

Contributions of NY/NJ Jersey ERC

Steven Markowitz MD, DrPH
Barry Commoner Center, CUNY

November 20, 2018

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NY/NJ ERC, 1980's- 1990's

- Mt. Sinai: occupational medicine
- UMDNJ: occupational medicine
- NYU: occupational hygiene
- Hunter: industrial hygiene
- Hunter: occupational health nursing
- UMDNJ: continuing education and outreach



FIGURE 1. The Pulmonary Division (Chest Service) of The Mount Sinai Hospital in front of the Out Patient Clinic 1962. Front row from left: Irving J. Selkoff, unknown fellow, Louis E. Siltzbach, Oscar Friedman. Rear row: unknown fellow, Albert Miller, Research Fellow.

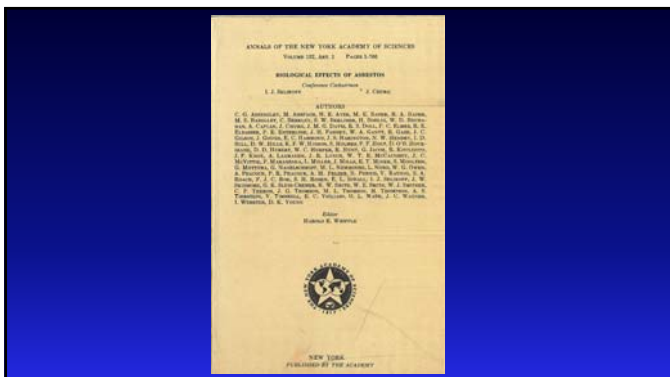
Sinai achievements: Selikoff era

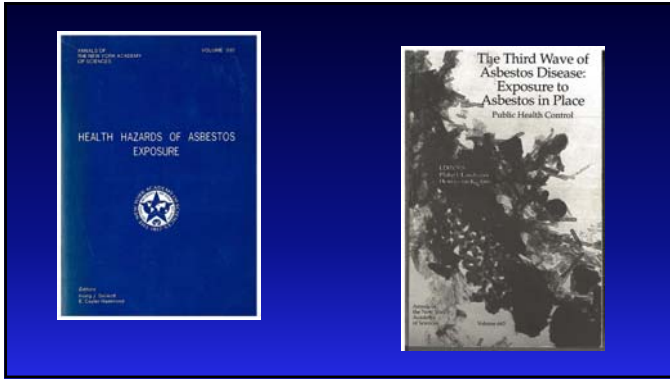
1. Broadened and deepened knowledge of ARD

1. Made asbestos a household word

1964







Irving J. Selkoff MD

National Registry										
Name	Age	Sex	Local	OC Date	Fiber Count	FB	Asb	Cur	Other	Comments
A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000
A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000
A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000
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A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000
A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000
A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000
A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000
A. Krasner, Art.	43	M	101	8/1/87	100,000,000	100	100	100	100	Asbestos, 100,000,000

Dr. Selkoff popularized knowledge about asbestos.

Elevated levels of airborne asbestos fibers
in Central Park, 1970

WTC identified as the source

*Occupational and Community Asbestos Exposure from
Wallboard Finishing Compounds*

WILLIAM J. NICHOLSON, Ph.D., A. ROHL, Ph.D.,* S. A. FISCHBEIN, M.D.*
AND I. J. SELIKOFF, M.D.

Environmental Sciences Laboratory
Department of Community Medicine
The Mount Sinai School of Medicine of the City University of New York
New York, N.Y.

Bull. NY Academy Med, 1975

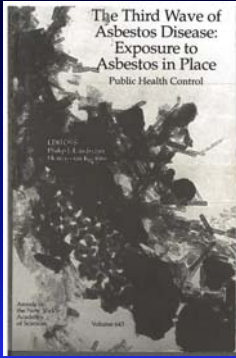
AHERA, 1986

Title 15 - COMMERCE AND TRADE
CHAPTER 53 - TOXIC SUBSTANCES CONTROL
SUBCHAPTER II - ASBESTOS HAZARD EMERGENCY RESPONSE
From the U.S. Government Publishing Office, www.gpo.gov

