

# To *Your* HEALTH *Fresno County*

Bringing you public health issues and ways to improve personal, family, neighborhood and community health



## Quality Air

June 1, 2015

To continue the discussion of my six goals for public health in Fresno County, I'd like to turn to that of quality air.

Several factors are known to consistently hold our county down in the major health rankings conducted annually. Locally, these include our poverty level, unemployment rate, and low medical provider-to-population ratios with contributing impact from the national obesity and diabetes epidemics. But unique to this valley is the COMBINATION of these factors compounded by the poor quality of the air we breathe.

A well-documented prescription for prevention and management of chronic diseases such as obesity and diabetes is physical activity. Yet such a prescription here in our valley may actually contribute to many chronic diseases if done outdoors at the wrong times.

Our topography, our climate, and the fact that both of the state's north/south commerce and travel arteries run the length of our valley put us at a distinct public health disadvantage.

The ground level ozone and PM<sub>2.5</sub> concentrations to which we are all exposed affects the health of each and every one of us. Particularly vulnerable are our children, our elderly, individuals with lung disease and cardiovascular disease, and those most active outdoors.<sup>1,2,3,4</sup> Some studies also suggest that pregnant women, newborns, those that are obese, those with diabetes, and individuals of lower socioeconomic status bear a disproportionate burden.<sup>2,5</sup>

Effects of ground level ozone and PM<sub>2.5</sub> include: premature death from cardiovascular and respiratory diseases; reduction in lung function and lung development; and development and worsening of chronic lung diseases. High concentrations of PM<sub>2.5</sub> have been linked to higher rates of infant mortality, pre-term birth, and low birth weight <sup>2,6,7,8</sup> (all three quite high in Fresno County) and high levels of ozone have been linked to low birth weight and decreased lung function in newborns.<sup>4,7</sup> Both ozone and PM<sub>2.5</sub> have been linked to cognitive decline in some studies.<sup>9,10,11</sup> And some of the precursors to ozone and PM<sub>2.5</sub>, including diesel exhaust, have been determined to be carcinogenic. <sup>1</sup>

ALL of us here in the Central Valley breathe these pollutants in higher concentrations, and on more days of the year, than any other place in the nation. And we know that some communities throughout Fresno County experience even higher levels of local pollution from sources such as freeway traffic, railyards, and other hotspots.

Although the federal standard for carbon monoxide and PM<sub>10</sub> were attained here in 1994 and 2008 respectively, and valley smog has been reduced by 80% since the 1980's, <sup>12</sup> we still are given a grade of F by the American Lung Association in their [State of the Air 2015 Report](#) for high ozone days, 24 hour particle pollution, and annual particle pollution.

Despite the significant progress that has been made over the years, the [Lung Association's latest report](#) still found 68 unhealthy ozone days and 47 unhealthy particle days per year in Fresno County. The Fresno metropolitan area is ranked as the most polluted American city by particles and fourth most polluted by ozone.

Where do these hazards to our health originate? The most recent [San Joaquin Valley Air Pollution Control District's \(SJVAPCD\) Report](#) to the community references a multitude of sources. It is apparent that while most hazards link back to heavy diesel trucks, other on-road vehicles, farming operations and equipment, and off-road vehicles, a variety of other activities also contribute.

It is abundantly clear that further herculean efforts need to be made by each of the eight [Pillars of Public Health](#) in order for those of us living here in the valley to breathe air that isn't chipping away at our collective health daily.

EVERY individual and family must be aware of the quality of the air they are breathing and know, and implement, the actions necessary to improve that air quality. Ideas as to what you can do to further improve our air quality and grant opportunities for residents, as well as businesses, abound on the [SJVAPCD website](#). We must do everything we can to drive less (and with low or zero emission vehicles), burn less, and replace internal combustion tools and equipment, such as lawn mowers and leaf blowers, with electric.

We must all also know what [steps to take to protect ourselves](#) when our air is especially poor. Hourly updates of the air quality in your specific area can be e-mailed or texted to you when it reaches hazardous levels through the [SJVAPCD Real-time Air Advisory Network \(RAAN\)](#). Recommendations are then given as to how you can best protect yourself.

EVERY business, farmer, retailer, and employer must utilize the latest technologies in their industrial operations, use no or low emission vehicles, trade out diesel irrigation pumps for electric, select vendors that use low emission fleets and processes, and offer their employees the means and incentive to reduce commutes, including farmworker vanpool options.

EVERY medical provider and educator must ensure that their patients and students understand the very real threat of poor air quality and know what can be done to counter it over time as well as how to protect themselves from it acutely.

EVERY community leader and public official must encourage the design and development of convenient, energy-efficient, low-cost transit systems which connect all outlying communities to metropolitan hubs and to each other. In each community, these hubs should be well incorporated within their own

complex of safe and attractive bicycle and walk pathways. All of the necessities for a healthy life must be made easily accessible within *all* neighborhoods. Leaders and officials must also promote incentives, like those offered by our air district, to purchase and maintain zero or low emission vehicles, and ensure that such incentives are available to everyone.

Our collective health and the health of our future generations depend upon how much each of us puts in to this effort. It cannot be ignored. We must all look at the choices we make every day. When we take advantage of an air district incentive for zero emission vehicles, we are making a clean air choice. When we carpool rather than drive alone, we cut harmful pollution.

More frequent and severe droughts, wildfires, heat waves, and other extended weather events are indicators of a changing climate that threaten clean air progress. The clean air choices we make today can reduce these impacts tomorrow.

Let me know your thoughts on our valley's air quality and its impact on the health of our community. Email me at [ToYourHealth@co.fresno.ca.us](mailto:ToYourHealth@co.fresno.ca.us).

Here's to your health!



Dr. Ken Bird, Fresno County Health Officer

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