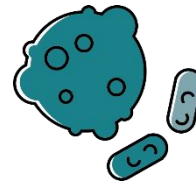
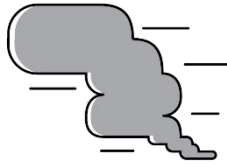
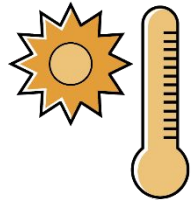
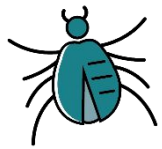


Regional Climate and Health Monitoring Report



Abe Moland, MPH, MURP
Brendon Haggerty, MURP
Kathleen Johnson, MPH



Climate and Health





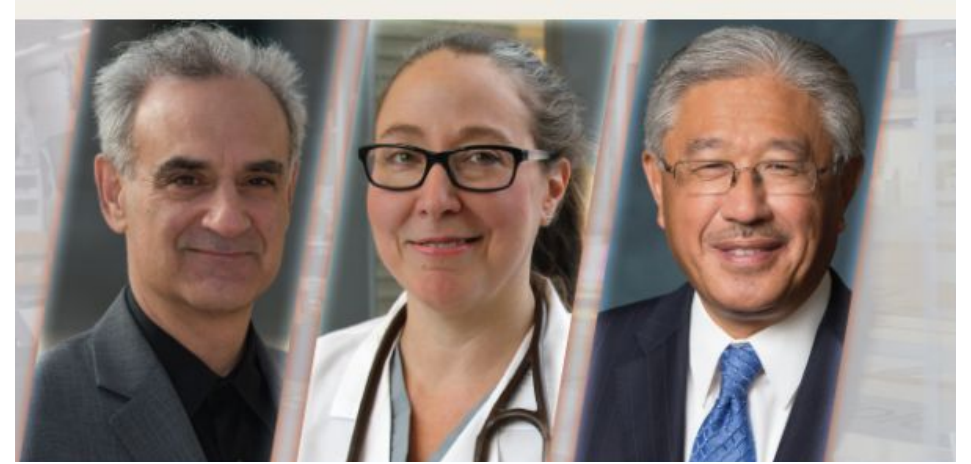
**Tackling climate change could
be the **greatest global health
opportunity** of the 21st century**

– The Lancet Commission

National Academies of Medicine

Climate Conversations:

Decarbonizing the Health Sector



“Health care is the only sector that lives by the Hippocratic Oath: **do no harm.**”

“**The greenest hospital is the one we don’t build** because we are addressing the reasons people are sick in the first place.”

Regional Climate Change Impacts

Snow and ice blanket US north-west, leaving hundreds of thousands without power

- Travel disrupted in region and treacherous driving conditions
- Oregon governor Kate Brown declares state of emergency

Oregon death toll from historic heat waves rises to 107

Updated on 07/17/2021 at 10:00 PM. Revised on 06/12/2021 at 10:00 PM



It was the first time the Oregon Medical Examiner's Office has reported the number of deaths since the long Independence Day weekend. The previous death toll was 84. During the holiday weekend, people made use of a cooling center at the Oregon Convention Center during Portland's unprecedented heat wave.

Portland Oregon Academy

After receiving her diagnosis, Seattle, WA, 50-year-old Linda H. Swenson, who has been in the hospital since 2015, is now in Oregon, aged 5 and 6 months old. Linda is now in Oregon, aged 5 and 6 months old. Linda is now in Oregon, aged 5 and 6 months old.



A Line of Fire South of Portland and a Yearslong Recovery Ahead

Firefighters continued to battle blazes along the West Coast that have now charred nearly five million acres. At least 17 people are dead, with dozens still missing.

The pulling in of a wildfire evacuation order by Happy Valley, Ore., was filed with a lawsuit Friday. (Source: Reuters via the New York Times)

made travel treacherous.



SCIENCE & ENVIRONMENT

Report: Climate change is making health problems worse for Portland area residents

