



ADDRESSING THE HEALTH IMPACTS OF 9-11

Report and Recommendations
to Mayor Michael R. Bloomberg

World Trade Center Health Panel
Deputy Mayor Linda Gibbs, Co-Chair
Deputy Mayor Edward Skyler, Co-Chair



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I. EXECUTIVE SUMMARY

The September 11, 2001 terrorist attacks on the World Trade Center killed nearly 2,800 people and caused profound human suffering, physical destruction, and economic loss. The disaster also shook the nation's sense of well-being and security. While New York has strongly rebounded in the five years since 9/11, one of the painful legacies of the disaster is its lasting effect on the physical and mental health of thousands of individuals who survived the attacks—including the City's first responders, volunteers from all 50 states who came to assist in the rescue, recovery and clean-up operations, and area residents, school children, large and small businesses, City employees, and commercial workers.

In September 2006, Mayor Michael R. Bloomberg asked Deputy Mayors Linda Gibbs and Edward Skyler to co-chair a panel of all City agencies that serve or represent individuals affected or potentially affected by WTC-related illnesses. The Panel was asked to examine the health impacts of 9/11 known to date and to develop recommendations to ensure (i) that WTC health resources are sufficient to ensure that everyone whose health was or may be affected by the WTC attacks and their aftermath gets the first-rate care they deserve; and (ii) that City policies regarding WTC-related health issues are coordinated, comprehensive, and responsive to current and emerging health care needs. The report and the recommendations that follow reflect the consensus of Panel members—following five months of interviews, research, deliberation, and debate—on how to achieve those goals.

Panel Findings

It is well documented that thousands of people suffered adverse physical and mental health effects in the immediate aftermath of the World Trade Center attacks. While many have since recovered, others continue to suffer from a range of conditions that are or may be associated with WTC exposure, including upper- and lower-respiratory illnesses, and mental health conditions such as Post-Traumatic Stress Disorder (PTSD),¹ anxiety and depression. Equally troubling is the prospect—often raised in public discussions of 9/11 health issues—that late-emerging, chronic, and potentially fatal diseases such as cancer and pulmonary fibrosis may

¹ See Appendix 6 for a list of acronyms used in this report.

arise in the future. The likelihood or scope of these long-term health consequences cannot yet be known, but we must continue to monitor people and analyze data to determine if such consequences are seen, and to be prepared for their possible emergence.

The Panel estimated that the cost to evaluate and treat all those affected or potentially affected by the 9/11 attacks could exceed \$392 million per year for the foreseeable future--an estimate that does not include the costs to treat any late-emerging, chronic conditions that may arise, or increased pension and disability costs associated with the 9/11 attacks. To date, federal support for 9/11-related health programs has been modest and short-term, despite the vigorous advocacy of the City and members of the New York Congressional delegation, who continue to press for a strong and sustained federal commitment to deal with what is clearly a national responsibility.

Dozens of programs offering some combination of screening, monitoring and medical treatment for WTC-exposed individuals were developed in the months and years following 9/11, and three have emerged as centers of excellence in the diagnosis and treatment of WTC-related health conditions: the New York City Fire Department's WTC Monitoring and Treatment program ("FDNY"), the WTC Worker and Volunteer Screening Program coordinated by Mt. Sinai Medical Center ("Mt. Sinai"), and the WTC Environmental Health Center at Bellevue Hospital ("Bellevue"). Thousands have been monitored and treated at these centers, including nearly 4,000 New York City Police Officers and individuals from every state in the nation who participated in the World Trade Center rescue, recovery and clean up operations. The data generated by these programs and research efforts such as the World Trade Center Health Registry (the "Registry") have led to important scientific studies documenting physical and mental health effects of 9/11, and have informed the development of clinical guidelines for diagnosing and treating 9/11-related health problems.

While these resources and the public recognition of 9/11-related health issues are encouraging, the Panel has confirmed significant gaps in information about the nature and scope of 9/11-related health effects and the sufficiency of treatment and other resources to help those who need or may need it. The recommendations outlined in this report seek to address these issues.

Panel Recommendations

A primary concern of those who have, or may be at risk for physical and mental health conditions related to WTC exposure is the availability of resources to recognize, evaluate and treat those conditions. The FDNY, Mt. Sinai and Bellevue programs are invaluable resources for these individuals, and the Registry and other research efforts such as those under way by the NYPD will continue to help us better understand and treat WTC-related health effects. The Panel is unanimous in its belief that the federal government should support these programs, which arose to fill a need following an unprecedented terrorist attack on America. For this reason, the Panel recommends that the City vigorously advocate for federal resources sufficient to fully fund these programs so that all affected populations have access to state-of-the-art care from practitioners with expertise treating 9/11-related medical and mental health conditions.

