United States Senate

WASHINGTON, DC 20510

June 17, 2015

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator McCarthy,

We are concerned that the Environmental Protection Agency (EPA) is overlooking important consequences that will result if its proposal to significantly reduce National Ambient Air Quality Standards (NAAQS) for ground level ozone is finalized. As healthcare professionals we rely upon the most accurate health data. From this vantage, we believe that the proposal's harm outweighs its claimed benefits and are concerned that it could ultimately undermine our constituents' health. In light of the significant ongoing improvements to air quality, progress that will continue even without new regulations, we encourage EPA to maintain the existing NAAQS for ground level ozone.

We support better air quality and are proud of the progress on air quality that this country has made since Congress passed the Clean Air Act. According to EPA's data, emissions of ozone precursors have been cut in half since 1980, resulting in a 33 percent drop in ozone concentrations in the U.S.[1] EPA projects that air quality will continue to significantly improve as states implement federal measures already on the books, including the current ozone NAAQS set in 2008. We note that EPA delayed implementing that standard from 2010-2012 while it considered replacing it with standards similar to those it is now proposing – a reconsideration that the White House ultimately abandoned in light of the high economic impact.

In the face of this continuing improvement to air quality, EPA has asserted more stringent ozone standards are necessary to protect public health. For example, EPA has claimed that reducing ozone-forming emissions will counteract asthma prevalence. However, according to the EPA and the Centers for Disease Control and Prevention, asthma prevalence has increased by 15 percent since 2001[2], while ozone concentrations have decreased by 18 percent[3] during the same time period. This lack of correlation highlights important questions concerning the validity of EPA's conclusions.

Stakeholders have raised even more fundamental concerns regarding the science and estimated health benefits that are critical to the proposal's justification. For example, EPA

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[1] EPA. "National Trends in Ozone Concentrations in 1990-2013," http://www.epa.gov/airtrends/ozone.html.

[2] Centers for Disease Control and Prevention. "Trends in Asthma Prevalence 2001-2010." http://www.cdc.gov/nchs/data/databriefs/db94_tables.pdf#1.

[3] EPA. "National Trends in Ozone Concentrations in 1990-2013," http://www.epa.gov/airtrends/ozone.html.

concluded that four controlled exposure studies[4,5,6,7] where healthy young adults were exposed to ozone or filtered air for 6 hours during and after which their lung function was measured support lowering the ozone standard. EPA indicated that these studies support this conclusion, because the authors found temporarily reduced lung function and more respiratory symptoms at exposures below or equal to 0.072 ppm.[8] Each of these studies, however, evaluated fewer than 60 people. We believe the limited number of subjects studied impacts the quality of data needed to make informed health-based determinations. Importantly, few of these subjects experienced a loss of more than or equal to 10 percent of their baseline lung function in ozone exposures below 0.080 ppm. This is EPA's current benchmark for ozone response. Furthermore, one study reports that just three subjects had more than or equal to a 10 percent response at 0.060 ppm,[9] and in another study, only six subjects had such a response at 0.072 ppm.[10] These studies also involved individuals performing nearly constant exercise for long periods of time, leading to unrealistically high exposure scenarios not experienced by most people, including children and other sensitive subgroups, in the ordinary course of their lives. Thus, these studies' findings are again far too limited to be appropriately applied to the general U.S. population, or, for that matter, to groups of sensitive individuals in the population. As a whole, these controlled exposure studies do not support the necessity for a lower standard.

EPA also bases its decision to lower the current ozone standard in part on "a large number" of new epidemiology studies investigating health effects associated with both short- and long-term ozone exposures. EPA concluded that short-term ozone exposure causes respiratory effects and is "likely" associated with cardiovascular effects and all-cause mortality, while long-term exposure is "likely" associated with respiratory morbidity and mortality.[11] However, EPA concluded that a number of errors in the ozone epidemiology studies limit their use for risk assessment.[12] For these same reasons, we believe that these studies are not adequate and do not support a lower standard.

While the benefits from this proposal are questionable, the costs are real. EPA's proposed ozone standards are so stringent that they would not be met even in rural areas like the

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[4] Adams, WC. 2002. "Comparison of chamber and face-mask 6.6-hour exposures to ozone on pulmonary function and symptoms responses." *Inhal. Toxicol.* 14(7):745-764.

[5] Adams, WC. 2006. "Comparison of chamber 6.6-h exposures to 0.04-0.08 ppm ozone *via* square-wave and triangular profiles on pulmonary responses." *Inhal. Toxicol.* 18(2):127-136.

[6] Schelegle, ES; Morales, CA; Walby, WF; Marion, S; Allen, RP. 2009. "6.6-Hour inhalation of ozone concentrations from 60 to 87 parts per billion in healthy humans." *Am. J. Respir. Crit. Care Med.* 180(3):265-272.

[7] Kim, CS; Alexis, NE; Rappold, AG; Kehrl, H; Hazucha, MJ; Lay, JC; Schmitt, MT; Case, M; Devlin, RB; Peden, DB; Diaz-Sanchez, D. 2011. "Lung function and inflammatory responses in healthy young adults exposed to 0.06 ppm ozone for 6.6 hours." *Am. J. Respir. Crit. Care Med.* 183:1215-1221.

