

March 22, 2023 CARB Public Meeting
of Emerging Research on Air Pollution Health Outcomes and Valuation
(<https://ww2.arb.ca.gov/events/public-meeting-emerging-research-air-pollution-health-outcomes-and-valuation>)

April 6, 2023 Written Comment to CARB Air Pollution Research Meeting

James E. Enstrom, PhD, MPH, FFACE
Retired UCLA Research Professor (Epidemiology)
President, Scientific Integrity Institute
<http://www.scientificintegrityinstitute.org/>
<http://www.scientificintegrityinstitute.org/CARBPM25RM040623.pdf>
jenstrom@ucla.edu
(310) 472-4274

The following 30 pages provide detailed documentation that CARB-funded researcher Rob McConnell, MD, has seriously misrepresented and exaggerated the relationship between PM2.5 and total mortality in California and has refused to acknowledge evidence of NO relationship. There is now overwhelming evidence of NO relationship between PM2.5 and total mortality in California during 1960-2020 (<http://scientificintegrityinstitute.org/CARBProp012323.pdf>).

March 22, 2023 Verbal Comment to CARB Air Pollution Research Meeting via Zoom
James E. Enstrom, PhD, MPH, FFACE

I am Dr. James Enstrom. Since 2002 I have done extensive epidemiologic research that shows there are no significant air pollution health effects in California. CARB unprofessionally ignores null evidence from me and many other accomplished scientists. Also, CARB-funded scientists are unwilling to examine my evidence of NO air pollution deaths in CA and Jennifer Hernandez's evidence that CARB policies undermine economics, civil rights, and racial equity in CA.

Air pollution in California is at a record low level and cannot be realistically lowered because up to 30% of CA pollution comes from heavily polluted places like China. Because people spend most of their time indoors, actual personal exposure to air pollution is much lower than the ambient air levels measured by CARB. CARB needs to sponsor a day-long seminar on air pollution health effects that allows equal time for presentation of evidence from CARB-funded scientists, CARB critics like myself, and impacted California business groups. CARB held such a seminar on February 26, 2010 (https://cal-span.org/meeting/carb_20100226/). CARB must realize that competitor nations like Communist China tolerate much higher levels of air pollution in order to gain an economic advantage over America.

It is very important that CARB address the extensive criticism from me, Jennifer Hernandez, numerous other scientists, and hundreds of adversely impacted CA business groups. In any case, this criticism will increase until we can stop unjustified CARB regulations. Thank you.

Allegations of Scientific Misconduct by USC Preventive Medicine Professors Regarding PM2.5 Deaths

Presentation to USC Vice President of Research

James E. Enstrom, PhD, MPH, FFACE

March 5, 2019

I allege that numerous current and former USC Preventive Medicine Professors have engaged in falsification as defined by DHHS and Section 3.2 of USC's policy on scientific misconduct (<https://policy.usc.edu/scientific-misconduct/>). My allegations involve the following words from Section 3.2: "Research misconduct is defined as falsification in reviewing research or in reporting research results." The specific allegations "omitting data or results such that the research is not accurately represented in the research record," where "The Research Record is defined as the record of data or results that embodies the facts resulting from scientific inquiry, including, for example, laboratory records, research proposals, reports, abstracts, theses, oral presentations, journal articles, and any documents or materials provided to the university by the subject of the allegations in the course of a research misconduct proceeding."

This falsification has occurred during the past 20 years when these Professors have interacted closely with and received millions of dollars in funding from the two most powerful air pollution regulatory agencies in California, CARB and SCAQMD. These Professors have published and promoted only evidence indicating harmful effects of air pollution. They have rarely or never cited null findings that show no harmful health effects of air pollution. They have unethically and consistently ignored critics of their research and their public claims, particularly as they relate to support for CARB and SCAQMD regulations. I provide three specific allegations of falsification below and there are many other allegations contained within the evidence that I have submitted to you, the USC President, and the USC Provost (<http://www.scientificintegrityinstitute.org/USCVPRes022219.pdf>).

Allegation 1. USC Preventive Medicine Professors Kiros T. Berhane (Berhane) and Duncan C. Thomas (Thomas) refuse to acknowledge or discuss null evidence on PM2.5-related deaths.

Berhane is Professor of Biostatistics and Director of Graduate Programs in Biostatistics and Epidemiology at the USC Department of Preventive Medicine and he has played a particularly important role in the above falsification. Berhane has extensive knowledge of the long-running PM2.5 deaths controversy dating back to his 2000 JRSS article with Thomas. Berhane and Thomas are also familiar with the extensive null evidence on PM2.5 deaths that was presented by ASA Fellow and EPA Science Advisory Board Member Dr. S. Stan Young (Young) and me at the November 13, 2014 USC Preventive Medicine Seminar that Berhane organized.

In 2017 Berhane was appointed to the Health Effects Institute (HEI) Review Committee (<https://www.healtheffects.org/about/review-committee>). He organized and moderated the April 30, 2018 session on "Can We Rely on Environmental Health Research?" at the April 29-May 1, 2018 Health

Effects Institute Annual Conference (<https://www.healtheffects.org/meeting/annual-conference-2018>). The HEI description of the session was “Awareness has grown during the last decade that many scientific studies have not been reproduced and the problem seems to be particularly widespread in certain fields. Environmental standards are health based and there have been long-standing debates about replicability and reproducibility of the studies underpinning regulations (including data access, quality, and analyses), though arguably the recent debate has given this issue greater visibility. Reproducibility has been the focus of several recent debates in scientific journals and also is reflected in congressional efforts at transparency. This session will describe the background on this issue, different perspectives on it, and approaches to addressing it.”

Unfortunately, the session did not provide any meaningfully different perspectives and included only speakers with close ties to HEI. There were presentations on “Reproducibility and Replicability: Definitions and What They Imply” by Dr. Steve Goodman (Goodman) of Stanford METRICS and “Reproducibility and Air Pollution Epidemiology”, by Dr. Richard Burnett (Burnett) of Health Canada. Although Enstrom 2017 found major flaws in HEI 2000 and HEI 2009, two seminal HEI publications confirming PM2.5 deaths, Berhane did not invite me or other major critics of PM2.5 deaths to participate in the session. Furthermore, Burnett totally ignored my strong null evidence on PM2.5 deaths in his meta-analysis presentation. I immediately showed that the Burnett meta-analysis was severely flawed and biased toward a positive relationship. However, Berhane and Thomas, along with Goodman and Burnett, have refused to respond to my emails and phone calls requesting their recognition of the overwhelming evidence of NO PM2.5 deaths in California and the US.

Allegation 2. USC Preventive Medicine Professor Rob S. McConnell (McConnell) and former USC epidemiology postdoctoral fellow Dr. Jo Kay Chan Ghosh (Ghosh) deliberately falsified the PM2.5 deaths evidence in the 2016 SCAQMD AQMP.

McConnell served on the 2016 SCAQMD Health Advisory Council for the 2016 SCAMQD Air Quality Management Plan (AQMP), which was headed by Ghosh, who has been SCAQMD Health Effects Officer since 2016. I sent to Ghosh detailed criticism of the draft 2016 AQMP Health Effects Chapter on January 11, July 26, and August 15, 2016, including extensive evidence of NO PM2.5 deaths. On August 18, 2016 I personally presented this evidence to the SCAQMD Health Advisory Council, including both Ghosh and McConnell. Since the final draft 2016 AQMP ignored my null evidence, I submitted seven pages of detailed comments and criticism to Ghosh on January 30, 2017 (<http://scientificintegrityinstitute.org/GhoshAll013017.pdf>). This criticism includes my November 11, 2016 allegations against former USC Associate Professor Michael Jerrett (Jerrett), who is now Chair of the UCLA Environmental Health Sciences. These allegations have been essentially confirmed by the DHHS Office of Research Integrity (ORI). The 2016 AQMP is socioeconomic justified ONLY if PM2.5 causes premature deaths in Southern California. Ghosh and McConnell ignored my overwhelming evidence of NO PM2.5 premature deaths and instead used the contested positive evidence of Jerrett, which the DHHS ORI agrees is null. SCAQMD is proposing to pay for implementation of the scientifically unjustified regulations in the 2016 AQMP with a 0.5-1.0 cent increase in the Southern California sales tax as per SB 732, which was introduced to the State Legislature on February 22, 2019.

Allegation 3. USC Preventive Medicine Professor McConnell and former USC Preventive Medicine Professor Jerrett deliberately falsified the PM2.5 deaths evidence in the 2012 SCAQMD AQMP.

