

*Hearing on
Recommendations and Other Proposed and Implemented Solutions Related to the
Environmental Impacts due to the World Trade Center Disaster
March 8, 2002*

**Testimony before the Environmental Protection Committee,
Health Committee and the
Select Committee on Lower Manhattan Redevelopment
New York City Council**

Steven Markowitz, MD
Ekaterina Malievskaia, MD
Nora Rosenberg

Center for the Biology of Natural Systems
Queens College
City University of New York

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Good morning. My name is Steven Markowitz, MD. I am a physician specializing in occupational and environmental medicine, that is, identifying and reducing workplace and environmental exposures that impair or threaten human health. I currently serve as Professor and Director of the Center for the Biology of Natural Systems of Queens College, City University of New York, and Adjunct Professor of Mount Sinai School of Medicine. The Center for the Biology of Natural Systems is constituted as a research institute within the City University of New York and exists to serve as an intellectual and scientific resource on environmental and occupational health to New York City and State. I submit this testimony on behalf of myself, Ekaterina Malievskaja, MD, an occupational medicine physician, and Nora Rosenberg, colleagues at our Center, who have been centrally involved in our September 11 medical investigations. We thank you for the opportunity to speak before this committee today.

We believe that an essential deficiency in addressing the problem of *air quality* at and near the World Trade Center site has been the incomplete portrayal of the problem as an *environmental* problem. **The problem is not air quality *per se* but potential and actual human illness.** Thus, the primary governmental agency involved with *air quality* outside of Ground Zero has been the Environmental Protection Agency. The EPA has collected enormous amounts of environmental data, which, despite very considerable effort, have nonetheless failed to quiet legitimate concerns. We believe that the problem of *air quality* should be largely re-defined as one of *ill health, potential or actual*, of the various involved parties, including Ground Zero workers, near Ground Zero workers and downtown residents. If the problem is re-defined in this manner, health agents, not an environmental agency, gain preeminence in analyzing and addressing the threats to health in and around Ground Zero.

If this distinction seems thin, consider these questions: Six months after September 11, how much information do we have about the health of people who worked at or lived near the WTC destruction? How many people are affected, and what is the extent and nature of their health problems? The answers to these questions, sadly, are

absent. We have anecdotes but no systematic understanding of the true toll of September 11 on health. Six months later, in a city with vast medical resources, we know next to nothing about the health impact of September 11 to date, and most of what we know is confined to second or third-hand reports of the fate of fire fighters. Compare this with the availability of tens of thousands of environmental sample results, which, interestingly, have mostly failed to explain why people downtown have not felt well.

Our experience at Queens College to address this gap may be instructive. In November 2001, information first became available that a high proportion of fire fighters who had worked at Ground Zero had persistent respiratory symptoms and abnormal pulmonary function. We then decided to offer medical evaluations to a group of workers who were the least likely to receive appropriate medical attention for occupational health, that is, day laborers. These are the building clean-up workers who were responsible for cleaning up the many contaminated office and residential buildings near Ground Zero.

Consider the problem this way: In the weeks and months following September 11, there were, in essence, two columns of workers marching south on Church Street towards the field of ruin called Ground Zero. In one column were the fire fighters, the iron workers, the crane operators and the police. They work for big-name employers like New York City, Bechtel, Turner Construction and belong to unions, well-organized to protect their members. They have health insurance and predictable paychecks. At Vesey Street, they turned right to enter Ground Zero, which they and the entire world knew to be a dangerous and unpredictable worksite. They were given respirators and other protective gear and worked under the watchful eye of OSHA, EPA and other inspectors. They worked under immensely bright lights and have been deservedly acclaimed for uniquely difficult work. Even so, many of these workers sustained injuries. Some of these workers are now ill, and many more have not yet been properly evaluated.

Lest we forget, there was another column of workers marching down Church Street. Their skin was a little darker, and they knew very little English, indeed probably as much as the grandparents of the neighboring fire fighters and iron workers. At Vesey

Street, they turned not right to enter Ground Zero, but left to enter the Verizon building, One Liberty Plaza, and the other skyscrapers that border Ground Zero. They were the building clean-up workers, a transient group numbering in the thousands, whose work would allow many thousands more to return to their offices in the finance, legal, and communications industries on which this city depends. Few building clean-up workers belonged to unions, and they worked for companies with names that ring bells in few households. Their relationship with their employers was tenuous and temporary. Few had health insurance. They knew and learned nothing about the dust they would clean up. They generally were not given respirators or complete protective equipment. They were given mops and rags and bags and told to remove the inches of dust that coated floors, walls, and desks of the offices they entered. There were no bright lights, and there were no inspectors checking the hazards of their indoor work environments. Some of these workers are now ill, and many more have not yet been properly evaluated.

We at the Center for the Biology of Natural Systems of Queens College, together with the New York Committee for Occupational Safety and Health (NYCOSH) and the Latin American Workers Project, have had the opportunity to examine a large number of these building clean-up workers. With funding from the September 11th Fund (United Way and New York Community Trust), we set up a mobile medical monitoring unit at Barclay and Broadway, 1 ½ blocks from Ground Zero, on January 14, 2002. Prior to testing, we were not certain whether building clean-up workers near Ground Zero were ill; whether they needed proper medical attention; or whether they would even be able to find our mobile unit.