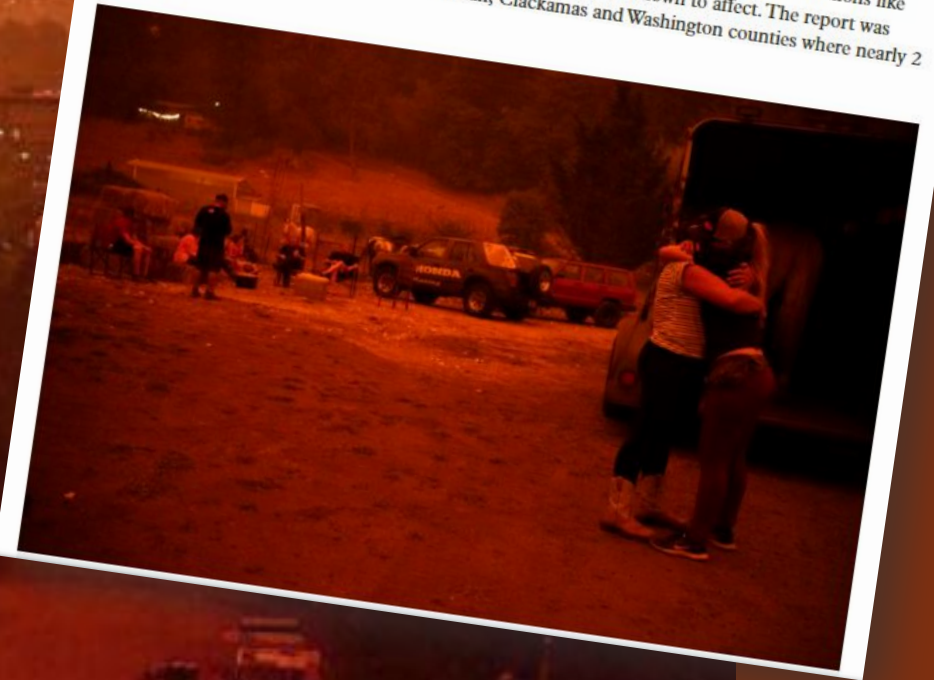


By [Monica Samayoa](#) (OPB)

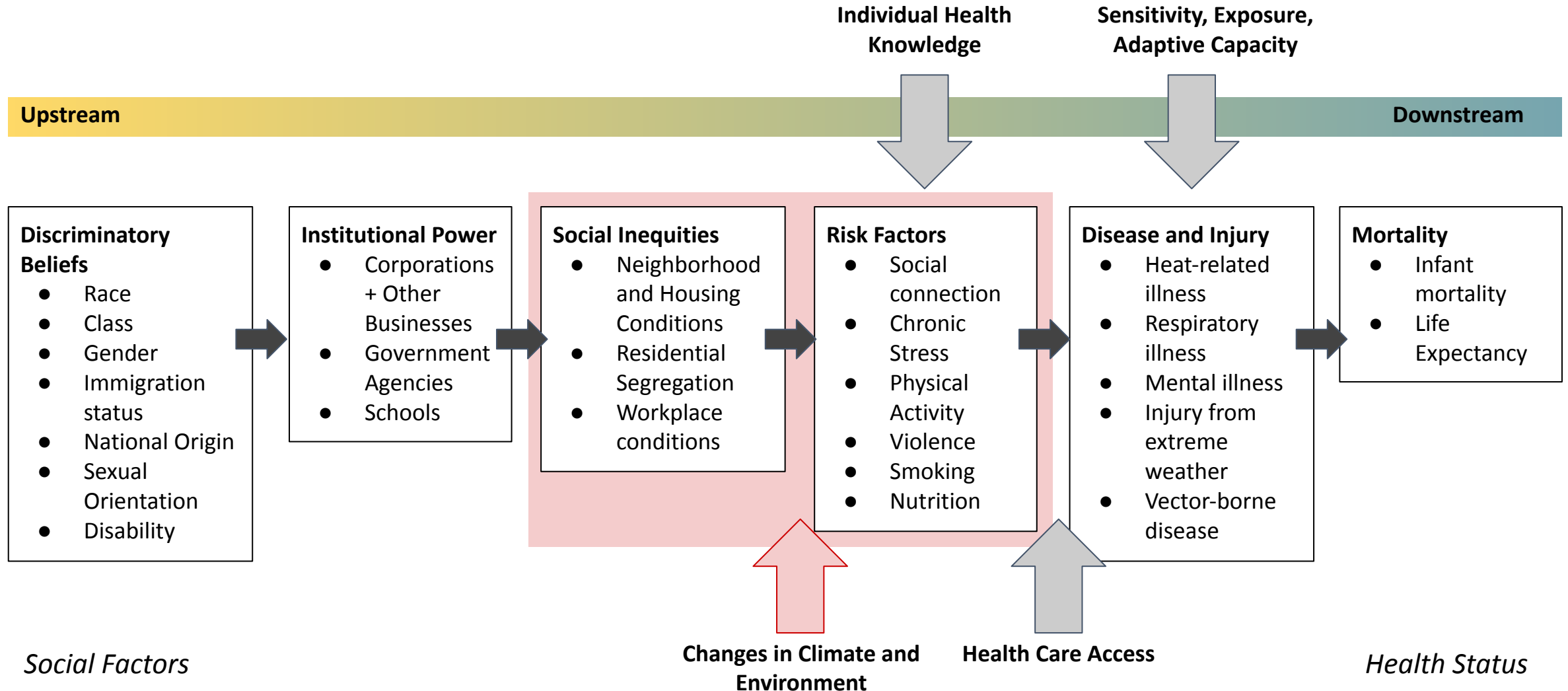
Nov. 4, 2021 3:42 p.m.

Wildfires, extreme heat waves, air pollution, snowstorms, and drought are just some of the extreme weather events Oregon has gone through the last couple of years. A new report from the three Portland metro area counties shines a light at how climate change is impacting the health of the state's most populous region.