McConnell served on the 2012 SCAQMD Health Advisory Council for the 2012 SCAQMD AQMP. I submitted extensive criticism of the draft 2012 AQMP Health Effects Chapter, including a September 17, 2012 email to McConnell regarding my August 30, 2012 criticism of the draft 2012 AQMP Health Effects Chapter (<http://www.scientificintegrityinstitute.org/McConnell091712.pdf>). I was particularly concerned about the inaccurate McConnell statement "In general, I think this [draft] is a good summary drawing on the key studies and reviews conducted as the foundation for regulatory decisions by EPA staff and CARB." Because McConnell did not respond to my emails about null PM2.5 evidence, I submitted September 20, 2012 criticism of SCAQMD Revised Draft 2012 AQMP Health Effects Chapter (<http://www.scientificintegrityinstitute.org/AQMP092012.pdf>). My criticism contains evidence of NO PM2.5 deaths in California from 26 experts, including then USC Preventive Medicine Chair Jonathan M. Samet, as well as Jerrett and Burnett. Despite its claims of an unusually strong positive relationship between PM2.5 and total mortality, there are several largely-ignored null findings in the 2005 Jerrett article "Spatial Analysis of Air Pollution and Mortality in Los Angeles." This article was conducted and published when Jerrett was a USC Preventive Medicine Professor during 2003-2006. In addition, Enstrom 2017 found serious errors in HEI 2000 and HEI 2009, which Jerrett coauthored.

On December 7, 2012 public testimony by interested individuals was given to the SCAQMD Board before it approved the 2012 AQMP. McConnell made two FALSE statements at the end of his 3:06 minute testimony (2:50-3:06): "The best available scientific evidence is that ozone and PM2.5 are making Southern Californians sick and die at greater rates that would occur otherwise. That evidence should guide how the district weighs health considerations in developing policy." (<http://www.scientificintegrityinstitute.org/McConnell120712.MP3>). McConnell's statement was directly contradicted by statements by me (<http://www.scientificintegrityinstitute.org/Enstrom120712.MP3>) and UC Irvine Professor of Medicine Robert F. Phalen (<http://www.scientificintegrityinstitute.org/Phalen120712.MP3>). Nevertheless, the 2012 AQMP was approved with no changes regarding its exaggerated claims about PM2.5 deaths.

After I have explained these three allegations, I will state the general nature of additional allegations. Finally, I have suggestions on how to resolve the validity of my allegations.

Scientific Distortions in Fine Particulate Matter Epidemiology

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

ABSTRACT

The theoretical prevention of premature deaths from the inhalation of fine particulate matter is being used by the U.S. Environmental Protection Agency (EPA) to justify the National Ambient Air Quality Standard (NAAQS) and multibillion dollar regulations across the U.S., including the EPA Clean Power Plan and the California Air Resources Board (CARB) Truck and Bus Regulation. The epidemiology is severely flawed. Fine particulates probably make no significant contribution to premature mortality in the U.S. The publication of null findings has been blocked or marginalized and studies claiming excess mortality need to be reassessed.

Basics of Fine Particulate Matter

Fine particulate matter (PM_{2.5}) is defined by its size (≤ 2.5 μm diameter), not its composition. Major sources in the U.S. are forest fires, commercial and residential burning, and diesel engines. In California, a major source is China; on some days up to 30% of fine particulates had crossed the Pacific Ocean.

Of these invisible particles, the average adult in the U.S., based on actual 2015 exposure levels, would inhale about 1 gram in an 80-year lifespan, assuming that he breathes about 10,000 liters of air a day at rest. For comparison, the amount inhaled while smoking 100 cigarettes is about 4 grams.¹

In 1997, the EPA established the NAAQS for PM_{2.5} as 15 $\mu\text{g}/\text{m}^3$. This was lowered to 12 $\mu\text{g}/\text{m}^3$ in 2012. This standard has been largely justified on the basis of secret science epidemiology. These regulations are very powerful and impose huge costs on American businesses. The PM_{2.5} NAAQS, has been used to justify several multi-billion-dollar rules, such as the EPA Clean Power Plan and the CARB Truck and Bus Regulation.

Although a significant effect from such extremely low levels is on its face highly implausible, the stringent EPA regulations are justified primarily by a claim of preventing premature deaths, assuming a value of \$10 million per statistical life saved. The controversy over the issue was brought to general attention in 2002 by Professor Robert Phalen.²

Epidemiology of Fine Particulate Matter

The EPA claim that PM_{2.5} causes "premature deaths" is based on epidemiologic cohort studies purporting to show that the relative risk (RR) for total mortality is slightly greater than 1.0 in U.S. populations exposed to higher levels of PM_{2.5}. No etiologic mechanism has been established, and there is no experimental evidence that inhalation of 1 g or 5 g of PM_{2.5} can cause death. Weakly positive RRs do not prove causality. Major difficulties include: (1) geographic and temporal variation in PM_{2.5} mortality risk; (2) exaggeration of actual human exposure by PM_{2.5} monitors, which measure ambient outdoor levels

far from the subjects; and (3) confounding variables such as co-pollutants. Moreover, the key study relied on by EPA, the American Cancer Society (ACS) 1982 Cancer Prevention Study (CPS II)³ is seriously flawed.

Reanalysis of the American Cancer Society Cancer Prevention Study II (ACS CPS II)

CPS II began in 1982 and is similar to the original CPS I, which began in 1959. The seminal paper published by Pope et al. in 1995³ was so controversial that the Health Effects Institute (HEI) sought applications from teams consisting of two to four epidemiologists, statisticians, and air pollution exposure experts to conduct a reanalysis, including "sensitivity analyses to test the robustness of the original findings and interpretations to alternative analytic approaches."⁴ The HEI Reanalysis published in 2000 did not complete the mandated sensitivity analysis to assess the effect of alternate data.⁵ HEI published a report in 2009,⁶ which extended the mortality follow-up of the study from 1989 to 2000, but it did not incorporate the EPA Inhalable Particulate Network (IPN) PM_{2.5} data^{7,8} that I had called to the authors' attention in my 2005 paper.⁹

In 2016 I was able to obtain access to data in an original 1982-1988 version of CPS II. The data had been previously inaccessible since 1995 despite a congressional subpoena and repeated requests by different agencies. I am the only independent scientist who has gained access to the individual level data in both CPS I and CPS II. I was able to reproduce the same key results as Pope et al. by doing exactly what the authors did in 1995.³ However, their results were sensitive to the PM_{2.5} data that they used and to their particular analysis.

HEI did not follow its own mandate to conduct a comprehensive reanalysis. In particular, their sensitivity analysis was not done properly. Of the 13 teams that submitted reanalysis applications, HEI selected a 31-member team based in Canada, headed by statistician Daniel Krewski. It included a geographer, Michael Jerrett, and another statistician, Richard Burnett, but only had one epidemiologist, Yue Chen. Chen's degree was from Shanghai Medical University, and he was not a coauthor on either the 2000 HEI report⁵ or the 2009 HEI report.⁶ Thus, to reanalyze a major U.S. epidemiological study, HEI used a Canadian team that had essentially no epidemiologist.

An early clue to the existence of problems is seen in Figure 21 in the 2000 HEI Reanalysis Report.⁵ (Figure 1 in this article.) This map shows that in 50 cities across the U.S. the level of PM_{2.5} mortality risk varies. Higher risks were found mainly in the Rust Belt or the Ohio Valley, and levels were actually reasonably low in California and throughout most of the western part of the U.S. Beginning in 2002, I asked the head of HEI, Daniel Greenbaum, and its principal scientist, Aaron Cohen, to send me the underlying data for that map. For 16 years, they have consistently refused to reveal this data to me.

2000 Krewski HEI Reanalysis Report Figure 21 1982-1989 CPS II PM_{2.5} Mortality Risk Varies in US

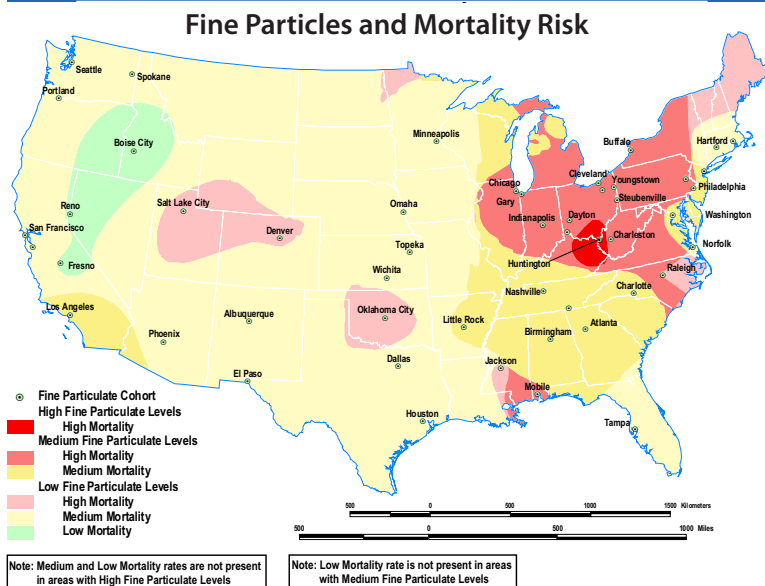


Figure 1. PM_{2.5} Levels and Mortality Risk in the U.S. [Reprinted from 2000 HEI Reanalysis Report,⁵ with permission.]

