Under climate change scenarios the prevalence and severity of wildfire is expected to increase. By 2050, fire season is expected to average 23 days longer as compared to 2013 (Yue et al., 2013).

Wildfire smoke contains pollutants including carbon monoxide, nitrogen dioxide, ozone, volatile organic compounds, and particulate matter. Fine particulate matter (PM2.5) is considered the greatest risk as these particles are small enough to be inhaled into the lungs and travel deep into the respiratory tract (United States Environmental Protection Agency (USEPA), 2019).

During wildfire, public health officials recommend reducing the amount, duration, and intensity of smoke exposure by using an air filter, recirculating indoor air, and limiting outdoor activity (Cascio, 2018). The efficacy of this approach is dependent on how well a building limits smoke from coming indoors.

Not all community members have the ability to limit smoke exposure in the buildings where they live, work, attend school, or spend time indoors. The Sierra Fund (TSF) is working with local public health officials and service providers to address this disparity by developing a Cleaner Air Strategy to ensure equitable access to places with clean air during wildfire.
The Cleaner Air Strategy aims to reduce the public health burden from wildfire smoke by (1) understanding the unique needs of vulnerable populations with respect to cleaner air and (2) knowing the capabilities of existing facilities to provide cleaner air spaces.

- **Vulnerable populations** include children, pregnant women, older adults, and individuals with preexisting conditions or low socio-economic status.
- **Cleaner Air Spaces** are publicly-accessible facilities with tight-sealing windows and doors, and public access with a ventilation system able to significantly reduce, or even eliminate, intake of outdoor air, and a central air filtration system that is at least medium or high-efficiency (Oregon Health Authority, 2017; USEPA, 2019).

TSF has developed a list of cleaner air space criteria and surveyed facilities managers to find out what cleaner air spaces exist in our region and how they are being used. An assessment of county readiness to handle poor air quality events including the availability of cleaner air spaces is underway.

**Next Steps**

**Figure 2. Facilities’ Ability to Monitor Air Quality.** The majority of facilities TSF surveyed (45 of 50 buildings) are not currently able to monitor indoor air quality. This information is key for identifying the potential for spaces to provide cleaner air during wildfire. Additional monitoring is needed to fill this data gap.

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