Despite considerable information about 9/11-related health issues from numerous City and federal sources, there currently is no comprehensive source of information about WTC health and mental health resources, WTC medical research, and other relevant WTC health matters. This has led to unnecessary confusion about health issues and the availability of evaluation and treatment programs. For this reason, the Panel calls for the creation of a Citywide WTC Health Coordinator who will, among other things, work with the Mayor's Office to promote consistency and coordination of WTC health policies; oversee the development and maintenance of an Internet site that will provide a single, central repository of information related to WTC physical and mental health issues; and ensure effective communication and outreach with populations experiencing, or who may be experiencing 9/11-related health effects.

A summary of the full recommendations advanced by the Panel follows.

- To ensure that treatment is available to whomever needs it, the City should vigorously advocate for federal resources sufficient to fully fund 9/11-related physical and mental health needs for all affected and potentially affected populations, including first responders, laborers and other contractors, residents, office workers, and students. The federal commitment should be long-term and sufficient to maintain the three existing 9/11-related centers of excellence, as well as any need-based expansion of services. In addition, the federal government should fully fund the WTC Health Registry and additional NYPD-led monitoring and research.

- The WTC Environmental Health Center at Bellevue should be expanded and actively promoted to all those who are potentially eligible, including residents, commercial workers, and laborers with a reasonable history of dust exposure and symptoms that may be 9/11-related. Bellevue is currently the only evaluation and treatment program available to all affected and potentially affected individuals, and the City should ensure that the program is federally funded over the long term and that evaluation and treatment continue to be provided in a culturally and linguistically sensitive manner.
- The Department of Health and Mental Hygiene (DOHMH) should replace and expand the American Red Cross mental health benefit--which will no longer be available after 2007--with a program that provides community-based treatment options for individuals who are or suspect they may be experiencing 9/11-related mental health conditions. DOHMH should expand its current mental health public outreach campaign to include promotion of this new program.
- The Mayor should establish a Medical Working Group of public health, mental health, environmental health, and medical professionals and researchers from within and outside City government. The Group should review existing and emerging scientific data on the potential health effects of WTC exposure and its applicability to different subpopulations to identify evidence of clinical risks and potential gaps in information.
- The Mayor should direct the Commissioner of the Department of Health and Mental Hygiene to appoint a WTC Health Coordinator to foster and coordinate communication and outreach to all those affected or potentially affected by 9/11-related health issues. The coordinator should oversee an Internet site targeted at populations with WTC-related or potentially related health issues and should work with the Mayor's Medical Working Group to ensure that relevant information is conveyed to affected populations. In addition, the coordinator should meet regularly with community groups, residents, local businesses and other interested parties to solicit feedback and suggestions regarding 9/11 health issues.
- To ensure a consistent standard of care for WTC-related illness, the City should extend the distribution of its WTC clinical guidelines to all health care providers and health plans, who should distribute them to all doctors in their respective networks.
- The City should establish an Internet site that will be a comprehensive "one-stop" resource for information about 9/11-related physical and mental health issues.
- The Office of Emergency Management (OEM), in collaboration with other relevant agencies, should expand outreach to affected communities about construction and deconstruction activities that could pose environmental hazards, and should ensure that policies associated with these activities are coordinated across City agencies.

- OEM should convene all relevant City agencies to review and enhance, as necessary, the environmental and health and safety aspects of the City's disaster response plans to ensure the health of residents, responders, and others in the case of future emergencies or disasters.
- The Mayor should direct all relevant agencies to appoint a WTC Health Liaison to track relevant agency-specific information about WTC-related health issues and distribute WTC-related information to agency employees and retirees who participated in WTC operations.
- The City should undertake a renewed effort to identify City employees and former employees who participated in World Trade Center rescue, recovery and clean-up operations for the purpose of targeting information about and services for 9/11-related health effects to this important group.
- City employees who are eligible for the Mt. Sinai program but are not currently participating should be given the opportunity to do an initial screening on City time. All City employees who participated in WTC operations should be informed about the Bellevue program and should be given the opportunity to have an initial evaluation on City time.
- City agency WTC Health Liaisons, in coordination with the Citywide WTC Health Coordinator, should encourage enrollment in programs, including those offered outside the auspices of a City agency, that offer treatment for mental health conditions associated with 9/11.
- The City should actively encourage eligible employees and retirees who participated in WTC Operations to register with the state Workers' Compensation Board by August 14, 2007.
- Congress should reopen the Victim Compensation Fund (VCF), authorized by Congress in 2001, so that victims can quickly get fair compensation without the need to prove liability. At the same time the fund is re-opened, Congress should eliminate the liability of the City and its contractors for claims arising out of the clean-up at the World Trade Center. Since the WTC Captive Insurance Company ("CIC") would no longer be needed, Congress could also liquidate the CIC and use its \$1 billion to help fund the reopened VCF.

II. INTRODUCTION

On September 11, 2001, in a series of events that have been well chronicled,² terrorists crashed two hijacked planes into One and Two World Trade Center. In the space of two hours the towers collapsed and not long after that, 7 World Trade Center collapsed as well. Nearly 2,800 died, including 343 firefighters, 23 NYPD officers, 37 Port Authority police officers, and more than 2,200 civilians. On that day, hundreds of thousands of people were exposed or potentially exposed to dust, particulates, and other environmental contaminants, and endured or witnessed deeply traumatic events. Fires burned and smoldered at the site for months. Many who lived, worked or attended school in the area found their lives upended and their livelihoods damaged or completely destroyed; thousands were temporarily displaced.