The [Regional Climate and Health Monitoring Report](#) provides data for 12 health conditions like asthma and heat stress, which span areas that climate change is known to affect. The report was completed by health officials from Multnomah, Clackamas and Washington counties where nearly 2 million people live.



Social Determinants and Climate



Climate and health impacts fall more heavily on groups that...



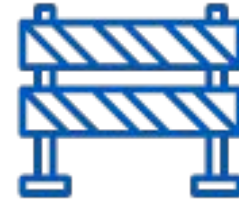
**...are more
sensitive**

- Youth
- People with pre-existing conditions
- People who are pregnant



**...are more
exposed**

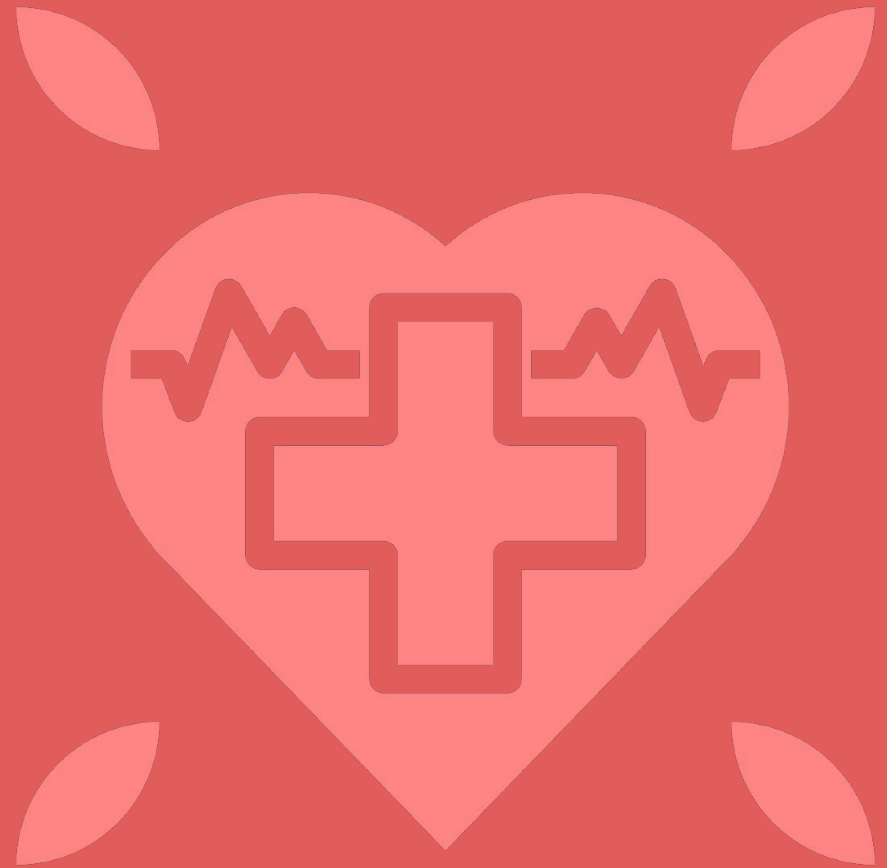
- Low-income and BIPOC groups displaced or living in areas of disinvestment
- Outdoor workers
- Rural and frontline communities



