

**Testimony to the Subcommittee on National Security, Emerging Threats and
International Relations**

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Good Morning, Congressman Shays, Congresswoman Maloney:

My name is Joan Reibman, and I am an Associate Professor of Medicine and Environmental Medicine at New York University School of Medicine, and an Attending Physician at Bellevue Hospital, a public hospital on 27th Street in NYC. I am a specialist in pulmonary medicine, and for the past 15 years, I have been the Director of the Bellevue Hospital Asthma Program. Most of my patients come from Lower Manhattan. As such, I know Lower Manhattan well, and know that although it is thought of as an area replete with office towers, it is also a major residential community; almost 60,000 residents of diverse race and ethnicity backgrounds live south of Canal St. alone (US census data). The residents are economically diverse, some living in large public housing complexes, while others live in newly minted coops.

The destruction of the WTC towers resulted in the dissemination of dusts throughout Lower Manhattan. These dusts settled on streets, playgrounds, cars, and buildings. Dusts entered apartments through windows, building cracks, and ventilation systems. The WTC buildings continued to burn through December. Some residents hired professional cleaners to remove the dusts; many cleaned their apartments on their own. Thus individuals living in the communities of Lower Manhattan had potential for prolonged exposure to the initial dusts, to re-suspended dusts and to the fumes from the

fires. As pulmonologists in a public hospital, we naturally asked whether the collapse of the buildings posed a health hazard for these residents. Although levels of dust particles and particle components were being measured, it seemed to us that the only way to measure the true impact was to monitor the residents.

We therefore collaborated with the New York State Department of Health in a study funded by the Centers for Disease Control to examine whether there was an increase in the rate of new respiratory symptoms in community residents near Ground Zero. The study was designed, implemented and completed 16 months after 9/11/01 and the results have now been reported in two publications (Reibman et al. The World Trade Center residents' respiratory health study; new-onset respiratory symptoms and pulmonary function, *Environ. Health Perspect.* 2005; 113:40-411. Lin et al. Upper respiratory symptoms and other health effects among residents living near the world trade center site after September 11, 2001, *Am. J. Epidemiol.* 2005; 162:499-507).

Community members were actively involved in the design and implementation of this work. We surveyed residents in buildings within one mile of Ground Zero, and, for purposes of control, other lower-risk buildings approximately five miles from Ground Zero. We mailed and hand-distributed questionnaires to apartments in selected buildings. We publicized the study at local events, health fairs, tenant's meetings, community board meetings and town hall meetings. The information obtained from the self-administered questionnaires included basic demographics, WTC dust exposure information, and previous and current health symptoms. Lung function testing, consisting of screening spirometry, was performed in a subgroup of individuals in the field. 9168 surveys were distributed in the exposed area, and 962 in the control area. We deliberately over-sampled the exposed area because at the time, this was the only study

of the residents. The response rate for these questionnaires was similar in the exposed and control area respectively (approximately 23%).

Surveys were analyzed for 2,812 residents in the exposed area. Approximately 60% of individuals in the exposed area compared to 20% in the control area reported new onset respiratory symptoms such as cough, wheezing, or shortness of breath, at any time following 9/11. The more important question, however, was whether these symptoms resolved over time, or persisted. We therefore examined whether symptoms were present in the month preceding completion of the survey (8-16 months after 9/11) and defined persistence in that time period, as the presence of symptoms with a frequency of at least twice/week. Such new-onset and persistent symptoms as eye irritation, nasal irritation, sinus congestion, nose bleed, or headaches were present in 43 % of the exposed residents, more than three times the number of exposed compared to control residents. New-onset persistent lower respiratory symptoms of any kind were present in 26.4 versus 7.5% of exposed and control residents respectively; a more than three fold increase in symptoms. This included an almost four-fold increase in cough, three-fold increase in daytime shortness of breath, and a 6.5-fold increase in wheeze (10.5 % of exposed residents versus 1.6% of control residents respectively). In individuals with new-onset, persistent respiratory symptoms, wheezing, a symptom most characteristic of asthma, was present in 17.5% of individuals on a daily basis – a frequency, which would lead to classification these individuals as having severe-persistent asthma. These respiratory symptoms resulted in an almost two-fold increase in unplanned medical visits in the exposed population compared to the control population. Moreover, more than twice as many exposed residents used medications prescribed for asthma (controller and fast relief medications).

