

January 30, 2017

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Dear Dr. Ghosh,

I am writing to express my extreme disappointment with your December 8, 2016 Final Draft 2016 AQMP [Appendix I Health Effects](#). Your January 3, 2017 198-page document, [Responses to Comments on Appendix I](#), DOES NOT address the numerous critical comments that I submitted to you on [January 11, 2016](#) and [July 26, 2016 and August 15, 2016](#). Below I describe six major problems with the final version of Appendix I.

1. Appendix I DOES NOT comply with [California Health and Safety Code Section 40471 \(b\)](#). Instead of satisfying the requirement “the south coast district board, in conjunction with a public health organization or agency, shall prepare a report on the health impacts of particulate matter air pollution in the South Coast Air Basin,” you stated on page 188 of your Responses document “it is not the intention of this Appendix to assess whether there is or is not an effect of a specific air pollutant on any particular health endpoint” Instead of satisfying the requirement to prepare Appendix I “in conjunction with a public health organization or agency,” you instead prepared it in conjunction with two aggressive regulatory agencies within CalEPA: OEHHA and CARB. Instead of satisfying the requirement that the “south coast district board shall hold public hearings concerning the report and the peer review,” you held four November 2016 public hearings which were conducted without the SCAQMD Board Members

2. Appendix I and your Responses document DO NOT describe the overwhelming evidence of NO relationship [relative risk (RR) = 1.00] between PM_{2.5} and total mortality in California. The weighted average of the most recent results from six different California cohorts show RR = 0.999 (0.988-1.010), which means there are NO premature deaths caused by PM_{2.5} in California. An appended table shows this null California evidence. This table, which is page 5 of my August 15, 2016 comments, was deliberately omitted from your Responses document.

3. Appendix I and your Responses document completely ignore this statement in my August 15, 2016 comments: “I have now submitted for publication a manuscript with null findings that invalidate the positive nationwide relationship between PM_{2.5} and total mortality published in the seminal Pope 1995 paper, which is based on the American Cancer Society Cancer Prevention Study II (CPS II) cohort. My null CPS II cohort findings raise serious doubts about validity of the positive CPS II cohort findings in Jerrett 2005, Jerrett 2009, and Jerrett 2013, which have been used as the basis for the PM_{2.5} premature death claims in the PPTs of Drs. Oliver and Shen.” My manuscript, entitled “Fine Particulate Matter and Total Mortality in Cancer Prevention Study II Reanalysis,” is now in press in a PubMed recognized scientific journal and should appear online in February 2017. This paper provides important new evidence that PM_{2.5} does not cause premature deaths anywhere in the United States, including California.

4. Appendix I and the [2016 AQMP SES Report](#) rely heavily the PM_{2.5}-mortality publications by Dr. Michael Jerrett and his co-authors. You have co-authored with Jerrett seven air pollution related publications during 2011-2016. This co-authorship raises serious doubts about your objectivity, particularly since you have ignored null PM_{2.5}-mortality results and have ignored my challenges to the validity of the Jerrett publications. On November 11, 2016 I made a [US Office of Research Integrity allegation](#) that Jerrett 2013 falsified and exaggerated the relationship between PM_{2.5} and total mortality in California. An ORI Investigator agreed that the Jerrett 2013 results “do not provide evidence that air pollution is directly responsible for mortality.” My US ORI allegation and a table showing NO PM_{2.5}-mortality relationship in California are appended.

5. Appendix I does not describe the ACTUAL human exposures to PM_{2.5}, ozone, and NO_x in the SCAB. The human exposures to these pollutants are much lower than the ambient levels recorded at SCAQMD monitors and the average human exposures are well below the level of measurable health effects for these air pollutants. SCAQMD Board Members and SCAB residents must be informed of their actual exposures to pollutants. Furthermore, they must be informed that these levels are well below the corresponding US EPA NAAQS.

6. Appendix I provides no context regarding the impact of air pollution and other risk factors on the overall health of SCAB residents. An appended table shows low 2014 age-adjusted death rates from all causes, all cancer, and all respiratory disease in California and the SCAB. These death rates are among the lowest in the United States and the World. This table, which is page 6 of my August 15, 2016 comments, was deliberately omitted from your Responses document.

If the 2016 AQMP is approved by the SCAQMD Board on February 3, 2017, I will make a strong case to the new US EPA Administrator, the US House Science Committee, the US House Energy Committee, and the US Senate Environment Committee that the AQMP should not be implemented because it is NOT justified on a scientific or public health basis. Also, I will make a strong case to business and taxpayer groups in Southern California that the 2016 AQMP is scientifically unjustified and should not be funded. Many concerned scientists like myself are doing everything we can to stop SCAQMD from implementing new unjustified environmental regulations in Southern California, as part of a national effort to reduce unjustified regulations.