My analysis of the CPS II data revealed that the county of residence of subjects could be approximated based on the ACS Division and Unit numbers. The CPS II data were collected by about 70,000 researchers, including myself, who enrolled 1.2 million subjects in Fall 1982. I performed an analysis comparable to the HEI Reanalysis, as shown in Table 1. The PM_{2.5} data labeled IPN in the table was published in EPA reports from the Inhalable Particulate Network (IPN) by David Hinton et al. in 1984⁷ and 1986.⁸ Because of the evasions that I have experienced in attempting to obtain information from HEI, I took a closer look at the 2000 HEI Reanalysis Report and found it actually contains the data that I used, although in a mislabeled and somewhat altered form. I have designated that data as HEIDC, which is labeled PM_{2.5} DC in the 2000 Report. This data was indirectly referred to in a couple of places in the 2000 HEI report, although it was not analyzed.

Enstrom 2017 Analysis of PM _{2.5} and Total Mortality During 1982-1988 in ACS CPS II Cohort: HEIDC		
1979-83 PM _{2.5}	Subjects	Relative Risk (95% CI)
Fully Adjusted for 50 Counties in Continental US		
IPN [Hinton]	195,215	1.025 (0.990-1.061)
HEIDC [PM _{2.5} DC]	216,897	1.024 (0.987-1.061)
HEI [PM _{2.5} OI MD]	195,215	1.082 (1.039-1.128)
Fully Adjusted for Ohio Valley (IN,KY,OH,PA,WV)		
IPN	42,174	1.050 (0.918-1.201)
HEIDC	43,945	1.048 (0.922-1.191)
HEI	42,174	1.111 (0.983-1.256)
Fully Adjusted for States Other Than Ohio Valley		
IPN	153,041	0.975 (0.936-1.051)
HEIDC	172,952	0.960 (0.919-1.003)
HEI	153,041	1.025 (0.975-1.078)

Table 1. Enstrom Analyses of ACS CPS II Data Using Three Sources of PM_{2.5} Data

Thus, using the HEI PM_{2.5} data of Pope et al.,³ there is a statistically significant slight increase in RR of 1.082. That means that if the PM_{2.5} level increases by 10 µg/m³, the risk of dying goes up by about 8%. But, using the IPN PM_{2.5} data, the effect is nonsignificant, RR = 1.025 (95% CI, 0.990-1.061). Note that if one divides the U.S. into the Ohio Valley (Indiana, Kentucky, Ohio, Pennsylvania, and West Virginia) and the rest of the country, the RR is indistinguishable from 1.0, no matter what PM_{2.5} data is used. Only by combining the Ohio Valley, which has both a higher mortality risk and a higher level of PM_{2.5}, with the rest of the country can HEI show a statistically significant effect.

My reanalysis¹⁰ has been published online since Mar 28, 2017, and so far its validity has not been challenged.

The selection of data by HEI was also very interesting, as seen in Table 2. There were actually 11 counties in California that were part of the IPN network, and the HEI analyses omitted 7 of the 11 counties for reasons the authors have not explained. HEI had data from 50 different cities, and the only ones they included from California were Fresno, Los Angeles, San Francisco, and San Jose (in Santa Clara County). Two other counties that represent the extremes in PM_{2.5} levels are highlighted in the table. The Pope 1995 paper³ was based primarily on these extremes. HEI had Albuquerque, N.M., at 9 µg/m³, as the lowest value, and Huntington, W.V., at 34.4 µg/m³, as the highest value. This is curious because the data that comes from the IPN network actually shows different high and low values. In fact, there is no measurement in the IPN for Huntington, W.V., but rather for Wheeling, W.V., listed in the IPN column. From the table, both the low and the high values are in California, both of which omitted from the HEI analysis. The low value is 10.6 µg/m³ in Santa Barbara County, and the high value is 42.0 µg/m³ in Riverside County. The PM_{2.5} DC data that I found in the 2000 HEI Report appendix table, labeled HEIDC by me, had more than 50 cities, but only five of the 63 total cities were from California. The IPN network as a whole has about 85 cities. These major inconsistencies need to be addressed by these investigators. And so far, there is nothing but silence. This is only one of the issues that must be addressed if the investigators want to maintain any credibility.

CA NM WV Counties with PM_{2.5} Values Used in Pope 1995, HEI 2000, HEI 2009, Enstrom 2017

State	ACS Div-Unit	County	1979-83 PM _{2.5} (µg/m ³)		
			IPN (N=85)	HEIDC (N=63)	HEI (N=50)
CA	06001	Alameda	14.3882		
CA	06002	Butte	15.4525		
CA	06003	Contra Costa	13.9197		
CA	06004	Fresno	18.3731	10.3	10.3
CA	06008	Kern	30.8628		
CA	06051	Los Angeles	28.2239	26.8	21.8
CA	06019	Riverside	42.0117		
CA	06020	San Diego	18.9189	18.9	
CA	06021	San Francisco	16.3522	16.4	12.2
CA	06025	Santa Barbara	10.6277		
CA	06026	Santa Clara	17.7884	17.8	12.4
NM	34201	Bernalillo	12.8865	12.9	9.0 ⁴
WV	58117	Ohio	23.9840		[33.4]

Table 2. Comparison of Data on PM_{2.5} and Mortality from Enstrom and HEI⁹

Relationship between PM_{2.5} and Mortality in California

Because of the Feb 26, 2010, conference in Sacramento, which I attended along with Professor Robert Phalen, other prominent scientists, and impacted business groups, we were able to get an analysis done by HEI that dealt with the California portion of the national CPS II results. The California data was partitioned out from the national analysis in the 2009 HEI Report.⁶ Based on the four HEI California counties shown in Table 2, the RR is about 0.9, significantly below 1.0, as shown in Table 3. This inverse relationship was reproduced using either the HEI data or the IPN data. Of course, this relationship cannot be etiologically correct, but it shows what can result from data omission and manipulation.

Enstrom 2017 Analysis of PM_{2.5} and Total Mortality During 1982-1988 in California ACS CPS II Cohort Compared with Krewski 2010 HEI Special Analysis

<u>1979-83 PM_{2.5}</u>	<u>Subjects</u>	<u>Relative Risk (95% CI)</u>
Enstrom 2017 Fully Adjusted For 1982-1988 Deaths		
IPN (4 Counties)	36,201	0.879 (0.805-0.960)
HEI (4 Counties)	36,201	0.870 (0.788-0.960)
Krewski 2010 Fully Adjusted For 1982-1989 Deaths		
"Same" Standard Cox Model		
HEI (4 Counties)	40,408	0.872 (0.805-0.944)
"Different" Standard Cox Model		
HEI (4 Counties)	38,925	0.893 (0.823-0.969)

Table 3. Relative Risk for PM_{2.5} and Mortality in California Based on Four Counties

There are actually six California cohorts that have been used to analyze the relationship between PM_{2.5} and total mortality, as shown in Table 4. The cohort that I initially used is labeled CA CPS I;⁹ the cohort used by Jerrett et al.¹¹ is labeled CA CPS II. The Adventist Health Study of Smog (AHSMOG) was the original cohort study in California.¹² There are also the California Teachers Cohort,¹⁰ the "West" portion of the Medicare Cohort Air Pollution Study (MCAPS),¹³ and the National Institutes of Health-American Association of Retired Persons (NIH AARP) cohort, which was published in 2016 by Thurston et al.¹⁴ The NIH AARP cohort is supposed to be an open access database, but is apparently currently controlled by Thurston. I have been able to get access to only the California portion of the data, and my analysis shows no effect in California. Averaging all six cohorts gives an RR of exactly 1.00, which means no relationship between PM_{2.5} and total mortality.

The lack of an effect in California might explain why Pope et al.³ omitted seven California cities from the national analysis. As Figure 1 shows, there is tremendous variation across the country. Yet the most severe regulations are in California, despite the clear absence of mortality risk there!

