California’s San Joaquin Valley (SJV) is a prime agricultural area of the United States with over four million residents. Known as the “bread-basket” of the United States, the area exports over $50 billion in agricultural products at home and globally. Fresno, with a population of 500,000, is the gateway to the world renowned Yosemite National Park. Yet people living in the area breathe some of the most polluted air in North America. One in six children in the region suffer from asthma compared to the national average of one in 12. These children are exposed to unhealthy air on at least 200 days a year.

The topography of the region - a low valley floor with mountain ranges to the south, east and west - means that air pollution becomes trapped, worsening the air quality. Frequent violations of federal and state health-based standards for outdoor air pollution have resulted in the region being designated as a “non-attainment” area for atmospheric pollutants such as ozone and particulate matter. Poor land use controls have encouraged large distribution centers, warehouses and dairies to come to the area, accessed via two of the most heavily trafficked highways in the US.

Open burning is the second largest source of particulate matter in the SJV region. In 2003, California passed a clean air law that made open agricultural burning illegal without a permit. By 2011, agricultural burning had decreased by 80 per cent. Over the past five years, however, the San Joaquin Valley Air District has allowed burning to increase by 400 percent.

The valley is vulnerable to climate change. Temperatures in excess of 110°F (43°C) have been increasing in frequency over the last 60 years exacerbating wildfires and heat related illnesses. In the fall of 2018 the Camp Fire destroyed the town of Paradise, in the northern region of California. This and other wildfires have added fine particulate pollution (PM 2.5) in the form of black carbon to the summer air pollution season.

Air quality in Fresno and the San Joaquin Valley is amongst the worst in California and the US.
The Valley Air District delayed adopting a regional PM 2.5 plan for more than two years past the federally mandated deadline - leaving the San Joaquin Valley as the only US region still listed as being in serious or severe non-attainment.

More comprehensive air quality monitoring is needed, specifically in sites where there are industrial sources near neighboring communities (e.g. communities next to distribution warehouses, oil and gas facilities and biomass incineration facilities). The Valley Air District currently has six air quality monitors deployed within Fresno and neighboring city, Clovis. Four of these measure only ozone, meteorological conditions and/or PM 10. Only two measure PM 2.5. The Central California Asthma Collaborative (CCAC) and other local NGOs have launched a program to place over 60 Purple Air™ PM 2.5 monitors across the region to better illustrate neighborhood level air pollution. Early data suggests many communities have much higher levels of this dangerous pollutant than those reported by the local Air District.

Air quality monitoring in Fresno and the San Joaquin Valley is poor. Assembly Bill 617 calls for more air quality monitoring in locations where community members are exposed to pollutants.
The Central California Asthma Collaborative calls for more community-level monitoring, particularly in areas where air is directly being polluted by industrial and mobile transport sources.

In July 2017, the California legislature passed Assembly Bill 617 (AB 617) to develop a new Community Air Protection Program (CAPP). This intends to identify neighborhood level pollution and its sources, efficiently reduce local level exposures to air pollution, and protect public health within those affected communities. CAPP will locate official air quality monitors in communities to monitor pollution levels where people live and work. South Central Fresno and Shafter in the southern San Joaquin Valley have been selected for a first-year pilot.

The Valley Air District has adopted the 2018 Plan to lower emissions of PM 2.5 air pollution from sources such as vehicles, industrial equipment, and wood burning devices. After concerted community action, CARB unanimously approved the Air Districts PM 2.5 Plan on January 24 2019.

The Solution

Action

The Central California Asthma Collaborative (CCAC) calls for better air quality monitoring at locations where people live and work, with immediate adoption of policies and plans that shift away from diesel and reduce emissions from agriculture, transport and industry.
Unmask My City is a global initiative by doctors, nurses, public health practitioners, and allied healthcare professionals dedicated to improving air quality and reducing emissions in our cities.

This will save millions of lives, improve health outcomes for billions of people, and make a huge contribution to greenhouse gas reductions needed to keep the world safe from climate change crises.

References:
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