**...face greater
barriers**

- Older adults
- People with disabilities

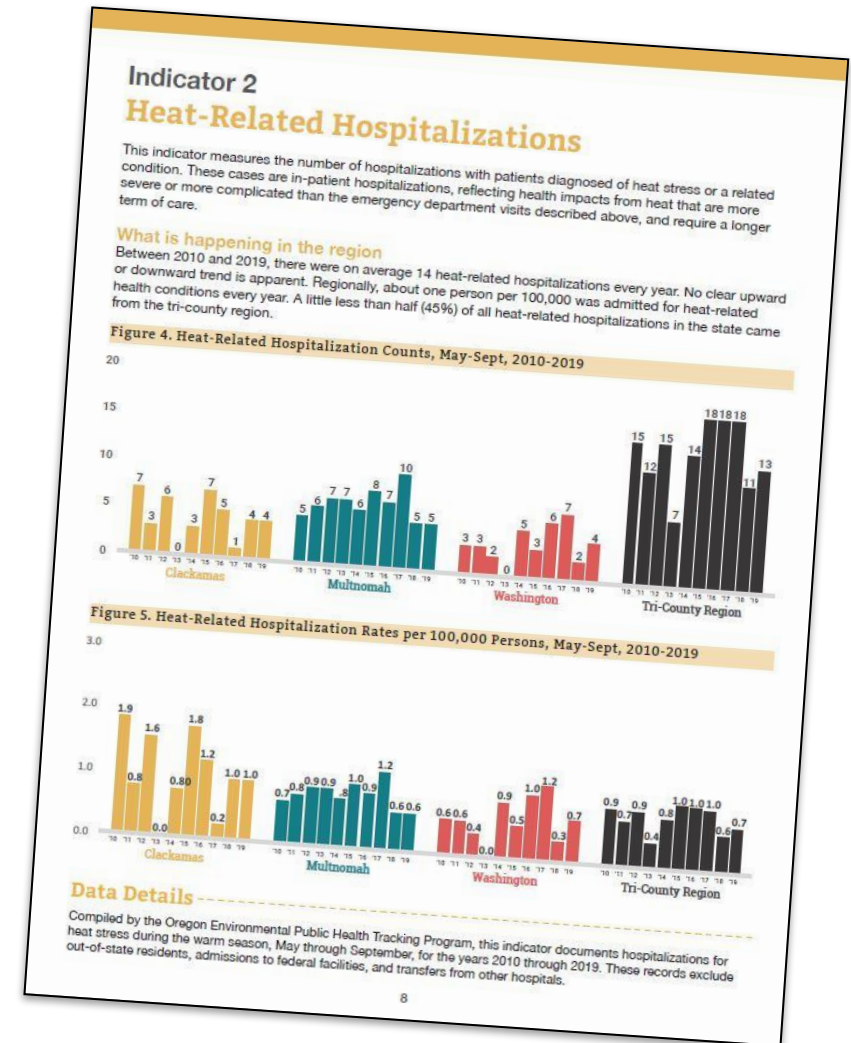
Health Impacts



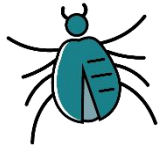
Report Overview 2021 Update

The second edition includes:

- Data available for indicators from 2018-2020
- Discussion on mental health impacts
- Spotlight on 2020 wildfire season impacts on asthma-like ED admissions



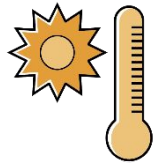
Local Impacts



Vector-Borne Disease

Lyme Disease

West Nile Virus



Extreme Heat

Heat-related Emergency
Department Visits

Heat-related
Hospitalizations

Heat-related Deaths



Air Quality

Asthma-like Emergency
Department Visits

Allergic Disease Emergency
Department Visits



Mental Health

Climate Anxiety

Depression

Amplifying Effects



Extreme Weather

Extreme
Weather-related
injuries

Extreme
Weather-related
Deaths

Data Observations



Heat-related ED Visit Counts

May-Sept

2016-2020



Heat-related ED Visit Rates per 100,000

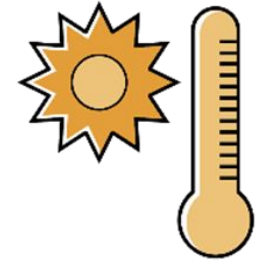
May-Sept

2016-2020





Extreme Heat



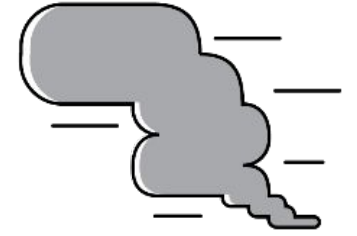
- Climate scientists project that most communities in Oregon will experience an increase of more than 30 days over 86°F by 2050.
- Hot days are also associated with cardiovascular and respiratory illnesses, kidney failure, and preterm birth.
- In Multnomah County during the 2021 heat dome event, ED visits for heat illness were 31 times greater than normal levels.
- The average cost for heat-related ED visit in the U.S. is \$5,359, and are more likely to befall residents in low-income areas and who belong to communities of color.