SUBCHAPTER II—ASBESTOS HAZARD EMERGENCY RESPONSE

§2641. Congressional findings and purpose
(a) Findings
The Congress finds the following:

1991



Selikoff team

- Ruth Lilis MD
- Bill Nicholson PhD
- Yasunosuke Suzuki MD
- Steve Levin MD
- Mary Wolff PhD
- Albert Miller MD



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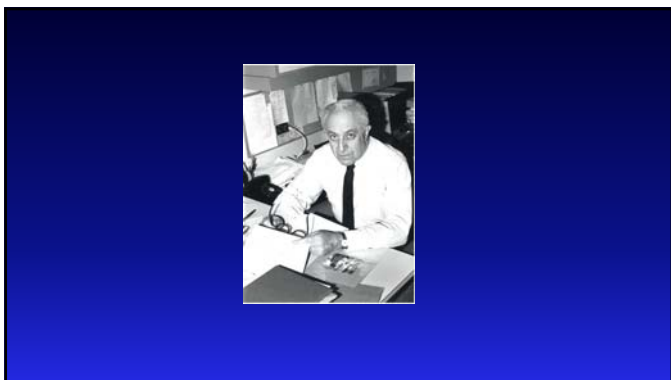


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Dr. Selkoff and the OM residents






Table 19
MORTALITY EXPERIENCE AMONG 17,800 AMBROSE INSULATION WORKERS IN THE UNITED STATES AND CANADA (1957-1975): OBSERVATIONS IN 2073 CONSECUTIVE DEATHS WITH UNDERLYING CAUSE OF DEATH CODED ACCORDING TO DEATH CERTIFICATE INFORMATION ONLY AND ACCORDING TO BEST EVIDENCE

Underlying Cause of Death	Exposed ^a	Death Certificate (DC)		Best Evidence		% of Best Evidence
		No.	% ^b	No.	% ^b	
Cause all sites	119.3	922	2.88	993	3.11	93
Cancer of lung	105.6	429	4.08	486	4.60	95
Bladder neoplasms	1	25	—	63	—	40
Prostate neoplasms	1	24	—	112	—	21
Melanomas, s.a.	1	35	—	0	—	—
Cancer of esophagus	7.1	18	2.53	18	2.53	100
Cancer of stomach	14.2	18	1.28	22	1.54	82
Cancer of colon-rectum	38.1	18	0.52	19	0.52	38
Cancer of larynx, pharynx, nasal cavity	14.8	25	1.69	32	2.14	78
Cancer of kidney	8.1	18	2.23	19	2.36	95
Cancer of pancreas	20.4	28	1.37	30	1.47	93
Cancer of bladder	9.1	7	0.77	9	0.99	78
Cancer of prostate	17.5	49	2.81	23	1.32	31.3
Cancer of liver	7.2	19	2.63	3	0.39	18.0
Cancer of brain	10.4	17	1.63	14	1.35	12.1
Non-melanoma pulmonary	59.0	188	3.19	212	3.59	89
Alzheimer, total	1	78	1.68	—	—	48
All other causes	1280.2	1161	0.91	1064	0.81	109

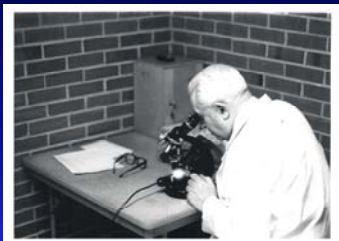
^aExposed deaths based on white male age-specific U.S. death rates of the U.S. National Center for Health Statistics, 1967-1976.
^bItems not available, but these have been rare causes of death in the general population.
 1975: Best evidence. Number of deaths categorized after review of best available information.
 (DC): Number of deaths as recorded from death certificate information only.

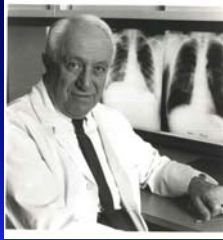
Selkoff et al. ANVAS, 1979

The surveys

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Work on Selikoff cohort continued.....

