

**NEW YORK CITY COUNCIL
Committee on Civil Service and Labor
Committee on Lower Manhattan Redevelopment**

Cancer Rates and 9/11 Responders

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Introduction

Good afternoon Chairwoman Chin, Chairman Nelson and Council Members. My name is David Prezant, and I am the Chief Medical Officer, and Special Advisor to the Fire Commissioner on Health Policy for the New York City Fire Department (FDNY). I am also a Professor of Medicine in Pulmonary Diseases at the Albert Einstein College of Medicine and an attending physician in the pulmonary medicine division at Montefiore, the University Hospital and academic medical center for Einstein. Along with Dr. Kerry Kelly, I am the Co-Director of the FDNY World Trade Center (WTC) Medical Monitoring and Treatment Program. Thank you for the opportunity to speak with you today about cancer rates and FDNY first responders.

I base my testimony today primarily on a September 2011 article that the FDNY – along with Einstein and Montefiore -- published in a special 9/11 issue of *The Lancet*, one of the world's best known and most respected peer-reviewed general medical journals. I have copies of that article available for the Committee.

That article presented our early assessment of cancer outcomes in FDNY firefighters after the attacks of 9/11. Our study evaluated the health of 9,853 WTC-exposed and non-exposed firefighters over the seven years following 9/11. In sum, we found that New York City firefighters exposed to the 9/11 WTC disaster site experienced a 19 percent increased incidence of cancer in the seven years following the 9/11 disaster when compared with their non-exposed colleagues. This firefighter cohort also experienced a 10 percent increased incidence compared with similar individuals from the general population.

The Findings

The terrorist attacks on September 11, 2001 created an unprecedented environmental disaster in the New York City area. Many first responders, including approximately 12,500 FDNY firefighters, were exposed to potentially hazardous aerosolized dust consisting of pulverized cement, glass fibers, asbestos, lead, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and polychlorinated furans and dioxins produced as combustion byproducts from the collapsed and burning buildings. They were also exposed to toxic fumes -- initially from burning jet fuel and, during the 10-month recovery effort, from diesel smoke emitted by heavy equipment. My FDNY colleagues and I had previously published several studies regarding the *lung health* of WTC-exposed first responders. *The Lancet* study was the first effort to assess the *incidence of cancer* among an entire WTC-exposed cohort – in this case WTC-exposed firefighters.

The great value of our findings was that we had access to health records for all firefighters in the study dating back to 1996 – records that were part of the FDNY’s rigorous and ongoing health registry. To date, it is the largest cancer study ever done of firefighters. Our team of investigators looked at cancer incidence and its possible association with exposure in the first seven years after 9/11. We compared the cancer incidence rates in WTC-exposed firefighters with cancer incidence in non-exposed firefighters and also with a sample of people, selected from the U.S. National Cancer Institute Surveillance Epidemiology and End Results (SEER) database, who were similar to the firefighters with respect to age, race and ethnic origin.

When cancer incidence among non-exposed male firefighters was compared with cancer incidence in the SEER general-population sample, cancer rates were lower than the general population -- a result likely due to the “healthy worker effect”: FDNY firefighters have lower smoking rates, stringent pre-employment health requirements and greater physical fitness standards than the general population.

When cancer incidence among WTC-exposed male firefighters was compared with cancer incidence in the SEER general-population sample, WTC-exposed firefighters were found to have a *10 percent increased risk* for all cancers combined. When the same comparison was made between WTC-exposed and non-exposed FDNY firefighters, the increased cancer risk for

the WTC-exposed firefighters (adjusted for surveillance bias) was 19 percent, based on an excess of 38 cases.

In a report published two months before *The Lancet* study, the National Institute for Occupational Safety and Health (NIOSH) concluded that evidence at that time did not demonstrate a causal association between exposures resulting from the attacks on the WTC and cancer occurrence in responders and survivors. For this reason, the WTC Health Program determined that insufficient evidence existed to add cancer to the List of WTC-Related Health Conditions. However, following the publication of our findings in *The Lancet* study, the WTC expert panel recommended in the 2012 NIOSH WTC cancer report that numerous cancers should be covered by the WTC health program.

The Lancet study – which was funded by NIOSH -- also compared cancer incidence at 15 specific sites in the body in WTC-exposed and non-exposed firefighters. We found no sites in the body for which cancer incidence among WTC-exposed firefighters was significantly increased. However, a trend towards increased risk was noted in 10 of the 15 sites studied. The study noted that this failure to reach statistical significance may have been due to the small sample size available for these site-specific cancers. The finding that lung cancer incidence was similar for both WTC-exposed and non-exposed firefighters took smoking history into account: all nine WTC-exposed firefighters who developed lung cancer were also smokers.

An association between WTC exposure and cancer incidence among WTC-exposed firefighters is biologically plausible because some contaminants in the WTC dust – such as polycyclic aromatic hydrocarbons, polychlorinated biphenyls and dioxins – are known carcinogens. Also, WTC exposure also caused chronic inflammation: inflammation has been implicated as a risk factor for cancer in experimental and epidemiological studies.

We remain cautious in our interpretation of the findings because the time since 9/11 is short for cancer outcomes, and the reported excess of cancers is not limited to specific organ types. We also caution against generalizing our findings to other WTC worker or resident cohorts because firefighters experienced uniquely intense WTC exposures. Nonetheless, the study's results demonstrate how imperative it is to continue monitoring firefighters and every other person who responded to the WTC disaster or participated in recovery and cleanup at the

site. This monitoring should include cancer screening and efforts to prevent cancer from developing in exposed individuals.

Conclusion

The 343 firefighters who perished on 9/11 are tragic reminders of the risks our members faced that day, but we remain concerned for the long-term health and future of those who survived that tragedy.

It is critical that we continue the close surveillance of our workforce – both retired and active -- to observe patterns of disease or illness and to provide focused treatment to restore well-being. Early treatment of symptoms can reduce disability and restore function in many members. Sufficient resources must be provided to continue long-term monitoring and treatment.

Obtaining sufficient funding for our programs and treatment continues to be of great concern to us. We will continue to work with our elected officials to fight for the long-term financial support for those who suffer still as a result of the attack on our country.

We thank the Council for *their* continued support.

Thank you for inviting me to testify this afternoon. I would be happy to take your questions at this time.