Heat-related Emergency Department visit counts May-Sept 2016-2020



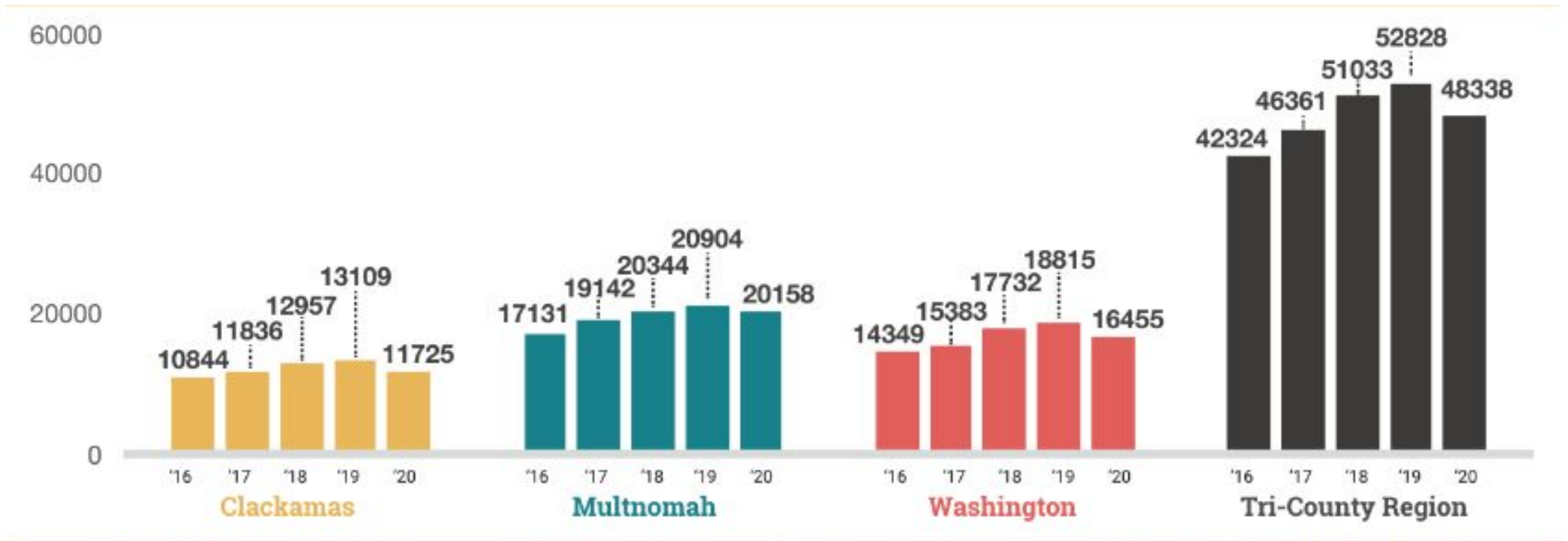


Air Quality

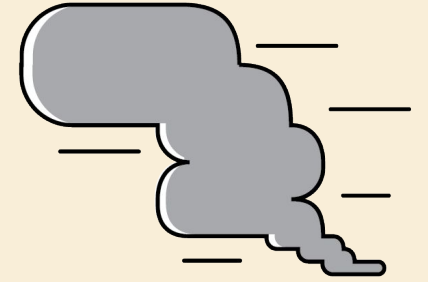


- Warmer and drier conditions increase the length and severity of allergy and wildfire seasons.
- Across the U.S pollen seasons are starting earlier and lasting longer, and pollen counts and peak values are increasing.
- In 2012, 963 wildfires burned more than 1.2 million acres in Oregon, causing an estimated 226 premature deaths, 92 hospital admissions, and 1,986 ER visits. The costs with these losses and health care visits is totaled at \$2.1B

