

DECLARATION OF STEPHEN W. MUNDAY, M.D., M.P.H., M.S.

I, Dr. Stephen W. Munday, M.D., M.P.H., M.S., declare:

1. I am the Public Health Officer for Imperial County. The following facts are of my own personal knowledge and, except as stated otherwise, if called as a witness, I could and would testify competently thereto.

2. This Declaration is made in support of Imperial County and Imperial County Air Pollution Control District Response and Opposition to Petition for Unconditional Writ of Supersedeas.

3. Attached hereto as Exhibit G-1 is a copy my curriculum vitae.

4. I have been employed by the Imperial County Public Health Department Health as the County's Public Health Officer since 2004.

5. I am also currently an attending physician for the California Poison Control System, San Diego Division; and, a clinical assistant professor in the Department of Family and Preventative Medicine at the University of California, San Diego. I have held all of these positions since July 2002.

6. I am aware of data on Imperial County's health based on monitoring and data collected at the county and state levels from birth and death records, hospital discharge documents, and disease reports. I have reached the following conclusions based on this data:

- PM10 (particles with an aerodynamic diameter of 10 or less cubic meters) is a standard measure of particulate air pollution. PM10 pose the greatest health concern because they can pass through the nose and throat and get into the lungs.
- Epidemiological evidence at present indicates that particulate air pollutants (also referred to herein as PM10) impact the public's health, and can be particularly harmful to the very young, the very old, and those with certain preexisting medical conditions.

- Exposure to particulate air pollutants can cause breathing difficulties, asthma, lung damage, bronchitis, cancer, and brain and nervous system damage. With respect to asthma particular air pollutants may contribute to the causation of asthma or can exacerbate pre-existing asthma. Particulate air pollution is a known trigger of asthma symptoms and asthma flares.
- Asthma is a chronic disease that inflames the airways and causes recurrent wheezing, coughing, difficulty breathing, and tightness of the chest. Asthma attacks can range from a mild episode to a life-threatening event.
- Children are particularly susceptible to particulate air pollution because their lungs are still developing, and they are often engaged in vigorous outdoor activities, making them more sensitive to pollution than healthy adults.
- Epidemiological evidence suggests that there is a link between exposure to particulate air pollution and childhood asthma.
- Asthma is one of the most common chronic diseases in the United States and has been recognized as a growing public health concern. Asthma is a leading cause of chronic disease in children in the United States. In 2005, an estimated 16% of California's children had been diagnosed with asthma.
- There is no cure for asthma and it can result in death.
- On average, a person dies from asthma 16 years prematurely (the potential life cost).
- Over five million Californians (about 3.7 million adults and 1.7 million children) have been diagnosed with asthma at some point in their lives, and almost three million Californians (2.1 million adults and 827,000 children) currently have asthma.

- In California, there are almost 500 deaths, 36,000 hospital discharges, and 145,000 emergency department visits (not resulting in hospitalization) per year due to asthma. Childhood asthma is also a cause of school absences.
- The cost of treating children with asthma in California is estimated to be about \$500 million dollars a year.
- 14 percent of Imperial County residents reported being diagnosed with asthma (a chronic disease) by a health care provider, compared to 13.6 percent of all California residents. This is an increase from the 2001 and 2003 statistics.
- Imperial County had a significantly higher rate for children 0 to 17 years of acute care hospital discharges for bronchitis and asthma between 2002 and 2006. (See Exhibit G-2 attached to my declaration.)
- Imperial County was the second highest county in California (of 56 reported counties) for age-adjusted asthma emergency department visits reported in 2005. (See Exhibit G-3 attached to my declaration.)
- Imperial County was the highest county in California (of 56 reported counties) with a high of 19.2 percent per 10,000 for age-adjusted asthma hospitalizations in 2000-2005. (See Exhibit G-4 attached to my declaration.)
- Imperial County experiences the highest rates of asthma in children within the state of California.

7. Imperial County is currently in nonattainment for PM10. Increased severity in particulate air pollution could have a negative effect on the health of Imperial County residents and in particular cause further increases in childhood asthma rates.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed this 21 day of March, 2010, at San Diego, California.