Clinical Predictors of Mortality from Asbestosis in the North American Insulator Cohort, 1981 to 1991

STEVEN B. MARKOWITZ, ALFREDO MORABIA, RUTH LILIS, ALBERT MILLER, WILLIAM J. NICHOLSON and STEPHEN LEVIN

Department of Community Medicine, Mount Sinai School of Medicine, New York City; Division of Pulmonary Medicine, Catholic Medical Center of Brooklyn and Queens, New York City, New York; and Department of Community Medicine, University Hospital of Geneva, Geneva, Switzerland

AJRCCM 1997

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    graph TD
      Smoking --> Asbestosis
      Smoking --> LungCancer[Lung Cancer]
      Asbestos --> Asbestosis
      Asbestos --> LungCancer
      Asbestosis --> LungCancer
  
```

Lung cancer mortality among 2,907 North American insulators

Fifty years after Dr. Selikoff's landmark article in JAMA (1964)

Asbestos, Asbestosis, Smoking, and Lung Cancer New Findings from the North American Insulator Cohort



Steven B. Markowitz¹, Stephen M. Levin^{2†}, Albert Miller¹, and Alfredo Morabia¹

¹Center for the Biology of Natural Systems, Queens College, City University of New York, Flushing, New York; and ²Department of Preventive Medicine, Mount Sinai School of Medicine, New York, New York

AIRCCM 2013

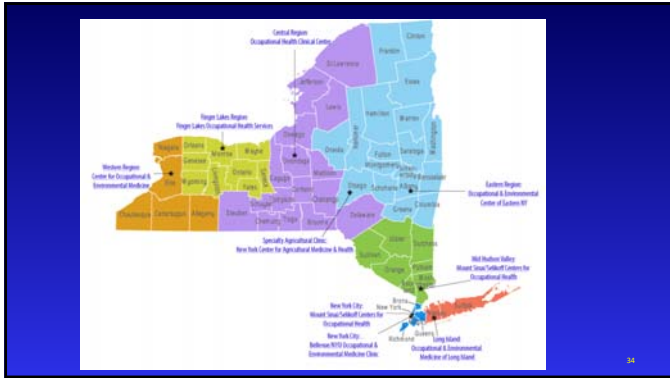
New Sinai era, 1985 →

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Development of NYS Occupational Health Clinic Network



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COMMENTARY

**Children's Health and the Environment:
A New Agenda for Prevention Research**

Philip J. Landrigan,¹ Joy E. Carlson,² Cynthia F. Bearer,³ Joan Spyker Cranmer,⁴ Robert D. Bullard,⁵ Ruth A. Etzel,⁶ John Groopman,⁷ John A. McLachlan,⁸ Frederica P. Perera,⁹ J. Routh Reigart,¹⁰ Leslie Robison,¹¹ Lawrence Schell,¹² and William A. Suk¹³

¹Mount Sinai School of Medicine, New York, New York; ²Children's Environmental Health Network, Emeryville, California; ³Case Western Reserve University, Cleveland, Ohio; ⁴University of Arkansas, Medical

Pesticides and Inner-City Children: Exposures, Risks, and Prevention

Philip J. Landrigan,^{1,2} Luz Claudio,^{1,2} Steven B. Markowitz,⁷ Gertrud S. Berkowitz,^{1,2} Barbara L. Brenner,¹ Harry Romero,³ James G. Wetmur,⁷ Thomas D. Matte,⁶ Andrea C. Gore,⁴ James H. Godbold,¹ and Mary S. Wolff^{1,2}

¹Department of Community and Preventive Medicine, ²Center for Children's Health and the Environment, ³Department of Microbiology, ⁴Fishberg Center for Neurobiology, Mount Sinai School of Medicine, New York, New York USA; ⁵Borkhuen Neighborhood Health Center, New York, New York USA; ⁶Center for Urban Epidemiologic Studies of the New York Academy of Medicine, New York, New York USA; ⁷Center for Biology of Natural Systems, Queens College, City University of New York, New York, New York USA

Some Sinai OM Residents, late 1970's – early 1990's

Henry Anderson MD	Robin Herbert MD
William Rom MD, MPH	Al Franzblau MD
Arthur Frank MD	Allen Kraut MD
Stephen Levin MD	Fred Gerr MD
Ken Rosenman MD MPH	Eckardt Johanning MD
Howard Kipen MD, MPH	George Friedman-Jimenez MD, DrPH
Wajdy Hailoo MD	Jackie Moline MD, MPH
Steven Markowitz MD, DrPH	Louise Short MD

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ERC and OHCN prepared NY/NJ for WTC Health

1. Knowledge of the WTC
2. Available OM clinics
3. Research capacity – exposure, toxicology, OM
4. Community and health systems connections
5. Diverse approaches

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Health Checks at Ground Zero

Cleaning workers flock to mobile medical unit

By Margaret Ramirez