Emergency Department visits for asthma-like symptoms May-Sept 2016-2020

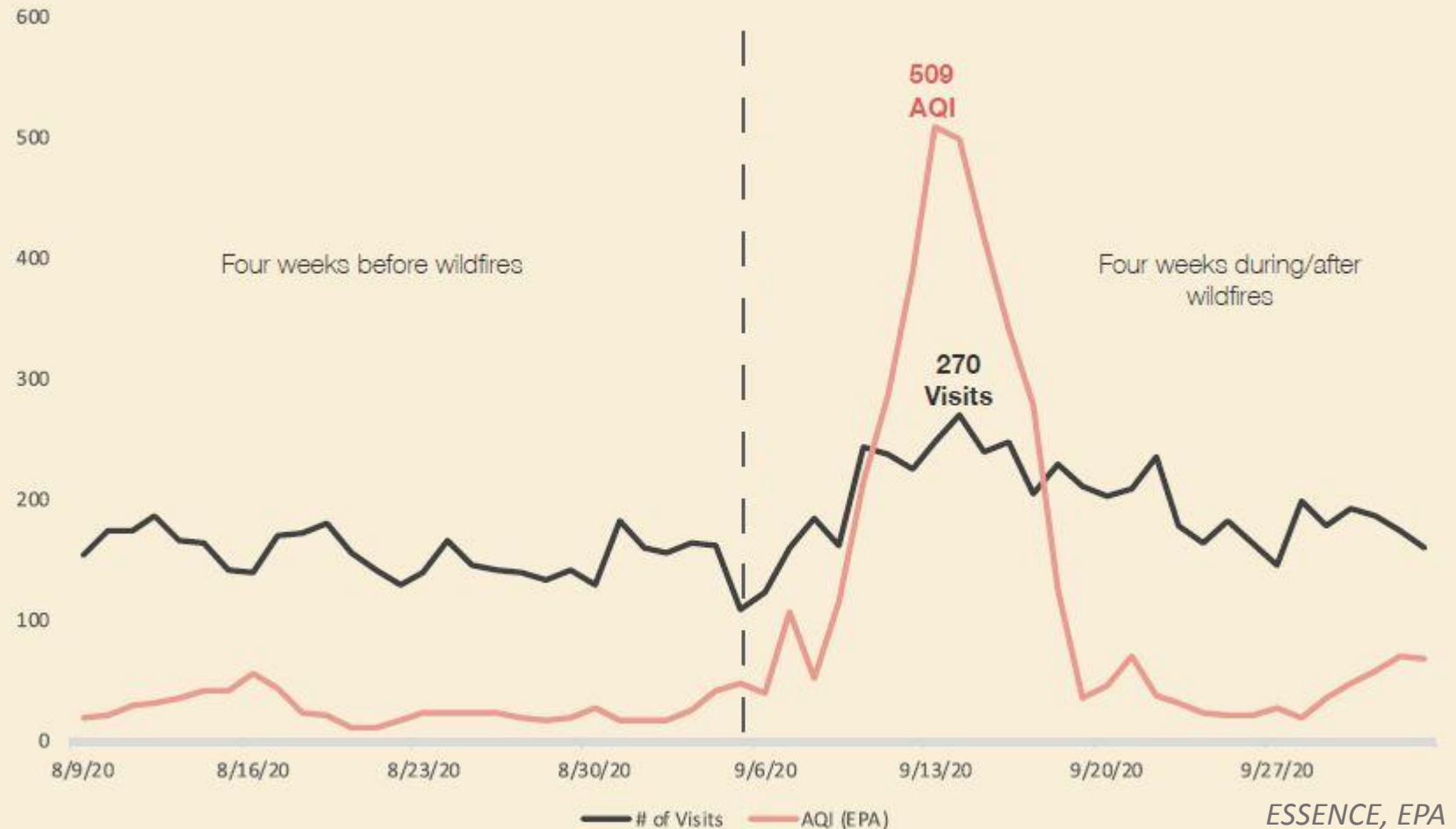


Climate Event Impacts 2020 Wildfire Season



Despite an overall decrease of asthma-like symptoms visits for the year of 2020, there were direct increases in emergency department visits in response to the September wildfires.

Average daily visits increased by **29%** the four weeks during/after the wildfire in comparison to the four weeks before.

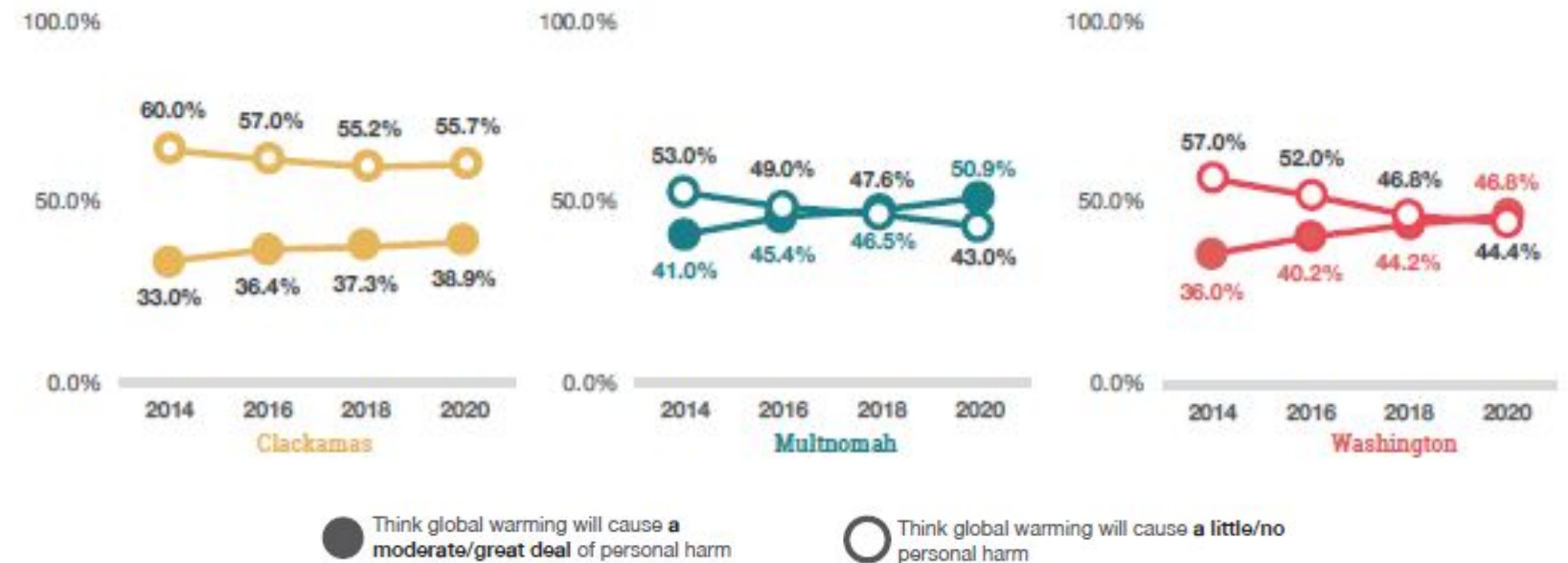


Mental Health

Immediate and long term impacts of climate change on the environment, society, and infrastructure can lead to trauma, shock, stress, anxiety, and depression.