Finally, I am sending this email letter to all UCLA School of Public Health faculty members who have been involved with SCAQMD and/or with your 2011 Ph.D. in Epidemiology. I request that these faculty members assess my above comments and inform SCAQMD whether they believe the 2016 AQMP is justified on a public health basis. These faculty members are directly responsible for your training as an environmental epidemiologist and you, as a prominent public health official, are a direct reflection of the values and integrity of the School of Public Health.

Thank you for taking this message seriously, because it is a VERY SERIOUS message.

Sincerely yours,

James E. Enstrom, Ph.D., M.P.H.

UCLA and Scientific Integrity Institute

<http://climateconferences.heartland.org/james-enstrom-iccc10-panel-8/>

<http://climateconferences.heartland.org/iccc-12/>

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Summary Table. Epidemiologic cohort studies of PM_{2.5} and total mortality in California, 2000-2016
Relative risk of death from all causes (RR and 95% CI) associated with increase of 10 µg/m³ in PM_{2.5}
<http://scientificintegrityinstitute.org/NoPMDeaths112215.pdf>

Krewski 2000 & 2010	CA CPS II Cohort	N=40,408	RR = 0.872 (0.805-0.944)	1982-1989
(N=[18,000 M + 22,408 F]; 4 MSAs; 1979-1983 PM _{2.5} ; 44 covariates)				
McDonnell 2000	CA AHSMOG Cohort	N~3,800	RR ~ 1.00 (0.95 – 1.05)	1977-1992
(N~[1,347 M + 2,422 F]; SC&SD&SF AB; M RR=1.09(0.98-1.21) & F RR~0.98(0.92-1.03))				
Jerrett 2005	CPS II Cohort in LA Basin	N=22,905	RR = 1.11 (0.99 - 1.25)	1982-2000
(N=22,905 M & F; 267 zip code areas; 1999-2000 PM_{2.5}; 44 cov + max confounders)				
Enstrom 2005	CA CPS I Cohort	N=35,783	RR = 1.039 (1.010-1.069)	1973-1982
(N=[15,573 M + 20,210 F]; 11 counties; 1979-1983 PM _{2.5})				
			RR = 0.997 (0.978-1.016)	1983-2002
Enstrom 2006	CA CPS I Cohort	N=35,783	RR = 1.061 (1.017-1.106)	1973-1982
(11 counties; 1979-1983 & 1999-2001 PM _{2.5})				
			RR = 0.995 (0.968-1.024)	1983-2002
Zeger 2008	MCAPS Cohort “West”	N=3,100,000	RR = 0.989 (0.970-1.008)	2000-2005
(N=[1.5 M M + 1.6 M F]; Medicare enrollees in CA+OR+WA (CA=73%); 2000-2005 PM _{2.5})				
Jerrett 2010	CA CPS II Cohort	N=77,767	RR ~ 0.994 (0.965-1.025)	1982-2000
(N=[34,367 M + 43,400 F]; 54 counties; 2000 PM _{2.5} ; KRG ZIP; 20 ind cov+7 eco var; Slide 12)				
Krewski 2010 (2009)	CA CPS II Cohort			
(4 MSAs; 1979-1983 PM_{2.5}; 44 cov)		N=40,408	RR = 0.960 (0.920-1.002)	1982-2000
(7 MSAs; 1999-2000 PM_{2.5}; 44 cov)		N=50,930	RR = 0.968 (0.916-1.022)	1982-2000
Jerrett 2011	CA CPS II Cohort	N=73,609	RR = 0.994 (0.965-1.024)	1982-2000
(N=[32,509 M + 41,100 F]; 54 counties; 2000 PM _{2.5} ; KRG ZIP Model; 20 ind cov+7 eco var; Table 28)				
Jerrett 2011	CA CPS II Cohort	N=73,609	RR = 1.002 (0.992-1.012)	1982-2000
(N=[32,509 M + 41,100 F]; 54 counties; 2000 PM _{2.5} ; Nine Model Ave; 20 ic+7 ev; Fig 22 & Tab 27-32)				
Lipsett 2011	CA Teachers Cohort	N=73,489	RR = 1.01 (0.95 – 1.09)	2000-2005
(N=[73,489 F]; 2000-2005 PM _{2.5})				
Ostro 2011	CA Teachers Cohort	N=43,220	RR = 1.06 (0.96 – 1.16)	2002-2007
(N=[43,220 F]; 2002-2007 PM _{2.5})				
Jerrett 2013	CA CPS II Cohort	N=73,711	RR = 1.060 (1.003–1.120)	1982-2000
(N=[~32,550 M + ~41,161 F]; 54 counties; 2000 PM_{2.5}; LUR Conurb Model; 42 ind cov+7 eco var+5 metro; Table 6)				
Jerrett 2013	CA CPS II Cohort	N=73,711	RR = 1.028 (0.957-1.104)	1982-2000
(same parameters and model as above, except including co-pollutants NO₂ and Ozone; Table 5)				
Ostro 2015	CA Teachers Cohort	N=101,884	RR = 1.01 (0.98 -1.05)	2001-2007
(N=[101,881 F]; 2002-2007 PM _{2.5}) (all natural causes of death)				
Thurston 2016	CA NIH-AARP Cohort	N=160,209	RR = 1.02 (0.99 -1.04)	2000-2009
(N=[~95,965 M + ~64,245 F]; full baseline model: PM _{2.5} by zip code; Table 3) (all natural causes of death)				
Enstrom 2016 unpub	CA NIH-AARP Cohort	N=160,368	RR = 1.001 (0.949-1.055)	2000-2009
(N=[~96,059 M + ~64,309 F]; full baseline model: 2000 PM _{2.5} by county)				