[8] EPA. 2014. "National Ambient Air Quality Standards for Ozone (Proposed Rule)." 40 CFR Parts 50, 51, 52, 53, and 58. Accessed at http://epa.gov/glo/actions.html#nov2014.

[9] Kim *et al.* (2011).

[10] Schelegle *et al.* (2009).

[11] 79 Fed. Reg. 75234 (Dec. 17, 2014)

[12] *Id. at* 75276

Yellowstone and Grand Canyon National Parks. Across the country, more than 2,000 parishes and counties, well over half the nation, could fall into nonattainment. Pushing regions of our states into nonattainment will lead to the loss of industry and economic development as well as federal highway and transit funding. In fact, this proposal affects the entire U.S. economy. The day it is finalized air permits needed to build or expand facilities and create jobs even in areas already in attainment will become more stringent. Overall, analysis done by NERA Economic Consulting indicates that the proposed rule could reduce the U.S. GDP by $140 billion per year and $1.7 trillion from 2017 to 2040, resulting in significant job losses through 2040 and making the proposal the most expensive regulation in U.S. history.[13]

If the true intent here is to improve public health, then the Agency should factor how its ozone proposal affects every aspect of human health – including impacts from unemployment, poverty, and reduced access to health insurance. Public health should not be viewed in a vacuum, but rather considered holistically, mindful of the correlation between health and the economy. For example, a recent study by Dr. Harvey Brenner shows there is sufficient scientific and macro-economic evidence to support the link between income and health. According to Dr. Brenner, the phenomenon known as the "social gradient" of health shows that illness and mortality rates, regardless of diagnostic cause, age, gender, ethnicity or nationality, are inversely related to one's socio-economic status (SES).[14] Dr. Brenner not only stresses the effects of regulatory activity on employment loss, but also finds that an individual's health declines from losses in household income. Specifically, Dr. Brenner's work states:

> *"Income is one of the key predictors of health and life expectancy that is observed in epidemiological studies of the impact of socio-economic status on illness and mortality. Socio-economic status, in turn, is the single most important predictor for individuals, for mortality rates, for all causes, in the U.S. and other industrialized countries."*

Dr. Brenner's findings echo those of a 1995 study by EPA, which found that:

> *"People's wealth and health status, as measured by mortality, morbidity, and other metrics are positively correlated. Hence those who bear a regulation's compliance cost may also suffer a decline in their health status, and if the costs are large enough, these increased risks might be greater than the direct risk-reduction benefits of the regulations."*[15]

According to 2013 U.S. Census Bureau data, of the 123 million households in the U.S., 8.9 million households have a pretax annual income of $10,000 or less.[16] In light of the link

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[13] NERA. "Economic Consulting: Economic Impacts of a 65 ppb National Ambient Air Quality Standard for Ozone."

[14] M. Harvey Brenner, University of North Texas Health Science Center and Johns Hopkins University, Bloomberg School of Public Affairs, "Impact of national unemployment and income on health in the United States and Europe: Recent evidence bearing on the potential impact of EPA regulations," (March 17, 2015).

[15] EPA, Economic Analysis and Innovations Division. "On the relevance of risk-risk analysis to policy evaluation," (August 16, 1995).

[16] U.S. Census Bureau. "Current Population Survey 2014 Annual Social and Economic Supplement," http://www.census.gov/hhes/www/cpstables/032014/hhinc/hinc01_000.htm.

between income and public health, we are concerned that EPA's proposal will severely impact low income families, potentially forcing them to sacrifice basic human needs such as food, clothing or medical care. While cost of compliance is not a factor in determining NAAQS, we believe costs should be considered when, as here, they result in loss income associated with negative health effects.

Studies show that income is a key factor in public health, a link confirmed by our first-hand experience as medical professionals caring for patients, including the low income and uninsured. As well, stakeholders have noted serious questions regarding the health benefits EPA claims to support the proposal, and we are concerned that the uncertain benefits asserted by EPA in its ozone proposal will be overshadowed by its harm to the economy and human health. In light of the long-term continuing trend towards cleaner air, as well as ongoing work by states toward further improvements under existing regulations, we encourage EPA to protect American jobs, the economy, and public health by maintaining the existing ozone NAAQS.

Sincerely,

Bill Cassidy, M.D.
United States Senate

Michael Burgess, M.D.
Member of Congress

John Barrasso, M.D.
United States Senate

John Boozman, O.D.
United States Senate

Rand Paul, M.D.
United States Senate

Earl Carter, Pharm.D.
Member of Congress

Phil Roe, M.D.
Member of Congress

John Fleming, M.D.
Member of Congress

Diane Black, R.N.
Member of Congress

Ralph Abraham, M.D.
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Brian Babin, D.D.S.
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Mike Simpson, D.M.D.
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Brad Wenstrup, D.P.M.
Member of Congress