Estimated Percentage of People Who Think Global Warming Will Cause Personal Harm

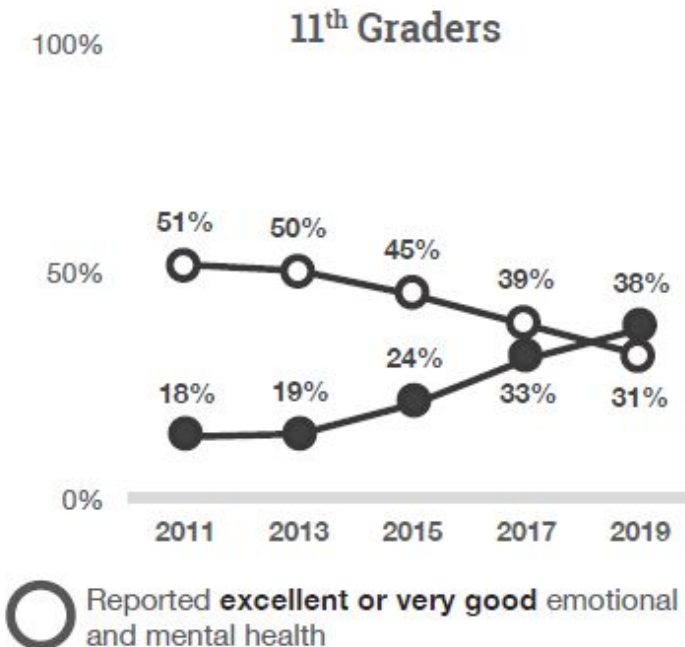
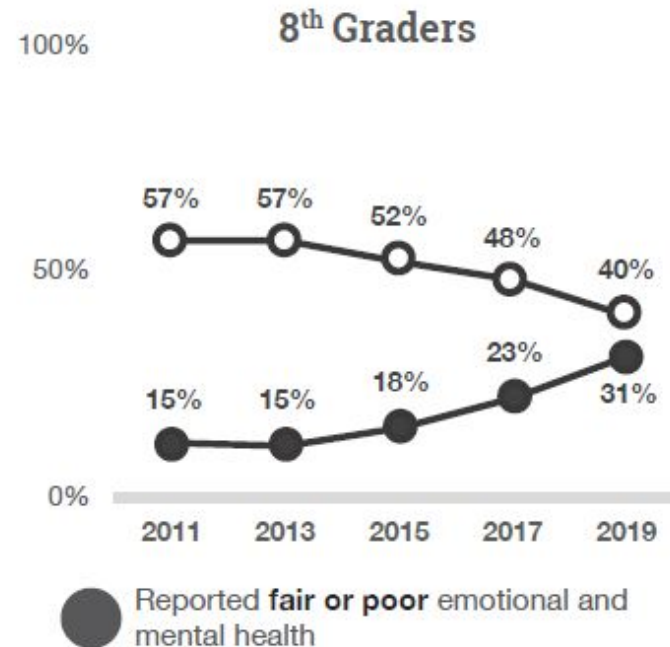
Yale Climate Opinion Survey