PM_{2.5} and Total Mortality in California: Six Cohorts

<u>Author & Year</u>	<u>CA Cohort</u>	<u>Relative Risk (95% CI)</u>
McDonnell 2000	AHSMOG	RR ~ 1.03 (0.95-1.12)
Enstrom 2005	CA CPS I	RR = 1.00 (0.98-1.02)
Zeger 2008	MCAPS "West"	RR = 0.99 (0.97-1.01)
Jerrett 2011 9 RRs	CA CPS II	RR = 1.00 (0.99-1.01)
Ostro 2015	CA Teachers	RR = 1.01 (0.98-1.05)
Thurston 2016	CA NIH AARP	RR = 1.02 (0.99-1.04)
Weighted Average (Six Cohorts)		RR = 1.00 (0.99-1.01)

(<http://scientificintegrityinstitute.org/ORI111116.pdf>)

Table 4. PM_{2.5} and Total Mortality in Six California Cohorts

Both my analysis and that by Thurston et al. on the NIH AARP cohort,¹⁴ summarized in Table 5, show no effect nationwide or in California.

PM_{2.5} and Total Mortality in US and California: Enstrom 2017 re 1982-1988 ACS CPS II Cohort Thurston 2016 re 2000-2009 NIH AARP Cohort

<u>Geographic Area</u>	<u>Subjects</u>	<u>Relative Risk (95% CI)</u>
United States		
Enstrom Analysis Fully Adjusted for 1982-1988 Deaths		
85 Counties	269,766	1.023 (0.997-1.049)
Thurston Analysis Fully Adjusted for 2000-2009 Deaths		
6 States & 2 Cities	517,041	~1.025 (1.000-1.049)
California		
Enstrom Analysis Fully Adjusted for 1982-1988 Deaths		
11 Counties	60,521	0.992 (0.954-1.032)
Thurston Analysis Fully Adjusted for 2000-2009 Deaths		
58 Counties	160,209	~1.017 (0.990-1.040)

Table 5. Comparison of Enstrom and Thurston Analyses for U.S. and California

An International Perspective on PM_{2.5}

Despite the null effect shown by their own data and analyses, prominent advocates of drastic measures to reduce PM_{2.5} levels state in a major paper in the May 13, 2017, *Lancet* that ambient PM_{2.5} was the fifth-ranking mortality risk factor worldwide in 2015. Aaron J. Cohen, until recently HEI Principal Scientist, is the lead author, and Pope is a coauthor. The study is part of the World Health Organization (WHO) Global Burden of Disease (GBD) Project and was largely funded by HEI. The article claims that PM_{2.5} causes 4.2 million deaths annually worldwide, with 88,000 deaths in the U.S. (see Table 6). The mean PM_{2.5} level is 8.4 µg/m³ in the U.S. and 58.4 µg/m³ in China. Clearly, the PM_{2.5} level and premature deaths are low in the U.S. and high in China, India, and Africa.

**May 13, 2017 (on line April 10, 2017) *Lancet*
'Global Burden of Disease' by Cohen & Pope**

2015 Deaths Attributed to PM_{2.5}

Table 2

<u>Country</u>	<u>Deaths</u>	<u>Death Rate</u> (per 100,000)	<u>Mean PM_{2.5}</u> (µg/m ³)
USA	88,400	18.5	8.4
China	1,108,100	84.3	58.4
India	1,090,400	133.5	74.3
Pakistan	135,100	136.3	65.0
Bangladesh	122,400	133.2	89.4
World	4,200,000		

Table 6. Global Deaths Attributed to PM_{2.5}¹⁵

Agenda-driven Science

Since publishing my 2005 critique of the relationship between PM_{2.5} and total mortality⁹ and my 2017 critique,¹⁰ I have sent numerous requests to Pope, ACS, HEI, and others, inviting a rebuttal. I have received no response that confirms or refutes any of my analyses. It has, however, been incorrectly asserted that, "The study by Enstrom does not contribute to the larger body of evidence on the health effects of PM_{2.5}." ACS has criticized me for having CPS II data that they have deliberately tried to keep secret. My invitations to authors and ACS officials to attend meetings, teleconferences, and symposia have simply been ignored. They even ignored an August 1, 2013, subpoena from the U.S. House Science, Space, and Technology Committee.

The control over air pollution research and assessments that is recognized by EPA is not based on special expertise in epidemiology. Pope, the self-proclaimed "world's leading expert on the effects of air pollution on health," is a professor of economics at Brigham Young University and holds a 1981 Ph.D. in agricultural economics from Iowa State University, where he studied the dynamics of crop yields. Michael Jerrett, who is one of the most prolific publishers and a member of the HEI reanalysis team, has a 1996 Ph.D. in geography from the University of Toronto, and no formal training in epidemiology. Aaron J. Cohen, until recently HEI's Principal Scientist, does hold a 1991 D.Sc. degree in epidemiology from Boston University, but he has badly misused the principles and standards of epidemiology. Although he supervised the 1998-2000 HEI Reanalysis Project, he has refused to clarify findings from this project and has refused to confirm or refute the findings in my 2017 CPS II reanalysis. It is very disturbing that ACS has allowed CPS II data to be used for more than 20 years for research that misuses the principles and standards of epidemiology and that has nothing significant to do with cancer.

The principal qualification for admission to the elite circle of influence appears to be dedication to the agenda of global controls on economic activity via air pollution regulations. The conclusion reached by researchers is

apparently predetermined, as stated in the last paragraph of the GBD study on ambient air pollution: "As the experience in the U.S. suggests, changes in ambient PM_{2.5} associated with aggressive air quality management programmes, focused on major sources of air pollution including coal combustion, household burning of solid fuels, and road transport, can lead to increased life expectancy over short timeframes."¹⁵

What is the state of scientific integrity? It is very dangerous to one's career to criticize views backed by powerful interests, and I do it only because I believe current trends are anti-science and dangerous to our country. Simply being a passive observer is no longer acceptable.

To disclose my own background, I obtained a Ph.D. in physics in 1970, but I became an epidemiologist starting in 1973 in order to apply the rigorous principles of physics to observational epidemiology. I had a long career as a research professor and researcher at the UCLA School of Public Health. My research has examined the influence of environmental and lifestyle factors on mortality, and has on occasion reached politically incorrect conclusions. My research in air pollution epidemiology has been strongly influenced by Dr. Frederick Lipfert and Professor Robert Phalen. In February 2010 I was terminated from UCLA without warning and told that my "research is not aligned with the academic mission of the Department." In February 2015 I settled a three-year federal whistleblower retaliation lawsuit against UCLA and my termination was reversed. My case and some of the issues related to my air pollution epidemiology research have been discussed in this journal.¹⁶

My background and publications, including rejections of my research, often without peer review, are documented on my website, www.scientificintegrityinstitute.org. I believe that major journals simply will not accept articles that challenge the established view. Moreover, authors of the papers promoting PM_{2.5} premature deaths omit null results, even their own. For example, Jerrett is the lead author of a 2007 study that shows no increased mortality associated with PM_{2.5} in the CPS II cohort if the results are divided into five time periods.¹⁷ Although researchers are paid millions of dollars, they're not under any obligation to address any of the concerns about their work. Those who disagree with the agenda are denied research funding.

We must prevent American science from following historical examples like that of Trofim Denisovich Lysenko. He was a phony plant geneticist, who gained the favor of Joseph Stalin because he didn't believe in Mendelian genetics. Lysenko's views controlled much of Soviet agriculture in the 1930s, 1940s, and 1950s, with devastating effect. False crop statistics were published, and dissenting scientists were purged. Nikolai Vavilov, a renowned plant geneticist, was imprisoned by Stalin and died of malnutrition.

Concerns about integrity in Western science are being raised. Richard Horton, editor of *The Lancet*, writes: "The case against science is straightforward: much of the scientific literature, perhaps half, may simply be untrue. Afflicted by studies with small sample sizes, tiny effects, invalid exploratory analyses, and flagrant conflicts of interest, together with an obsession for pursuing fashionable trends of dubious importance, science has taken a turn towards darkness."¹⁸

A U.S. House of Representatives bill called the Secret Science Reform Act was passed in 2014 and 2015 in order “to prohibit the Environmental Protection Agency from proposing, finalizing, and disseminating regulations or assessments based upon science that is not transparent or reproducible.” The bill was revived in 2017 as the Honest and Open New EPA Science Treatment (HONEST) Act, labeled H.R. 1430, and was passed by the U.S. House of Representatives.

American science needs to guard against the heirs of Sinclair Lewis’s protagonist in his 1927 novel *Elmer Gantry*, an itinerant preacher who is able to sell false religion to gullible people. We have prominent scientists who have successfully sold the notion that inhaling 1 g of invisible particles over an 80-year lifetime can cause premature death.