Dozens of health workers who cleaned buildings in lower Manhattan after the World Trade Center attack lined up outside a mobile medical unit Tuesday to be screened for respiratory problems and other symptoms.

Even before the 9/11 attack on the towers, the mobile clinic had scheduled its appointments for the week in advance, about 10 other workers participating in cleanup efforts, about 100 other workers participating in cleanup efforts, about 100 other workers participating in cleanup efforts.

"I have had health checks in my chest," said Susan Brown, an environmental engineer who was hired as a day laborer to clean windows. "It feels right. The chance of something else, it's not there. But I've never had a check like this before."

Toxic Mercury Only a Brief Threat; Pride in Tank at Fresh Kills, Page A12



Dr. Steven Waksowitz of Queens College examines Victor Torga, who does asbestos cleanup near Ground Zero.

Environmental health workers have been working at the site since the towers fell. Environmental health workers have been working at the site since the towers fell.

"The people who know us well, we're not working about the health of our people," he said. "We're not working about the health of our people."

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NY/NJ Role in Response to WTC

- Mt. Sinai, Stonybrook, Queens – Clinical
- UMDNJ – Clinical, Exposure assessment
- NYU – Exposure assessment, Clinical, Toxicology

NYU Program in Occupational Hygiene (now Environmental Health Sciences)

- NYU Environmental Medicine
- Founded in 1947
- Leaders: A. Lanza, N. Nelson, A. Upton, M. Costa
- Diverse research, clinical, and teaching activities
- ERC Program leader: Mort Lippmann: pioneer in inhalation toxicology

Placed graduates in broad variety of industry, government, and academia settings

<https://med.nyu.edu/environmentalmedicine/graduate-program/alumni-placement>

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Hunter/CUNY program in industrial hygiene

Emphasis on training industrial hygiene practitioners

Graduates widely populate NY/NJ government, industry, union, and consultant practices

Strong and stable hands-on leadership:
George Kupchik, David Kotelchuck, Jack Caravanos

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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

Edited by ALFRED L. FRECHETTE, M.D., M.P.H., and PAUL K. RUDOLPH

EXPOSURE TO LEAD FROM THE MYSTIC RIVER BRIDGE: THE DILEMMA OF DELEADING

PHILIP J. LANDRIGAN, M.D., M.Sc., EDWARD L. BAKER, JR., M.D., M.P.H., JAY S. HINGOLETTON, M.D., M.P.H., GARY F. STEIN, M.D., M.P.H., JOEL P. WEDDING, and WESLEY E. STRAUS

Lead Poisoning in Iron Workers

NEJM 1982

Lead exposure among iron workers in New York City. A continuing occupational hazard in the 1980s.

Fischbein A, Leeds M, Solomon S.
N Y State J Med. 1984 Sep;84(9):445-8. No abstract available.

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AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 31:310-318 (1997)

A Task-Based Approach to Assessing Lead Exposure Among Iron Workers Engaged in Bridge Rehabilitation

Mark Goldberg,^{1*} PhD, CHS, Stephen M. Levin, MD,² John T. Doucette, PhD,³ and Geraldine Griffin, MS¹

AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 31:303-309 (1997)

The Effect of the OSHA Lead Exposure in Construction Standard on Blood Lead Levels Among Iron Workers Employed in Bridge Rehabilitation

Stephen M Levin, MD,^{1*} Mark Goldberg, PhD, CHS,³ and John T. Doucette, PhD³

Joint Hunter/Sinai Research

UMDNJ Occupational Medicine

Michael Gochfeld MD, longtime program director
1984 —→ 2014
Leader in OM training

Graduates: practice, industry, teaching, research

UMDNJ: Continuing Education and Outreach

Audrey Gotsch PhD, leader in public health in NJ