Allegation of Research Misconduct by Dr. Michael Jerrett and Co-Authors

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I allege research misconduct (falsification) by UCLA Professor Michael Jerrett, Ph.D., and his primary co-authors C. Arden Pope, Ph.D., Daniel Krewski, Ph.D., George Thurston, Sc.D., Richard T. Burnett, Ph.D., Michael J. Thun, M.D., and Susan P. Gapstur, Ph.D., regarding their attached September 1, 2013 *AJRCCM* paper “Spatial Analysis of Air Pollution and Mortality in California” (<http://www.atsjournals.org/doi/abs/10.1164/rccm.201303-0609OC>). The authors received a portion of their funding for this research from NIEHS and CDC within DHHS. While claiming that fine particulate matter (PM_{2.5}) was associated with mortality from all causes (total mortality) in their study, the authors omitted their own null findings and the null findings of others. These omitted findings clearly show NO association. Thus, they have engaged in falsification as defined by DHHS and the Public Health Service: “omitting data or results such that the research is not accurately represented in the research record” (Section 93.103(b) of 42 CFR 93) (http://ori.hhs.gov/sites/default/files/42_cfr_parts_50_and_93_2005.pdf).

The *AJRCCM* paper claims there is a positive relationship between PM_{2.5} and mortality from all causes in California because their “conurbation” land use regression (LUR) model yielded a slightly positive relative risk of RR=1.060 (1.003-1.120), as shown in Table 6. However, complete study results are in the October 28, 2011 Jerrett CARB Final Report “Spatiotemporal Analysis of Air Pollution and Mortality in California Based on the American Cancer Society Cohort: Final Report” (<http://www.arb.ca.gov/research/apr/past/06-332.pdf>). The eight entirely null models, shown in the attached Report Table 22, were omitted from the paper. The results for all nine models are shown in my Summary Table on the next page. The weighted average relative risk for all nine models is RR=1.002 (0.992-1.012), which means NO relationship.

Furthermore, the *AJRCCM* paper does not cite any of the null California PM_{2.5}-mortality results from other papers and reports dating back to 2000, including earlier findings by Dr. Jerrett. These results are shown on the next page, as well as on the attached August 15, 2016 Summary Table that I presented to SCAQMD (<http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/Draft2016AQMP/2016-aqmp-appendix-i-comment-letter> (letter #7)). The weighted average relative risk for the most recent result from each of the six different California cohorts is RR=0.999 (0.988-1.010), which means NO relationship.

I contend that the falsification in the paper was deliberate because it was done after extensive criticism of the June 9, 2011 Draft Report and the October 28, 2011 Final Report. This criticism was presented to the authors via CARB by myself, William M. Briggs, Ph.D., John D. Dunn, M.D., S. Stanley Young, Ph.D., Gordon Fulks, Ph.D., and Frederick W. Lipfert, Ph.D. A compilation of all criticism of the 2011 Report is attached (<http://www.scientificintegrityinstitute.org/JerrettCriticism102811.pdf>). Detailed criticism of the *AJRCCM* paper, including its misrepresentation of the results contained in the CARB Report, was given by Dr. Briggs in his statistical blogs of August 6, 2013 (<http://wmbriggs.com/blog/?p=8720>), September 11, 2013 (<http://wmbriggs.com/blog/?p=8990>), and September 25, 2013 (<http://wmbriggs.com/blog/?p=9241>).

In conclusion, Dr. Jerrett and his co-authors falsified the relationship between PM_{2.5} and total mortality in California in their *AJRCCM* paper by deliberately omitting their own null evidence and the null evidence of others. This is quite disturbing because PM_{2.5}-mortality claims in the paper are being used as public health justification for the very costly SCAQMD 2016 Air Quality Management Plan (<http://www.aqmd.gov/>).