Conclusions

There is strong evidence from two large national cohorts that PM_{2.5} does not cause premature deaths in the US. There is strong evidence that this relationship has been falsified by EPA, the Health Effects Institute, and leading researchers for more than 20 years. Better oversight to assure scientific integrity, such as access to data, transparency, and consideration of opposing views, is imperative.

James E. Enstrom, Ph.D., M.P.H., a physicist and epidemiologist, is a retired research professor from the University of California, Los Angeles, and president of the Scientific Integrity Institute in Los Angeles. Contact: jenstr@ucla.edu

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From: Edward Calabrese <edwardc@schoolph.umass.edu>
Date: February 22, 2019 at 9:07:32 AM PST
To: "uscprovost@usc.edu" <uscprovost@usc.edu>
Cc: "James Enstrom (jenstrom@ucla.edu)" <jenstrom@ucla.edu>
Subject: Enstrom Request

Dear Provost Quick:

I have followed the set of email exchanges between you and Professor James Enstrom. As you know they deal with Critical issues of scientific evidence, public health policy, scientific integrity, academic freedom and the role of Universities in public leadership. His letters focused on the critical question of air pollution and PM2.5. My interest principally stems from the fact that as editor in chief of the journal Dose Response I encouraged The public scientific debate on the PM2.5 issue, involving Professor Enstrom and others across the broad scientific spectrum. This issues are complex and critical and they need the leadership and engagement of academic leaders at the Provost level. You need to see the issues and the role of your University in these debates, even when people are critical. Let me urge you to constructively meet with Professor Enstrom on these matters. He is knowledgeable, honest, an Excellent researcher and one committed to the public good. He also can challenge the status quo, which is good. Please choose to engage with him. I could tell from the letter exchange that you were not inclined to do so. I believe this is a mistake....you and he can learn much from each other, helping USC, California, the USA and the world. I have had a long career in academia and my own disputes and debates.....constructive dialogue really helps.....Please show your leadership now.

Sincerely,

Ed Calabrese Ph.D
UMass/Amherst

16Mar2019

S. Stanley Young
genetree@bellsouth.net
919 219 2030

Randolph Hall
Vice President of Research, USC
rwhall@research.usc.edu.

Dear Dr. Hall:

I am an applied statistician and I have been examining environmental epidemiology methods and claims for several years. See attached short bio, A01.

Dr. James Enstrom sent me a three-page statement on evidence of misconduct, which I fully support, A00.

From the very beginning, 1993 or so, the linking of air quality to health effects has been very tenuous. There is no doubt that under very special circumstances that air pollution can kill: Meuse Valley 1930, Denora PA 1948, London 1952. But the circumstances are very special, requiring a combination of conditions: temperature inversion lasting several days, small particles in the air and some form of acid in the air. That combination of circumstances is very rare and not replicated in 1st world countries today. A paper in Lancet 2001 described the very special circumstances that occurred in the Meuse Valley, attached, A02.

Indeed, I secured all the death certificates for California for the years 2000 to 2012, ~2M certificates. We have done extensive analysis of that data set and find no association between current air quality, PM2.5 and ozone, and deaths. I presented a seminar at USC Nov 13, 2014 on that material. The seminar was advertised and well-attended. Dr Gauderman was invited. Dr Thomas attended. See the slides presented in that lecture, attached A03.

I placed a technical report of that work on arXiv in 2015: <https://arxiv.org/abs/1502.03062>. Also, the analysis data set was made public in 2015. The work is well-known and interested individuals can download the data set and do their own analysis.

I also made a listing of air quality/health effects that are negative. It is attached A04.

In my opinion, researchers at USC are fulling informed of many negative results, but they do not cite them.

Sincerely,

S. Stanley Young, PhD, FASA, FAAAS

Short Bio 2018c



Dr. S. Stanley Young is currently the CEO of CGStat and previously worked at Eli Lilly, GlaxoSmithKline and the National Institute of Statistical Sciences on questions of applied statistics. His current interest is studying methods used in the evaluation of observational studies. He also works on bioinformatics problems.

Dr. Young graduated from North Carolina State University, BS, MES and a PhD in Statistics and Genetics. He worked in the pharmaceutical industry on all phases of pre-clinical research. He has authored or co-authored over 70 papers including six “best paper” awards, and a highly cited book, *Resampling-Based Multiple Testing*. He has three issued patents. He is interested in all aspects of applied statistics. He conducts research in data mining.

Dr. Young is a Fellow of the American Statistical Association and the American Association for the Advancement of Science. He is an adjunct professor of statistics at North Carolina State University, the University of Waterloo, and the University of British Columbia where he has co-directed thesis work. He is also an adjunct professor of biostatistics in the Jiann-Ping Hsu College of Public Health at Georgia Southern University. Dr. Young is on the Scientific Advisory Board of the U.S. Environmental Protection Agency.

From: **USC Provost** <uscprovost@usc.edu>
Date: Fri, Feb 15, 2019 at 4:23 PM
Subject: RE: Request to Discuss USC Professors and SCAQMD Regulations
To: JAMES E ENSTROM <jenstrom@ucla.edu>
Cc: Presidents Office <president@usc.edu>

Dear Dr. Enstrom,

Thank you for reaching out again. I appreciate your thoughts. I wish I had the time to discuss this matter further with you and our colleagues here in the Department of Preventive Medicine. Unfortunately, my schedule is incredibly tight. I will not be able to take a phone call or meet with you. However, I continue to support your right to advocate for your findings, just as I support our faculty and others to do the same.

I wish you well in your research.

Sincerely,

Michael W. Quick, Ph.D.
Provost and Senior Vice President
for Academic Affairs
Shelly and Ofer Nemirovsky Provost's Chair
University of Southern California
3551 Trousdale Parkway, ADM 102
Los Angeles CA 90089-4019
(phone) 213.740.2101
uscprovost@usc.edu

From: JAMES E ENSTROM <jenstrom@ucla.edu>
Sent: Thursday, February 14, 2019 12:45 PM
To: USC Provost <uscprovost@usc.edu>
Cc: Presidents Office <president@usc.edu>
Subject: Request to Discuss USC Professors and SCAQMD Regulations

February 14, 2019

USC Provost Michael W. Quick
uscprovost@usc.edu

Dear Provost Quick,

I greatly appreciate your response to my February 13, 2019 email message. I request the opportunity to speak with you in person or on the telephone regarding the issues described in my email message. These issues are directly relevant to academic freedom and scientific integrity at both USC and UCLA and to the Southern California economy.

Thank you very much for your consideration.

Sincerely yours,

James E. Enstrom, PhD, MPH, FFACE
jenstrom@ucla.edu
(310) 474-4274

From: USC Provost <uscprovost@usc.edu>
Date: February 14, 2019 at 10:25:45 AM PST
To: "James E. Enstrom" <jenstrom@ucla.edu>, Presidents Office <president@usc.edu>
Cc: Duncan Campbell Thomas <dthomas@usc.edu>, "Kiros T. Berhane" <kiros@usc.edu>, Edward Lawrence Avol <avol@usc.edu>, William Gauderman <jimg@usc.edu>, "Frank D. Gilliland" <gillilan@usc.edu>, Rob Scot McConnell <rmconne@usc.edu>, Constantinos Sioutas <sioutas@usc.edu>, "Andrea M. Hricko" <jfroines@ucla.edu>
Subject: RE: USC Professors Support SCAQMD and Costly Unjustified Regulations

Dear Dr. Enstrom,

Thank you for your email dated February 13, 2019. As academic colleagues of yours, President Austin and I respect your career and value your PM2.5 research. We support and encourage your right to speak out in defense of your findings. We also support and encourage our faculty and others to express their views as well.

We wish you the best as you continue your research.

Sincerely,

Michael W. Quick, Ph.D.
Provost and Senior Vice President
for Academic Affairs
Shelly and Ofer Nemirovsky Provost's Chair
University of Southern California
3551 Trousdale Parkway, ADM 102
Los Angeles CA 90089-4019
(phone) 213.740.2101
uscprovost@usc.edu

From: James E. Enstrom <jenstrom@ucla.edu>
Sent: Wednesday, February 13, 2019 3:56 PM
To: Presidents Office <president@usc.edu>
Cc: USC Provost <uscprovost@usc.edu>; Duncan Campbell Thomas <dthomas@usc.edu>; Kiros T. Berhane <kiros@usc.edu>; Edward Lawrence Avol <avol@usc.edu>; William Gauderman <jimg@usc.edu>; Frank D. Gilliland <gillilan@usc.edu>; Rob Scot McConnell <rmconne@usc.edu>; Constantinos Sioutas <sioutas@usc.edu>; 'Andrea M. Hricko' <jfroines@ucla.edu>
Subject: USC Professors Support SCAQMD and Costly Unjustified Regulations

February 13, 2019

Interim President Wanda M. Austin
president@usc.edu
Provost Michael W. Quick
uscprovost@usc.edu
University of Southern California
Los Angeles, CA 90089

Re: USC Professors Support SCAQMD and Costly Unjustified Regulations

Dear President Austin and Provost Quick,

I am an accomplished epidemiologist who has had a long academic career at UCLA. In particular, I am an expert on air pollution health effects in California. Since 2005 I have published strong evidence that fine particulate matter (PM2.5) is NOT harmful to Californians and that multi-billion-dollar CARB and SCAQMD PM2.5 regulations are NOT justified. On January 30, 2017 I submitted very detailed null evidence to SCAQMD showing that there is NO scientific, public health, or economic justification for the costly new SCAQMD PM2.5 regulations contained in their 2016 Air Quality Management Plan (<http://scientificintegrityinstitute.org/GhoshAll013017.pdf>).