Dr. Stephen W. Munday

EXHIBIT G-1

CURRICULUM VITAE
STEPHEN W. MUNDAY, M.D., M.P.H., M.S.

California Medical License: G064907

I. PERSONAL INFORMATION

Date of Birth: 12 October 1959

Place of Birth: Milton, Florida

Professional address and telephone: 2020 Genesee Avenue
San Diego, California 92123
858-616-8400

II. PRESENT POSITION

Staff Physician,
Chief of Preventive and Environmental Medicine,
Chief of Occupational Travel Services,
Department of Occupational Health Services,
Sharp-Rees-Stealy Medical Group, San Diego, CA

Attending Physician, California Poison Control System
San Diego Division July 2002 – present

Clinical Assistant Professor
Department of Family and Preventive Medicine
University of California, San Diego July 2002 - present

Clinical Assistant Professor
Department of Environmental Toxicology
University of California, Irvine July 2002 – December 2009

Health Officer
Imperial County, CA Department of Public Health February 2004 - present

III. EDUCATION

University: University of Florida / Florida State University
Bachelor of Science in Biology - May 1984

Medical School: University of Florida
Doctor of Medicine - May 1987

Internship: Internal Medicine, Naval Hospital, Oakland, CA - July 1987 - June 1988

Residency: General Preventive Medicine

Loma Linda University - July 1993 - January 1994

University of California, San Diego - January 1994 - June 1995

Chief Resident: July 1995 to August 1996

Master of Public Health - Concentration: Occupational Health
San Diego State University – August 1996

Master of Science in Environmental Toxicology
University of California, Irvine - December 1997

Residency: Occupational and Environmental Medicine
University of California, Irvine - July 1997 - June 1998

Fellowship: Medical Toxicology University of California, San Diego - July 2000 - June 2002

IV. BOARD CERTIFICATION / MEDICAL LICENSURE

Diplomate, National Board of Medical Examiners, February 1988

Part I: 645 Part II: 655 Part III: 710

Diplomate, American Board of Preventive Medicine

certified in Public Health and General Preventive Medicine, January 1997

Core Exam: 705 Specialty Exam: 720

certified in Occupational Medicine, January 2000

Core Exam: 839 Specialty Exam: 864

certified in Medical Toxicology, December 2002

Qualified Medical Examiner

V. HONORS AND AWARDS

Navy Commendation Medal - December 1992

VI. MILITARY SERVICE

Intern - July 1987 - June 1988

Naval Hospital, Oakland, California 94627

Battalion Surgeon - August 1988 to December 1989

First Battalion, Seventh Marine Regiment

First Marine Division (REIN), FMF

Camp Pendleton, California 92055

Regimental Surgeon - November 1989 to August 1990

Seventh Marine Regiment

First Marine Division (REIN), FMF

Camp Pendleton, California 92055

Battalion Surgeon - December 1989 to August 1990

Combat Engineers Battalion

First Marine Division (REIN), FMF

Camp Pendleton, California 92055

Senior Medical Officer - September 1990 to December 1992

Branch Medical Clinic, Naval Hospital

Millington, Tennessee 38054-5201

VII. PROFESSIONAL AND SOCIETY MEMBERSHIPS

American Medical Association - 1987 to present

ACOEM - 1994 to present

American Public Health Association - 1995 to present

VIII. ADDITIONAL PROFESSIONAL TRAINING AND CERTIFICATIONS

U.S. Navy Medicine in the Tropics Course, July - Aug 1990

Medical Review Officer
certified, May 1995

American Society of Tropical Medicine and Hygiene
Qualified in Tropical and Travel Medicine, November 1996

IX. CLINICAL EXPERIENCE

Mission Park Urgent Care November 1989 to July 1990
Non-emergency acute care
130 Cedar Road
Vista, California 92083

Pri - Med November 1990 to November 1992
Emergency Department staff for local
hospitals on nights and weekends.
6263 Poplar Avenue, Suite 700
Memphis, Tennessee 38119

Med First Urgent Care March 1990 to December 1992
Non-emergency acute care
2900 Kirby Road
Memphis, Tennessee 38119