After the first few days of screening, these uncertainties vanished. Nearly 100 building clean-up workers greeted us on January 14, wanting medical testing, and the waiting list grew to 500 people within a matter of days. Press coverage by print and television media, locally, nationally, and internationally, was immense. We received many calls from people who worked or lived near Ground Zero wanting our free examination, even if they were not building clean-up workers targeted for our services. It quickly became clear that there was a large untapped reservoir of people near Ground

Zero, workers and residents alike, who felt ill or were concerned and were receiving proper medical attention.

Since January 14, we have examined 415 building clean-up workers. We performed work histories, medical interviews, physical examinations, breathing tests, blood and urine tests and respirator fit-testing. We also provided participants with double cartridge respirators to prepare them for their next dusty job. We provided all of this free to the participants, enabled by the generosity of the September 11th Fund. We finished our medical examinations just last week.

Our clinical data have not yet input or analyzed, but general results are available. The demographic characteristics of the examined group were as we expected. Nearly all are Hispanic immigrants, mostly from Colombia and Ecuador. They range in age from 25 to 45 with the occasional person over age 45 or under 25. Virtually none have health insurance or a personal physician. Most worked performing indoor building clean-up for 6 to 12 weeks near Ground Zero and stopped with 4 to 8 weeks prior to examination. They worked for a dozen or so companies in the buildings immediately adjacent to Ground Zero.

Nearly all of the building clean-up workers who volunteered for screening have current health symptoms, which first appeared or worsened after September 11. The symptoms fall into two broad categories: irritation of the upper airways (cough, sore throat, nasal congestion, chest pain) and systemic symptoms (headache, fatigue, dizziness, poor appetite). The pattern of symptoms in this group of workers was clear and consistent, even if their exact genesis is not. The irritant symptoms are readily comprehensible, given the presumed presence of fiberglass, crushed glass and other components of the indoor dust. The origin of the systemic symptoms is more obscure. **But the temporal onset of these symptoms in relation to work after September 11 makes the general issue of causation straightforward. These clean-up workers were well and now, after weeks of sweeping and mopping World Trade Center dust, many are now ill.**

One of the striking findings among these ill workers is the persistence in symptoms, almost universally reported, despite cessation of work and associated dust exposure, usually as much as 6 to 8 weeks prior to our examination. Usually, following acute or sub-acute occupational exposures, workers generally recover quickly, and the remaining ones with persistent symptoms are few in number. That usual pattern does not obtain in this case. Frankly, we cannot predict the future course of health of the people that we examined.

We also found that, among the hundreds of building clean-up workers that we examined, rarely were they provided with adequate personal protective equipment, including respirators, for their work near Ground Zero. Common sense would dictate that, in the absence of knowing what exactly was in the voluminous dust in the office buildings next to Ground Zero, that clean-up employers would err on the side of caution and provide their workforce with properly fitting respirators, that is, just in case the dust was indeed toxic. This did not happen. In fact, the minority of clean-up workers who had their own respirators were not provided with the sufficient disposable filters for proper operation. We even heard from some clean-up workers that they were told by the employer not to wear their own respirators, lest co-workers be frightened into thinking that the dust they were removing contained asbestos or was otherwise toxic.

We now learn that the dust in these buildings was toxic and that cleaning that dust was harmful to human health. We know this despite the fact that we are not fully certain what was in that dust. This importance of this finding for public health is this: As we step away from Ground Zero, where we know that the health of many fire fighters has been compromised, we learn that another group of workers has been affected, the building clean-up workers. These workers did not work at Ground Zero and probably had less intense and a different profile of exposures than the Ground Zero workers. Yet, they were still made ill by the dust that they gathered to discard. This should provide no measure of reassurance to others who were involved with building clean-up in lower Manhattan.

We make the following recommendations:

1. **Make appropriate occupational and environmental medicine evaluation and care accessible and affordable to all people, workers and residents alike, at or near Ground Zero,** who report symptoms related to September 11 or who are concerned about personal health impacts of exposures deriving from Ground Zero. Surely a city with the world-class medical institutions that we have in New York can provide such care.
2. **Enhance the capacity of the New York City Department of Health to assess, judge, and act on issues of environmental and occupational health.** The relative silence of this Department in the past six months demonstrates a lack of senior leadership and resources, which urgently requires correction.
3. Charge appropriate city agencies to **develop and promote strict guidelines for indoor building clean up that will correct the gross deficiencies demonstrated by the treatment received by the building clean-up workers that we studied.** That the state of the art in occupational health when no one is looking is to provide no protection at all is inexcusable.
4. **Direct the New York City Department of Health to improve immigrant occupational health.** Recent immigrants have always and will always perform many of the most hazardous jobs in our city, before and after September 11. Our work demonstrates clearly that they are the least protected and most neglected workers among us.

Thank you for the opportunity to testify today.