Summary Table. Epidemiologic cohort studies of PM_{2.5} and total mortality in California, 2000-2016
Relative risk of death from all causes (RR and 95% CI) associated with increase of 10 µg/m³ (IQR=10) in PM_{2.5}

<u>Study (Year)</u>	<u>Cohort</u>	<u>RR</u>	<u>95% CI</u>	<u>F-U Years</u>
Jerrett 2013 (<i>AJRCCM</i> Table 6 Model)	CA CPS II	1.060	(1.003–1.120)	1982-2000
Jerrett 2011 (CARB Report Figure 22)	CA CPS II			
KRG IND Model (Table 30, IQR=8.52902→10.0)		0.992	(0.965-1.020)	1982-2000
KRG ZIP Model (Table 28, IQR=8.4735→10.0)		0.993	(0.964-1.023)	1982-2000
KRG IND+O ₃ Model (Figure 22 extrapolated, IQR=10.0)		1.020	(0.980-1.060)	1982-2000
IDW IND Model (Table 29, IQR=8.74→10.0)		1.003	(0.978-1.028)	1982-2000
IDW ZIP Model (Table 27, IQR=9.37→10.0)		0.995	(0.967-1.025)	1982-2000
BME IND Model (Figure 22 extrapolated, IQR=10.0)		1.000	(0.975-1.025)	1982-2000
LUR IND Model (Table 31, IQR=5.35→10.0)		1.009	(0.980-1.039)	1982-2000
LUR IND+5 Metro Model (Abstract Table 1, IQR=10.0) [Jerrett 2013 Model]		1.080	(1.000-1.150)	1982-2000
RS IND Model (Table 32, IQR= 5.39→10.0)		0.998	(0.968-1.029)	1982-2000
Weighted Average of All Nine Models		1.002	(0.992-1.012)	1982-2000
Other Results by Jerrett and Other Investigators				
Krewski Jerrett 2000 (RR for CA 2010)	CA CPS II	0.872	(0.805-0.944)	1982-1989
McDonnell 2000 *	CA AHSMOG	~ 1.00	(0.95 – 1.05)	1977-1992
Jerrett 2005	CPS II (LA Basin Only)	1.11	(0.99 - 1.25)	1982-2000
Enstrom 2005 *	CA CPS I	0.997	(0.978-1.016)	1983-2002
Zeger 2008 *	MCAPS “West=CA+OR+WA”	0.989	(0.970-1.008)	2000-2005
Jerrett 2010	CA CPS II	~ 0.994	(0.965-1.025)	1982-2000
Krewski Jerrett 2009 (RR for CA 2010)*	CA CPS II	0.968	(0.916-1.022)	1982-2000
Lipsett Jerrett 2011	CA Teachers	1.01	(0.95 – 1.09)	2000-2005
Ostro 2011	CA Teachers	1.06	(0.96 – 1.16)	2002-2007
Ostro 2015 *	CA Teachers	1.01	(0.98 - 1.05)	2001-2007
Thurston 2016 *	CA NIH-AARP	1.02	(0.99 - 1.04)	2000-2009
Weighted Average of Latest Results (*) from Six California Cohorts		0.999	(0.988-1.010)	

2014 Age-Adjusted Death Rates by State and County and Ethnicity

Deaths per 1,000 persons (age-adjusted using 2000 U.S. Standard Population)
with 95% Confidence Interval shown in parentheses

<http://wonder.cdc.gov/ucd-icd10.html>

September 8, 2016

<u>Location</u>	<u>2014 Age-Adjusted Death Rate (95% Confidence Interval)</u>		
	<u>All Causes</u>	<u>All Cancer</u>	<u>All Respiratory</u>
	ICD-10=All Codes	ICD-10=C00-D48	ICD-10=J00-J98
United States (50 States + DC)	7.25 (7.24-7.26)	1.66 (1.65-1.66)	0.71 (0.71-0.71)
California (2 nd lowest State)	6.06 (6.03-6.08)	1.48 (1.46-1.49)	0.57 (0.56-0.57)
South Coast Air Basin (SCAB = Los Angeles, Orange, Riverside, and San Bernardino Counties)	5.93	1.46	0.55
Hawaii (Lowest State)	5.89 (5.77-6.00)	1.44 (1.38-1.49)	0.53 (0.50-0.56)
Los Angeles County	5.71 (5.66-5.75)	1.42 (1.40-1.44)	0.53 (0.52-0.55)
Orange County	5.48 (5.40-5.56)	1.38 (1.34-1.42)	0.47 (0.45-0.49)
California Hispanics	5.02 (4.97-5.07)	1.18 (1.16-1.20)	0.39 (0.38-0.41)
SCAB Hispanics	4.96	1.19	0.39