Mission Park Urgent Care January 1993 to July 1993
Non-emergency acute care
130 Cedar Road
Vista, California 92083

Occu - Care July 1993 to January 1994
Occupational primary care
15707 East Valley Boulevard
City of Industry, California 91744

German Medical Group January 1994 to May 1995
Occupational primary care
125 South 6th Ave
City of Industry, California 91746

Children's Hospital, San Diego, CA July 1996 to Dec 1997
Medical Director of Occupational Health and Safety

September 23, 2000

PUBLICATIONS

Dendrotoxin poisoning in a neurobiochemist. J Toxicol Clin Toxicol. 2003;41(2):163-5.

Tear Gas And Pepper Spray. Toxicology Secrets: Questions You Will Be Asked on Rounds, in the ED and on Bedside Oral Exams. Philadelphia, Hanley & Belfus, 2001

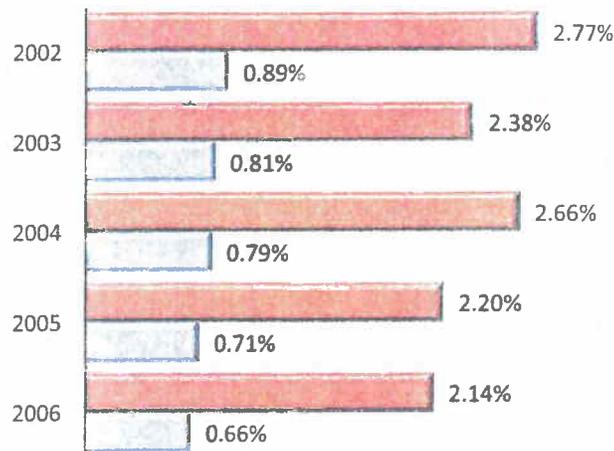
Hydrogen Sulfide. Poisoning & Drug Overdose 4th Edition. San Francisco, McGraw-Hill, 2004

Furniture Manufacturing. Occupational, Industrial and Environmental Toxicology 2nd Edition. Philadelphia, Mosby, 2001

EXHIBIT G-2

Acute Care Hospital Discharges for Bronchitis and Asthma, Ages 0-17, 2002 - 2006

■ Imperial County Discharges
■ California Hospital Discharges



Source: California Office of Statewide Health Planning and Development

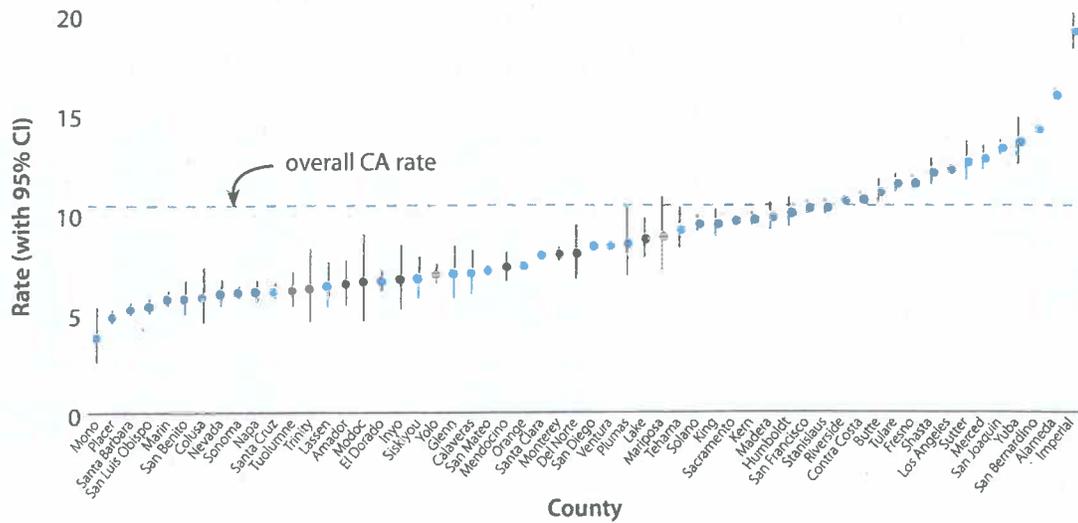
EXHIBIT G-3

Age-Adjusted Asthma ED
Visits per 10,000 Residents by
Counties in California, 2005

