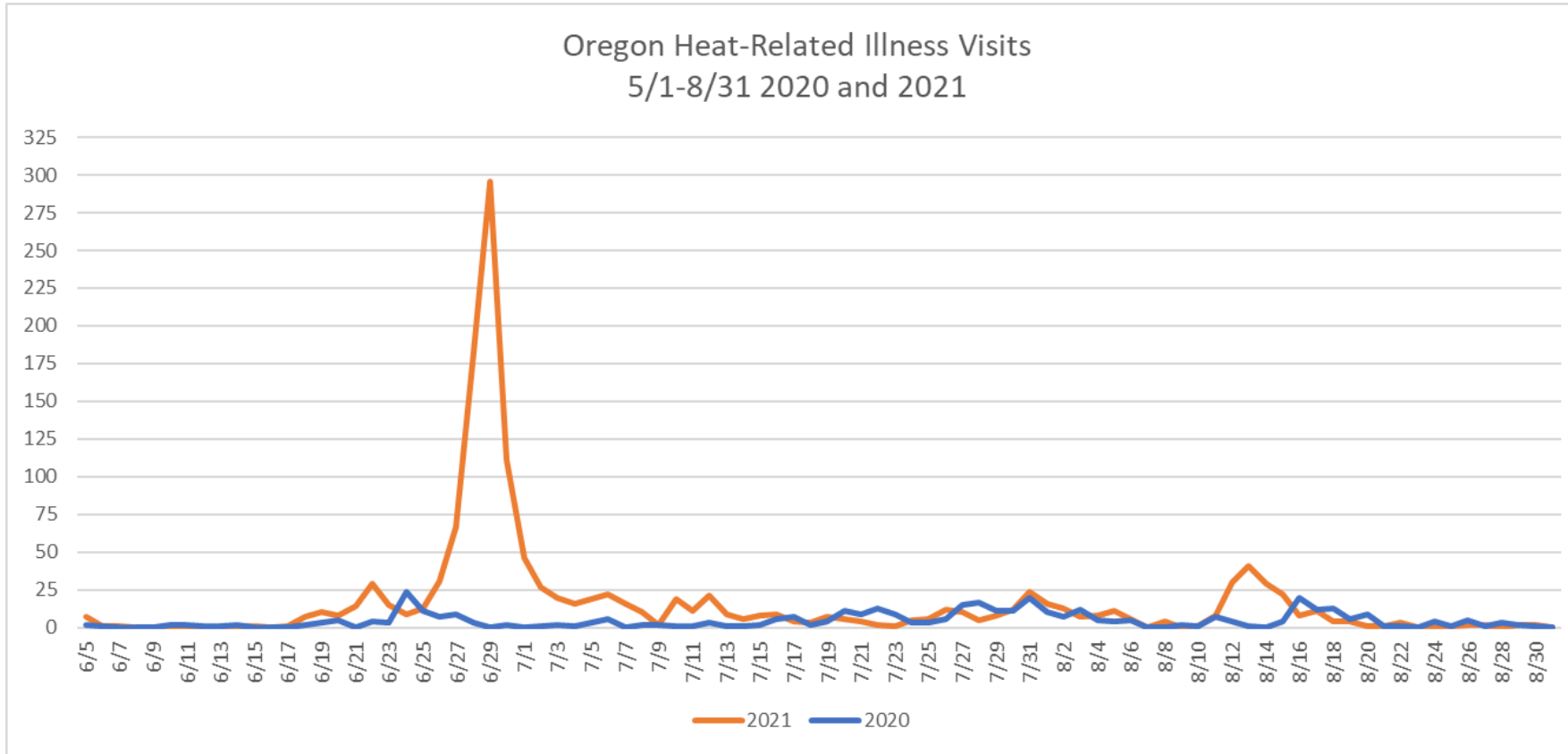
- Statewide 5% more asthma-like illness (ALI) emerg. dept. (ED) visits in 2021 than in 2020

- 2021: 74/90 days had higher PM2.5 levels than the same day in 2020
- Deschutes County: 20% higher ALI ED visits in 2021 than 2020
- Klamath-Josephine-Jackson Counties combined: 20% higher ALI ED visits in 2021 than 2020
- Lake-Harney-Malheur combined: ~ as many 2020 & 2021 ALI ED visits

# Excessive Heat Health Impacts & Vulnerable Populations

- Heat stroke – most serious, body unable to control its temperature
- Heat exhaustion – milder illness, caused by prolonged exposure to high temperatures, especially when not drinking enough or right kind of fluids
- Infants and young children
- People with chronic medical conditions
- People taking certain medications
- Unsheltered people
- Outdoor workers
- Low income
- Less tree canopy
- Social isolation
- Athletes

# Oregon Statewide Heat-Related Illness 2021



- 59% of heat-related illness ED visits in 2021 were from zip codes with a median household income below \$50,000
- At least 109 deaths solely attributed to heat in summer 2021

- Statewide: 341% more heat-related emerg. dept. (ED) visits in 2021 (1275 versus 289)

# Questions?

Oregon Health Authority – Public Health Division

Environmental Public Health Section

[gabriela.g.goldfarb@dhsosha.state.or.us](mailto:gabriela.g.goldfarb@dhsosha.state.or.us)

971-673-0440