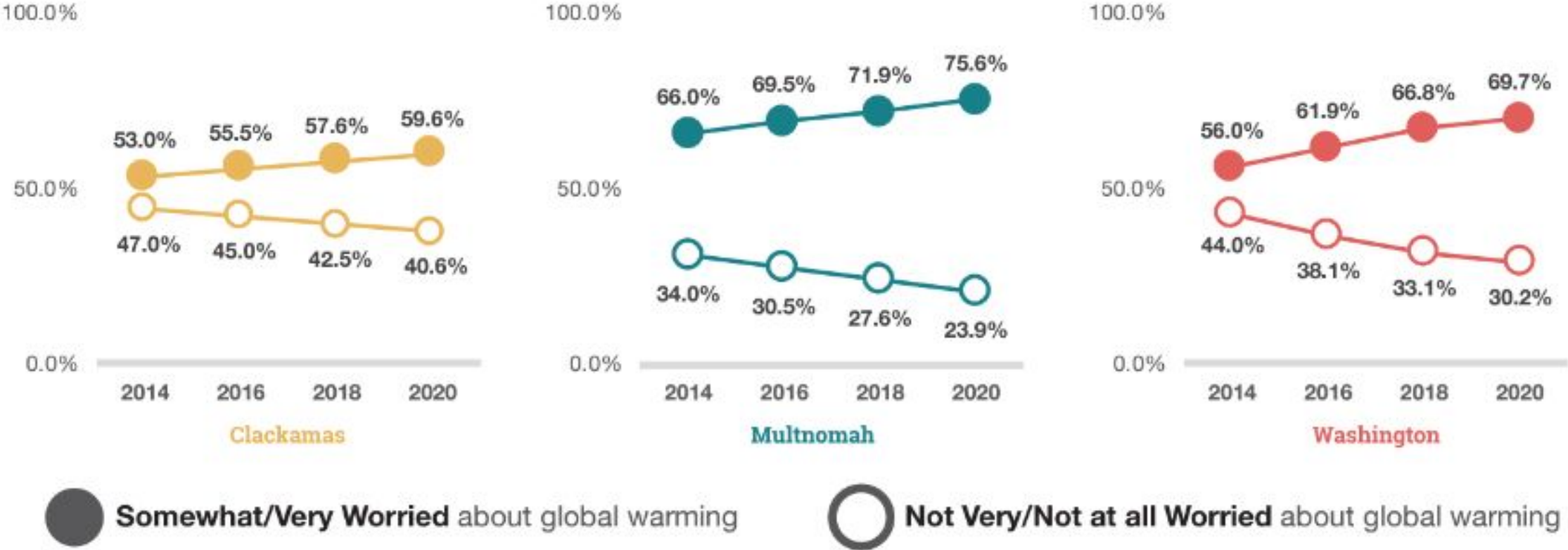
Mental Health

Student Self-Rating of General Emotional and Mental Health

Oregon Healthy Teen Survey

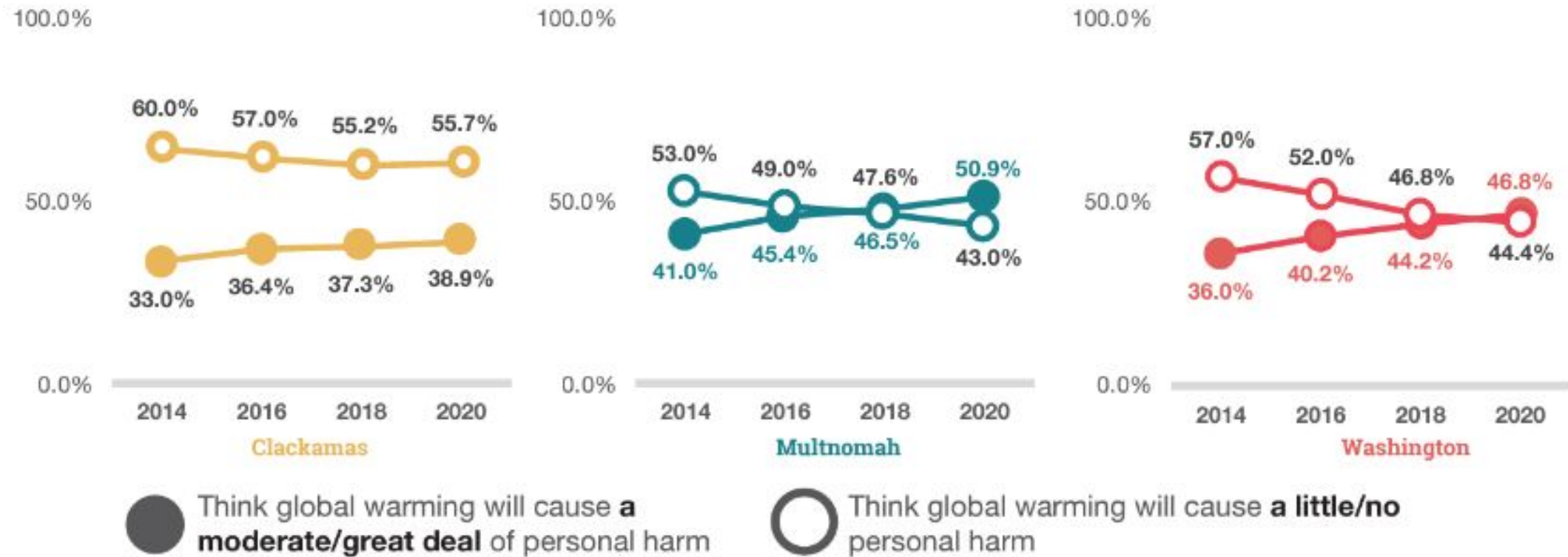


Estimated percentage who are worried about global warming, 2014-2019



Source: Yale Climate Opinion Survey

Estimated percentage who think global warming will cause personal harm



Source: Yale Climate Opinion Survey

Key RCHB Takeaways

- **Few apparent long term trends.** In 2020 was unusual. Coinciding with the COVID-19 pandemic, several heat, air quality, and foodborne communicable disease health outcomes decreased in counts.
- **Acute events lead to major impacts.** Specific climate-related events caused spikes in health outcomes.
- **We need ways to measure mental health impacts.** There is a need for more robust and consistent tracking systems for mental health related impacts.

Leading causes of premature death in Multnomah County, 2015-2019

1. Cancer
2. Heart disease
3. Unintentional injury
4. Stroke
5. Chronic lower respiratory disease
6. Alzheimer disease
7. Diabetes
8. Suicide
9. Chronic liver disease
10. Essential hypertension

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2019 on CDC WONDER Online Database, released in 2020

Opportunities

- **Climate Justice by Design**
- **Portland Clean Energy Fund**
- **Racial and Ethnic Approaches to Community Health (REACH)**
- **Executive Order 20-04**
 - **DLCD & DEQ Rulemaking**
 - **OHA Climate & Health Assessments**

What you can do

- **Prepare**
 - Air filtration demo: <https://www.multco.us/sustainability/earth-month>
- **Make long term choices now**
 - What happens when your furnace quits?
- **Advocate**
 - Transportation, housing, food systems, etc.

Comments? Questions? Ideas?