County	Age-Adjusted Rate	n
Del Norte	80.8	227
Imperial	75.1	1,249
Tehama	66.7	384
Kings	62.2	913
Inyo	61.1	108
Lake	58.3	348
Tuolumne	55.4	290
Humboldt	55.0	719
Mendocino	52.6	474
Tulare	52.4	2,286
Fresno	51.1	4,713
Contra Costa	50.6	5,215
Solano	50.5	2,172
Alameda	49.6	7,486
Plumas	48.6	98
Shasta	47.6	827
Madera	47.3	688
San Bernardino	46.8	9,539
Colusa	46.3	101
Yuba	43.7	291
San Joaquin	43.5	2,933
Butte	41.7	878
Sonoma	41.1	1,947
Merced	40.8	1,044
Calaveras	40.6	175
Stanislaus	39.9	2,074
Sacramento	39.4	5,543
Napa	39.3	518
CALIFORNIA	39.1	144,945
Modoc	39.0	31
Kern	38.7	3,057
Los Angeles	38.5	39,889
San Benito	38.4	234
San Mateo	37.6	2,646
Siskiyou	36.9	155
Mariposa	36.1	62
Amador	35.9	124
Riverside	35.4	6,723
Lassen	34.9	122
Monterey	33.8	1,491
San Luis Obispo	33.6	834
Nevada	33.2	313
Ventura	32.5	2,641
Trinity	32.3	44
San Diego	31.4	9,369
San Francisco	30.8	2,286
Glenn	29.9	86
Yolo	28.9	555
Santa Cruz	27.4	698
Marin	27.0	646
El Dorado	26.4	447
Orange	26.4	8,145
Sutter	25.8	231
Santa Barbara	25.7	1,073
Placer	24.7	714
Santa Clara	23.7	4,122
Mono	—	18

EXHIBIT G-4

Age-Adjusted Asthma Hospitalizations per 10,000 Residents by Counties in California, 2000–2005 Aggregated



Note: Only counties with 20 or more asthma discharges are reported. Ninety-five percent confidence intervals can be used to compare county rates statistically to the overall California rate, but in most cases they cannot be used to compare county rates statistically to each other.

County	n	Age-adjusted Rate (per 10,000)
Imperial	1,809	19.2
Alameda	13,687	16.0
San Bernardino	15,442	14.3
Yuba	525	13.7
San Joaquin	4,828	13.4
Merced	1,599	12.8
Sutter	635	12.7
Los Angeles	71,313	12.3
Shasta	1,223	12.1
Tulare	2,591	11.6
Fresno	6,087	11.6
Butte	1,353	11.2
Contra Costa	6,423	10.8
Riverside	11,188	10.7
CALIFORNIA	220,777	10.5
San Francisco	4,486	10.3
Stanislaus	2,938	10.3
Humboldt	753	10.1
Madera	804	9.9
Kern	4,128	9.8
Sacramento	7,479	9.7
Solano	2,321	9.5
Kings	753	9.5
Tehama	306	9.3
Mariposa	103	8.9
Lake	305	8.8
Plumas	108	8.5
San Diego	14,266	8.4
Ventura	3,913	8.4
Santa Clara	7,910	8.0
Monterey	1,963	8.0
Del Norte	125	8.0
Mendocino	408	7.4
Orange	12,863	7.4
San Mateo	3,112	7.2
Glenn	115	7.1
Calaveras	173	7.1
Yolo	671	7.0
Inyo	67	6.8
Siskiyou	180	6.8
Modoc	35	6.6
El Dorado	655	6.6
Amador	133	6.5
Lassen	126	6.4
Trinity	52	6.3
Tuolumne	210	6.2
Sonoma	1,723	6.1
Napa	495	6.1
Santa Cruz	903	6.1
Nevada	368	6.0
Colusa	70	5.9
Marin	853	5.8
San Benito	180	5.8
San Luis Obispo	788	5.4
Santa Barbara	1,268	5.3
Placer	821	4.9
Mono	28	3.8