

Children's Health Protection Advisory Committee

Chair:

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H. Christopher Frey PhD
Chair
US EPA Clean Air Scientific Advisory Committee

RE: CASAC Review of the Health Risk and Exposure Assessment for Ozone and Policy Assessment for the Review of the Ozone NAAQS: Second External Review Drafts

Dear Dr. Frey:

I appreciate the opportunity to comment on the review of US EPA's second drafts: Health Risk and Exposure Assessment and Policy Assessment for the Review of the National Ambient Air Quality Standard (NAAQS) for 8 hour exposure to ozone. In 2007, the US EPA Children's Health Protection Advisory Committee (CHPAC) submitted two letters to Administrator Johnson that highlighted scientific findings regarding ozone-related children's health effects and urged him to support an ozone standard of 60ppb in order to adequately protect children's health with a sufficient margin of safety. I am writing now to strongly re-affirm the recommendation of 60ppb based on the expanding scientific evidence base documenting adverse childhood health impacts in relation to ambient ozone exposure. The higher end of the range, 60ppb – 70ppb, put forth by the Clean Air Scientific Advisory Committee (CASAC) in 2007 will not be sufficient to protect children's health.

Children suffer a disproportionate burden of ozone-related health impacts due to critical developmental periods of lung growth in childhood and adolescence that can result in permanent disability. In addition, children have increased susceptibility due to increased ventilatory rates and increased outdoor physical activity compared with adults. The 6.8 million children suffering from asthma in the US are some of the most vulnerable to ozone-related respiratory impacts (CDC, 2014). The US EPA 2013 Ozone Integrated Science Assessment summarized numerous recent epidemiologic studies that cite relationships between ambient ozone exposure concentrations within and even below the CASAC previously proposed range, 60-70 ppb, and adverse childhood health impacts including: increased asthma exacerbations, impaired lung development, changes in birth outcomes, and increased upper respiratory illness (US EPA, 2013). Therefore, the current scientific evidence base documenting ozone-related childhood health impacts is now expanded and stronger compared to the last review and warrants a lower recommended range of standards to adequately protect children's health and well-being.

One concrete example of how children's health will be positively impacted by a lower standard is outlined in the 2014 EPA Second Draft Policy Assessment for the Review of Ozone NAAQS (US EPA, 2014). It estimates that 14-19% of children (approximately 952,000 – 1,292,000 asthmatic children based on CDC statistics) living in urban centers will have a greater than 10% decrement in lung function based on a standard of 75ppb, and this percentage decreases to 5-11% (approximately 340,000 – 748,000 asthmatic children based on CDC statistics) with a 60ppb standard. The reduction from 75ppb to 60ppb would translate to approximately 500,000 fewer children affected by ozone exposure. Therefore, the reduced standard would result in significant quantifiable children's health protections, and this is only one example of the numerous childhood health protections afforded.

Based on the strengthened scientific evidence reporting adverse childhood-related health impacts at concentrations above 60ppb, I strongly re-affirm the original 2007 CHPAC recommendations to set the NAAQS ozone standard for 8 hour exposure to 60ppb in order to adequately protect children's health. I thank you for considering this recommendation and have included the previous CHPAC letters for your reference. I would be happy to provide any further information as needed.

Sincerely,



Sheela Sathyanarayana MD MPH
Chair, Children's Health Protection Advisory Committee (CHPAC)

Enclosures: March 23, 2007 CHPAC Letter re: Ozone NAAQS
September 4, 2007 CHPAC Letter re: Ozone NAAQS

cc: Janet McCabe, Office of Air and Radiation
Steve Page, Office of Air Quality Planning and Standards
Khesha Reed, Office of Children's Health Protection

References:

US EPA. 2013. "Integrated Science Assessment for Ozone and Related Photochemical Oxidants (Final)." National Center for Environmental Assessment (NCEA), EPA/600/R-10/076F. 1251p., February.

US EPA. 2014. "Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards (Second External Review Draft)." EPA-452/P-14-002. 510p., January.

CDC 2014. "FastStats: Asthma." <http://www.cdc.gov/nchs/fastats/asthma.htm>. Accessed 5/19/2014.