However, instead of engaging in a professional dialog in order to understand my detailed null evidence, key USC professors simply ignore it and continued to support SCAQMD and its regulations. For example, twelve USC Preventive Medicine professors signed a March 4, 2016 SCAQMD support letter (<https://junkscience.com/2016/09/university-of-california-profs-demand-continuation-of-air-pollution-gravy-train/>). The September 5, 2016 JunkScience analysis of these USC professors reveals that seven of them have received at least \$268 million in air pollution research funding from EPA and NIEHS. I believe that this massive amount of research funding has influenced their research findings and their continuing support for SCAQMD regulations. My belief is reinforced by USC Preventive Medicine Professors Duncan C. Thomas and Kiros T. Berhane, who have failed to respond to my January 3, 2019 and June 27, 2018 email messages shown below. These messages summarize the latest epidemiologic evidence that PM2.5 does not cause premature deaths and that there is NO justification for new SCAQMD regulations.

We are now at a critical point where all Southern California taxpayers may be forced to comply with new unjustified SCAQMD regulations that are paid for with the a one-half-cent sales tax being promoted by SCAQMD (<http://www.dailybulletin.com/aqmd-considers-seeking-a-one-half-cent-sales-tax-in-four-counties-for-clean-air-programs>). If a new regressive sales tax is approved, it will hurt every Southern California taxpayer, particularly the struggling blue collar workers who surround the two USC campuses.

Thus, I request the opportunity to discuss the above issues with you or an appropriate person within your offices. I have copied the relevant USC Preventive Medicine Professors with the hope that they will finally examine and understand my null evidence and publicly oppose the proposed SCAQMD sales tax.

Thank you very much for your consideration.

Sincerely yours,

James E. Enstrom, PhD, MPH, FFACE
UCLA and Scientific Integrity Institute
<http://www.scientificintegrityinstitute.org/>
jenstrom@ucla.edu
(310) 472-4274

cc: Duncan C. Thomas <dthomas@usc.edu>
Kiros T. Berhane <kiros@usc.edu>
Edward S. Avol <avol@usc.edu>
W. James Gauderman <jjimg@usc.edu>
Frank D. Gilliland <gillilan@usc.edu>
Rob S. McConnell <rmcconne@usc.edu>
Constantinos Sioutas <sioutas@usc.edu>
Andrea M. Hricko <jfroines@ucla.edu>

From: **James E. Enstrom** <jenstrom@ucla.edu>
Date: Thu, Jan 3, 2019 at 10:44 AM
Subject: Request to Assess Evidence of NO PM2.5 Deaths in US
To: Duncan C. Thomas <dthomas@usc.edu>
Cc: Kiros T. Berhane <kiros@usc.edu>

January 3, 2019

Duncan C. Thomas, PhD
Department of Preventive Medicine
USC School of Medicine
dthomas@usc.edu

Re: Request to Assess Evidence of NO PM2.5 Deaths in US

Dear Dr. Thomas,

I request that you ask Dr. Berhane to respond to my unanswered June 27, 2018 email message regarding my overwhelming evidence of NO PM2.5 Deaths in the US. On October 1, 2018, I presented six sources of null evidence to the PM2.5 Working Group in Washington, DC (<http://www.scientificintegrityinstitute.org/PM25WGJEE100118.pdf>). If Dr. Berhane continues to refuse to reply, then I request your assessment of this evidence. This request is important because the multi-billion-dollar PM2.5 regulations imposed upon Californians by EPA, CARB, SCAQMD, and SJVAPCD are

scientifically and economically unjustified. USC professors have played a major role in the research and interpretation of evidence that has led to these unjustified regulations. If I receive no response from you or Dr. Berhane, then I will assume that your unwillingness to address unethical PM2.5 science and regulations is consistent with the recent lack of ethics at the USC School of Medicine (<https://www.latimes.com/local/lanow/la-me-usc-dean-harassment-20171005-story.html>).

Thank you very much for your serious consideration of my serious request.

Sincerely yours,

James E. Enstrom, PhD, MPH, FFACE
Current EPA SAB Candidate
UCLA and Scientific Integrity Institute
jenstrom@ucla.edu
(310) 472-4274

Subject:FW: Request to Examine Enstrom Evidence of NO PM2.5 Deaths in US
Date: Wed, 27 Jun 2018 14:00:38 -0700
From: James E. Enstrom <jenstrom@ucla.edu>
To: 'Kiros T. Berhane' <kiros@usc.edu>

June 27, 2018

Kiros T. Berhane, PhD
USC Department of Preventive Medicine
HEI Review Committee
kiros@usc.edu

Dear Dr. Berhane,

Dr. Steven N. Goodman, Co-Director of METRICS, has declined my June 13, 2018 request below to have METRICS examine my strong evidence of NO PM2.5 deaths in the US, in spite of the fact that he spoke at the April 30, 2018 HEI Session "Can We Rely on Environmental Health Research?" Since you co-chaired this HEI Session and have extensive expertise in air pollution biostatistics and epidemiology, I request that you examine my evidence, as explained below and in the two attachments. Please let me know if there is a convenient time when we can discuss this evidence via telephone.

Thank you very much for your consideration of this important request.

Sincerely yours,

James E. Enstrom, PhD, MPH, FFACE
UCLA and Scientific Integrity Institute
jenstrom@ucla.edu
(310) 472-4274

From: James E. Enstrom <jenstrom@ucla.edu>
Sent: Wednesday, June 13, 2018 12:11 PM
To: 'Steven N. Goodman' <steve.goodman@stanford.edu>
Subject: Request to Examine Enstrom Evidence of NO PM2.5 Deaths in US

June 13, 2018

Steven N. Goodman, MD, PhD
Co-Director, METRICS
steve.goodman@stanford.edu

Dear Dr. Goodman,

I am writing as a follow-up to my telephone call Tuesday afternoon regarding your April 30, 2018 HEI Presentation "What Does Research Reproducibility Mean?" Your Slide 3 shows that the first "Criteria for reproducible epidemiologic research" is "Analytical data set is available." As explained in my attached March 28, 2017 Dose-Response article, I obtained an analytical data set for the ACS CPS II cohort and showed that there is NO robust relationship between PM2.5 and total mortality in the CPS II cohort. My findings challenge the validity of the 1995 AJRCCM Pope article, the 2000 HEI Reanalysis Report, and the 2009 HEI Research Report 140, as described in the attachment. The April 30, 2018 HEI Presentation by Richard T. Burnett "Particulate Matter Reproducibility and Air Pollution Epidemiology" OMITTS all reference to my Dose-Response article and other relevant research since 2005. His Slide 12 deliberately exaggerates the relationship between PM2.5 and total mortality in the US. My second attachment presents my reanalysis of Burnett's Slide 12 and shows that there is NO current relationship between PM2.5 and total mortality in the US. I want to present my Dose-Response article to HEI staff and affiliates, but HEI will not allow me to do so.

All of this casts doubt upon the reliability of air pollution epidemiology which has been used to establish EPA regulations. Please make a preliminary assessment of my attachments, both of which are relevant to the proposed EPA Rule "Strengthening Transparency in Regulatory Science." Hopefully, a METRICS Team Member can examine these attachments in detail and give me their assessment.

Thank you very much for your consideration and assistance.