There are some potential limitations to our studies. First, because of the unexpected nature of the disaster, we had to rely on self-reported health information. We minimized the possibility of reporting bias or differential recall, with questions about non respiratory health issues; responses to these questions did not differ between the exposed and control groups. Second, we had a low response rate. One must keep in mind that during the time of the study, the postal service was not functioning in Lower Manhattan and often mail did not reach residents – we resorted to hand delivery. Residents were moving in and out of the buildings. They were emotionally distraught, and were being bombarded with a variety of forms for housing services, clean-up services etc. Our response rate, though low, is comparable to that of the US Census. To confirm our data, we also targeted a few buildings in the exposed and control areas and performed more intense outreach, resulting in a better response rate (44%). Data from this group was similar to that from the overall study.

This study was one of the few studies, and particularly one of the few with a control population, to describe the incidence of respiratory symptoms among residents of Lower Manhattan after 9/11/01. It suggested that many residents had symptoms in the immediate aftermath, with persistence of symptoms in the year after the event.

Do these symptoms persist today, five years after the attack and some three and a half years after our study? When it comes to residents, we have little information. The NYCDOHMH Registry, which was implemented after our study was completed, and closed in 2004, found a similar pattern of symptoms to ours, but did not address the issue of persistence. We look forward to the resurvey planned by the Registry, which should help shed light on this question.

While we await more survey information, we are cognizant of what we are seeing in our clinics. After 9/11, we began to treat residents who felt they had WTC health issues

in our Bellevue Hospital Asthma Clinic. We were then approached by the Beyond Ground Zero Network, a coalition of community organizations, and together began an unfunded program to treat residents. We were awarded an American Red Cross Liberty Disaster Relief Grant to set up a medical treatment program for WTC health issues for residents and responders, which began functioning in September 2005. To date, we have evaluated and are treating 570 individuals, including residents and responders, most of whom are clean-up workers. Most of our patients have persistent upper or lower respiratory symptoms for which they are seeking care, five years after 9/11. Interestingly, many of these symptoms did not occur immediately, but either developed or were recognized one year or more after the event. We have a backlog of hundreds of patients waiting to get into the program, suggesting that the need has not abated.

This week Mayor Bloomberg announced new initiatives to provide for evaluation and treatment of individuals with suspected World Trade Center-related illnesses. This much needed support will serve to provide evaluation and treatment for residents, office workers and individuals caught in the dust cloud. In addition, the Mayor announced that the City would be convening a task force to review the ongoing and emerging issues relating to the attack's aftermath. I am told that the Mayor has asked Deputy Mayor for Administration Edward Skyles and Deputy Mayor for Health and Human Services Linda Gibbs to convene all City agencies that serve or represent individuals potentially affected by WTC-related illness, including the New York City Health and Hospitals Corporation, to ensure policies are coordinated across agencies. They will also review the resources to assist those who have been affected by WTC-related illness, and recommend strategies to ensure the ongoing adequacy of those resources.

I would like to thank Mayor Bloomberg and Members of Congress for their continuing efforts to provide funding for monitoring and treatment and Members present for having

this important hearing. Before closing, I would like to say that it is important to note that this was an attack on the United States. Therefore, it is paramount that the federal government fully fund ongoing monitoring and treatment of all those who were exposed to the effects of the 9/11 attack in New York City.

Thank you for your attention. I am pleased to answer any questions.

Joan Reibman, MD

Pertinent funding to Joan Reibman, MD.

- 2001-2002 CDC, World Trade Center Residents Respiratory Survey (Institutional P.I, Lin P.I.)
- 2001-2003 NIH, NIEHS, World Trade Center Residents Respiratory Impact Study: Physiologic/Pathologic characterization of residents with respiratory complaints (P.I.)
- 2004-2005 CDC, NIOSH WTC Worker and Volunteer Medical Monitoring Program (P.I.)
- 2005-2007 American Red Cross Liberty Disaster Relief Fund (P.I.)