Sincerely yours,

James E. Enstrom, PhD, MPH, FFACE
UCLA and Scientific Integrity Institute
jenstrom@ucla.edu
(310) 472-4274

Date: Thu, 03 Jul 2014 16:22:41 -0700
To: Duncan Campbell Thomas <dthomas@usc.edu>
From: "James E. Enstrom" <jenstrom@ucla.edu>
Subject: Enstrom Explanation of Secret Science Reform Act
Cc: Stan Young <young@niss.org>

Thank you for responding to me and asking about H.R. 4012. You have already received the explanation below from Jon Samet. My explanation is that you should read the two attached commentaries by Lamar Smith: July 30, 2013 WSJ Op-Ed "EPA's Game of Secret Science" and June 24, 2014 WSJ Op-Ed "What is the EPA Hiding from the Public?" Also, you should read my September 28, 2012 ASA JSM Proceedings Paper "Particulate Matter is Not Killing Californians" (<http://scientificintegrityinstitute.org/ASAS092812.pdf>). Finally, statistician Dr. S. Stanley (Stan) Young, ASA Fellow, will explain the importance of H.R. 4012 to you. Stan is one of the 87 experts who signed the letter in support of H.R. and you should recognize his name because he spoke at the July 15, 2011 @ 3 PM USC Biostat Seminar and met with some of the USC professors who received my email message.

Please let Stan and me know your assessment of H.R. 4012 after reading the links in the House Science Committee press release, the WSJ Op-Eds, my paper, and Stan's paper. Transparent and reproducible science will remain an important issue no matter what happens to H.R.4012.

Thank you very much for your consideration.

From: "Samet, Jonathan" <jsamet@med.usc.edu>
To: "Andrea M. Hricko" <ahricko@usc.edu>
CC: Duncan Campbell Thomas <dthomas@usc.edu>,
"James E. Enstrom" <jenstrom@ucla.edu>,
"Scott A. Fruin" <fruin@usc.edu>,
William Gauderman <jimg@usc.edu>,
"Frank D. Gilliland" <gillilan@usc.edu>,
Rob Scot McConnell <rmcconne@usc.edu>,
"Samet, Jonathan" <jsamet@med.usc.edu>,
"Wu, Anna" <Anna.Wu@med.usc.edu>
Subject: Re: story on Secret Science Reform Act
Date: Thu, 3 Jul 2014 21:36:02 +0000

all, there is a long story here that dates to the 1996 PM Standard and use of the Harvard and ACS data on particles and mortality. At that time, there were efforts to obtain release of these data sets (to industry) that resulted in the HEI re-analysis led by Krewski. This is about the same story--EPA has been subpoenaed for these data once more, even though they don't have them. The last episode led to the Shelby Amendment and mandated data sharing under some circumstances. Another mixing of special interests, science and policy. Jon

Jonathan M. Samet, MD, MS
Professor and Flora L. Thornton Chair
Department of Preventive Medicine
Keck School of Medicine
Director, Institute for Global Health
University of Southern California
Soto Street Building, Suite 330A
2001 N. Soto Street, MC 9239
Los Angeles, CA 90089
Phone: 323.865.0803
Fax: 323.865.0854

For FEDEX deliveries use zip code 90032

For appointments and scheduling please contact:

Luz Moncayo
Email: moncayo@USC.edu
Phone: 323.865.0401
Sent from my iPad

On Jul 3, 2014, at 12:40 PM, "Andrea M. Hricko" <ahricko@usc.edu> wrote:

<http://www.eenews.net/stories/1060002292>

From: Duncan Campbell Thomas
Sent: Thursday, July 03, 2014 10:11 AM
To: James E. Enstrom
Cc: Andrea M. Hricko; Scott A. Fruin; William Gauderman; Frank D. Gilliland; Rob Scot McConnell; Jonathan M Samet; Anna H Wu-Williams
Subject: Re: Request to USC to Support Secret Science Reform Act

Huh??? Since when does EPA use "secret science"??? I don't recognize a single name on the 87 experts list, other than Enstrom. So what's the back story? Sounds like another Republican anti-science, anti-regulation ploy. I couldn't get to the WSJ op-ed article, so if one of you has it, maybe worth circulating.

On Jul 3, 2014, at 9:57 AM, James E. Enstrom <jenstrom@ucla.edu> wrote:

July 3, 2014

Dear USC Professors,

Since you are scientists with extensive expertise in air pollution epidemiology and the EPA, I strongly encourage you to support the *Secret Science Reform Act of 2014* ([H.R. 4012](#)). This bill was approved by the U.S. House Science Committee on June 24, 2014 (see below) and it will be taken up by the full House of Representatives later this summer. A June 23, 2014 letter of support has been signed by 87 experts (<http://science.house.gov/sites/republicans.science.house.gov/files/documents/Letter%20of%20Support%20for%20HR%204012%20-%2087%20Experts.pdf>) and additional scientists and academics are indicating their support. Please let me know if you are willing to sign this letter of support for H.R. 4012.

Thank you very much for your consideration.

Sincerely yours,

James E. Enstrom, Ph.D., M.P.H.
Physicist and Epidemiologist
UCLA School of Public Health and
Scientific Integrity Institute
jenstrom@ucla.edu

<http://science.house.gov/press-release/committee-approves-bill-prohibit-epa-using-secret-science>
Committee Approves Bill to Prohibit EPA from Using Secret Science

June 24, 2014

Washington, D.C. – The Committee on Science, Space, and Technology today approved the *Secret Science Reform Act of 2014* ([H.R. 4012](#)) to require that the Environmental Protection Agency (EPA) base its regulations on data that is public.

Chairman Lamar Smith (R-Texas): “The EPA’s regulatory process is both hidden and flawed. It hides the data and then handpicks scientists to review it. The American people foot the bill for the EPA’s billion dollar regulations and they have the right to see the underlying data. If the EPA has nothing to hide, and if their data really justifies their regulations, why not make the information public? Data sharing is becoming increasingly common across scientific disciplines. The legislation requires that EPA science be available for validation and replication. Americans impacted by EPA regulations have a right to see the data and determine for themselves if the agency’s actions are based on sound science or a partisan agenda. This bill ensures transparency and accountability. The American people deserve the facts. And so does good policy.”

The *Secret Science Reform Act* was introduced by Environment Subcommittee Chairman David Schweikert (R-Ariz.) and has received [letters of support](#) from over 80 scientists and experts, 30 trade associations, the U.S. Chamber of Commerce, the former head of the Office of Information and Regulatory Affairs, the former head of EPA’s Clean Air Scientific Advisory Committee, and the California Construction Trucking Association.

Subcommittee Chairman Schweikert: “Public policy by public data. Today, with the reporting of H.R. 4012, the Committee took a big step forward in ensuring transparency for the American people.”

The *Secret Science Reform Act* does not require any disclosure of confidential information. It would only prohibit EPA’s use of secret science. A [2013 poll](#) from the Institute of Energy Research found that 90 percent of Americans agree that studies and data used to make federal government decisions should be made public.

Provisions in the bill are consistent with the White House’s scientific integrity policy, the President’s Executive Order 13563, data access provisions of major scientific journals, the Bipartisan Policy Center and the recommendations of the Obama administration’s top science advisors.

For more information on today’s markup, including amendments and roll call votes, visit the Science, Space, and Technology Committee [website](#).

June 24, 2014 Wall Street Journal Op-Ed by Lamar Smith "What is the EPA Hiding from the Public": <http://online.wsj.com/articles/lamar-smith-what-is-the-epa-hiding-from-the-public-1403563536>

Letters Supporting H.R. 4012: <http://science.house.gov/letters-support-secret-science-reform-act-2014-hr-4012>

[87 Experts Letter of Support](#) [30 Trade Associations Letter of Support](#) [U.S. Chamber of Commerce Letter of Support](#) [Dr. Graham Letter of Support](#) [Dr. McClellan Letter of Support](#) [CCTA Letter of Support](#)

<USC Email for Support For Secret Science 070214.xlsx>

Duncan C. Thomas, Ph.D.
Professor, Biostatistics Division
Verna Richter Chair in Cancer Research
Dept of Preventive Medicine
University of Southern California
2001 N. Soto Street, C-202F, MC 9234
Los Angeles, CA
Zip: 90089-9234 (Postal)
90033 (FedEx)
email dthomas@usc.edu
phone (323) 442-1218
fax (323) 442-2349
mobile (818) 406-8096



[WSJ OpEd EPA's Game of Secret Science Smith 073013.pdf](#)



[WSJ OpEd What is EPA Hiding from Public Smith 062414.pdf](#)

January 30, 2017

Jo Kay Chan Ghosh, Ph.D.
Health Effects Officer
South Coast Air Quality Management District
jghosh@aqmd.gov

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/>

jenstrom@ucla.edu

cc: UCLA School of Public Health Faculty and Doctoral Graduates
Ghosh Chair Beate R. Ritz <britz@ucla.edu>
Ghosh Prof Onyebuchi A. Arah <arah@ucla.edu>
Ghosh Prof Ninez A. Ponce <nponce@ucla.edu>
Ghosh Prof Joelle M. Brown <joelle.brown@ucsf.edu>
EHS Chair Richard J. Jackson <dickjackson@ucla.edu>
EHS Chair John R. Froines <jfroines@ucla.edu>
EHS Prof Arthur M. Winer <amwiner@ucla.edu>
EHS Prof Yifang Zhu <yifang@ucla.edu>
Assoc Dean Zuo-Feng Zhang <zfzhang@ucla.edu>
Assoc Dean Hilary A. Godwin <hgodwin@ucla.edu>
Dean Jody Heymann <jody.heyman@ph.ucla.edu>
Dean Linda Rosenstock <lindarosenstock@ph.ucla.edu>
EPI 2004 Ph.D. Michelle Wilhelm Turner <greenscreen@cleanproduction.org>
ESE 2009 D.Env. Kathleen H. Kozawa <Kathleen.Kozawa@arb.ca.gov>
ESE 2008 D.Env. Cody G. Livingston <clivings@arb.ca.gov>
ESE 2004 D.Env. Todd P. Sax <tsax@arb.ca.gov>
ESE 2003 D.Env. Scott A. Fruin <fruin@usc.edu>
ESE 1997 D.Env. Michael T. Benjamin <mbenjami@arb.ca.gov>
ESE 1995 D.Env. Pablo Cicero-Fernandez <pcicero@arb.ca.gov>
ESE 1994 D.Env. Mark A. Gold <gold@ioes.ucla.edu>
ESE 1988 D.Env. Barry R. Wallerstein <barry.wallerstein@ucr.edu>
ESE 1987 D.Env. Emily D.P. Nelson <dremilynelson@gmail.com>
ESE 1980 D.Env. Chung S. Liu <cliu@aqmd.gov>
ESE 1976 Dr.P.H. Jean J. Ospital <jospital@aqmd.gov>

cc: UCLA Chancellor's Office
2015 RIO Carol Eggac Goldberg <goldberg@law.ucla.edu>
2016 RIO Ann R. Karagozian <akaragozian@conet.ucla.edu>
Campus Counsel Amy Blum <ablum@conet.ucla.edu>
VC Diversity Jerry Kang <jkang@equity.ucla.edu>
VP Diversity Christine A. Littleton <littletn@law.ucla.edu>

cc: SCAQMD Key Staff
EO Wayne Natri <wnastri@aqmd.gov>
DEO Philip M. Fine <pfine@aqmd.gov>
SES Elaine Shen <eshen@aqmd.gov>
SES Anthony Oliver <aoliver@aqmd.gov>
SES Shah Dabirian <sdabirian@aqmd.gov>

cc: SCAQMD Board Member
Joseph K. Lyou <joe@ccair.org>
Joseph K. Lyou <marka@enviropolicy.com>
Joseph K. Lyou <nnishimura@ccair.org>
Joseph K. Lyou <erik.neandross@gladstein.org>
Joseph K. Lyou <amartinez@earthjustice.org>
Joseph K. Lyou <dpettit@nrdc.org>

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

James E. Enstrom, Ph.D., M.P.H.
UCLA and Scientific Integrity Institute
jenstrom@ucla.edu

November 11, 2016

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

Recent PM2.5 Activities Documenting NO Relationship Between PM2.5 and Total Mortality in US

PM2.5 Working Group Meeting at Heritage Foundation, Washington, DC

James E. Enstrom, PhD, MPH, FFACE
UCLA and Scientific Integrity Institute
jenstrom@ucla.edu

October 1, 2018

May 30, 2018 Enstrom Comments to May 31, 2018 EPA SAB Meeting re May 29, 2018 Enstrom D-R Response to December 13, 2017 Pope-ACS D-R Criticism of March 28, 2017 Enstrom D-R Reanalysis of ACS CPS II, which identified errors in Pope 1995, HEI 2000, HEI 2009
[https://yosemite.epa.gov/sab/sabproduct.nsf/D41456F68B9F91658525829D004DBD73/\\$File/88483770.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/D41456F68B9F91658525829D004DBD73/$File/88483770.pdf)

August 14, 2018 Enstrom Comments on EPA Transparency Rule (above three D-R articles & Spring 2018 JAPS article) EPA Docket Link: <https://www.regulations.gov/document?D=EPA-HQ-OA-2018-0259-8290>

August 16, 2018 Enstrom EPA Comments on EPA Transparency Rule (US and CA Meta-Analyses of PM2.5 deaths) EPA Docket Link: <https://www.regulations.gov/document?D=EPA-HQ-OA-2018-0259-6945>

August 24, 2018 “NO response” to August 17, 2018 Enstrom letter to CVS Chief Medical Officer Troy Brennan challenging CVS Health corporate partnership with ACS and support of ACS research, which ranks EPA PM2.5 NAAQS as second among “Our Proudest Achievements” in ACS epidemiology

September 14, 2018 NEJM Rejection of September 11, 2018 Presubmission Inquiry re Enstrom NEJM Prospective: 1) challenging validity of August 29, 2018 Joel Schwartz NEJM Perspective “‘Transparency’ as Mask?” DOI: 10.1056/NEJMp1807751, 2) supporting EPA Transparency Rule based on my ACS CPS II Reanalysis, and 3) providing link to fully deidentified H6CS person-year data for Lepeule 2012.

September 14, 2018 73-page Enstrom Comment to SJVAPCD and CARB on misrepresentations in 2018 Draft Plan for PM2.5 and strong case for no further PM2.5 regulations in San Joaquin Valley
<https://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=sjvsipsupplement>

September 27, 2018 Enstrom Email to Fresno Bee Editor challenging objectivity and accuracy of their articles on 2018 Draft Plan for PM2.5 and testimony at September 24, 2018 EPA Hearing in Fresno → potential FB article focused on Enstrom SJVAPCD comment and September 21, 2018 Milloy OpEd

September 28, 2018 Intrepid Insight “Statistical Review of Competing Findings in Fine Particulate Matter and Total Mortality Studies” by brilliant UCLA PhD economics graduate student (https://www.intrepidinsight.com/pm25_statreview/). Random effects model meta-analyses of nine US cohorts and six California cohorts show PM2.5 relationship to total mortality is consistent with relative risk of 1.00 in both US and California if proper study results are used in meta-analyses.

Action Item: PM2.5 Working Group needs to write letter to Pope and ACS challenging them to defend or retract their claim that there are PM2.5-related premature deaths in the US based on CPS II data.

<http://infotruck.blogspot.com/2009/10/driven-away-usa-ports-clean-air-program.html>

2009-10-11 Los Angeles CAL,USA

Driven Away * USA - Ports' clean air program shuts down some truckers.

Randy Thomas Trucking is preparing to close his business, he's unable to purchase new trucks to comply with port regulations taking effect in January

Reprinted from October 12, 2009 Los Angeles Business Journal article by FRANCISCO VARA-ORTA
<http://labusinessjournal.com/accounts/login/?next=/news/2009/oct/12/driven-away/>
<http://los-angeles-business-journal.vlex.com/vid/driven-ports-clean-air-shuts-truckers-69119761>



Randy Thomas has spent the last four decades proudly running his South Los Angeles trucking firm, which services the ports of Los Angeles and Long Beach... As the ports ballooned to become the largest trade complex in the country, Thomas' business grew from one truck he drove to a thriving little firm with 15 drivers. He put his three children through college – the first generation in his family to go. He was starting to look forward to retiring. He planned to leave his business to his family... Instead, the 60-year-old owner of Randy Thomas Trucking is preparing to close his business about Christmas. The reason: He's unable to purchase new trucks to comply with port regulations taking effect in January... In all, about 900 trucking companies shuttle cargo containers in and out of the two ports. Hundreds of them, like Thomas' company, are in danger of slipping out of existence in the next few months. Following them are thousands of truckers who own their own rigs and contract with small companies like Thomas'... The recession-driven downturn in trade has pushed them to the precipice, but many believe what's shoving them over the edge is the Clean Trucks Program, which falls hardest on small operators... The program seeks to eliminate old polluting trucks from the ports. The program in October 2008 banned trucks made before 1989. But on Jan. 1, a more stringent ban extends to all trucks made before 1994 and those that have an engine made before 2004... It's unclear how many trucks will be sidelined as a result, but the number is a big one. The ports earlier estimated that as many as 12,000 trucks would fall into that criteria, but last week the L.A. port estimated 4,000 to 6,000 trucks would be banned Jan. 1... A new diesel truck costs about \$100,000, while retrofitting a truck with a new engine costs about \$10,000 to \$15,000. Many small trucking firms, already scraping by on low margins, paying off existing trucks and whacked by the downturn in business at the ports, say it's not worth it to load up on debt to stay in the industry... (End of Road: Randy Thomas will cut the ignition on his trucking firm in December)

posted by truckbus @ [6:40 AM](#)