In the hours and days following the attacks, rescue workers, volunteers, contractors and others from across the country descended on Ground Zero to search for potential survivors. In late September, that search came to an end and efforts turned to an unprecedented recovery, cleanup, and restoration of the City's infrastructure. Tens of thousands of responders and others worked at the World Trade Center, the Fresh Kills landfill, and related sites. The work took ten months and involved employees of dozens of City, state and federal agencies and the tireless efforts of responders, laborers, contractors, volunteers, and community organizations.

Along with the death and devastation immediately wrought by the attacks, concerns were expressed from the outset that the collapse of the Twin Towers could have consequences for the health of responders, clean-up workers, residents, office workers, school children and others. By the evening of September 11th, the City's Departments of Health and Environmental Protection, led by the federal Environmental Protection Agency, began to assess environmental conditions

² See, e.g., In re World Trade Center Disaster Site Litigation, 456 F. Supp. 2d 520, 526-530 (S.D.N.Y. 2006); U.S. Gov. Accountability Office (GAO), September 11: Monitoring of World Trade Center Health Effects has Progressed, but Program for Federal Responders Lags Behind 1, 5 (2006), available at <http://www.gao.gov/new.items/d06481t.pdf>; National Commission On Terrorist Attacks Upon the United States, The 9/11 Commission Report 1-46, 254-277 (2004); Lower Manhattan Development Corporation (LMDC), The World Trade Center Memorial and Redevelopment Plan Final Generic Environmental Impact Statement, at 1-1, 1-4 (2004); William Langewiesche, American Ground: Unbuilding the World Trade Center (2002); New York City Department of Health and Mental Hygiene (DOHMH) & U.S. Agency for Toxic Substances and Disease Registry (ATSDR), Final Report of the Public Health Investigation to Assess Potential Exposures to Airborne and Settled Surface Dust in Residential Areas of Lower Manhattan 10-11 (2002); U.S. Senate Select Committee On Intelligence and U.S. House Permanent Select Committee On Intelligence, Joint Inquiry into Intelligence Community Activities Before and After the Terrorist Attacks of September 11, 2001 141-43 (2002), available at <http://www.gpoaccess.gov/serialset/creports/911.html>.

and what protections would be necessary. While the full scope of 9/11-related problems is unknown, a growing body of evidence suggests that significant health conditions have emerged that are associated with the disaster, in particular for those exposed during the collapse of the towers and those who participated substantially in rescue, recovery and clean-up operations.

A. The Emergence of Health Issues

The dust cloud, debris, fires, and other destruction caused by the collapse of the World Trade Center produced an urban environmental disaster unprecedented on U.S. soil. Different combinations of exposures were associated with varied health impacts; but over the past five years, respiratory and mental health conditions have emerged as by far the most common short- and medium-term ailments associated with World Trade Center exposure. The long-term health consequences of such exposure cannot yet be known, though many express concern that late-emerging and chronic diseases may arise in the future.

In the years following September 11, three programs have emerged as “Centers of Excellence”³ for treating 9/11-related health issues: the NYC Fire Department’s World Trade Center Medical Screening and Treatment Program (“FDNY”), the WTC Worker and Volunteer Screening Program that originated at Mt. Sinai Medical Center (“Mt. Sinai”), and the WTC Environmental Health Center at Bellevue Hospital (“Bellevue”). The FDNY program is open to its rescue workers (firefighters and EMS responders, active and retired); the Mt. Sinai program is open to other responders, workers and volunteers who participated in rescue, recovery and clean-up operations, and approximately 4,000 NYPD Officers have participated in the program. Bellevue is a treatment program open to anyone with suspected 9/11-related symptoms, and is the only program open to the thousands of non-responders affected or potentially affected by the attacks. In addition, the NYPD tracks and monitors any member who experiences 9/11-related symptoms or illness, and has conducted targeted studies of this large and significant responder population.⁴ At present, the best sources we have to understand current and future health

³ “Centers of Excellence” is a term of art that, in the field of medicine, has come to refer to hospitals, clinics or other medical centers that have developed a specialty in a particular area. See e.g., T. Weitz et al, Identifying and Caring for Underserved Populations: Experience of the National Centers of Excellence in Women's Health, 10 J. Women’s Health & Gender Based Med. 937 (2001). The use of the term in this report refers to particular institutions and treatment programs; it does not represent an acceptance on the City’s part of any particular finding(s) or research that may come from one of these programs. However, the Panel recognizes that the research and data generated by the FDNY, Mt. Sinai and Bellevue programs is vital to understanding the health impacts of the 9/11 terrorist attacks.

⁴ NYPD has made considerable efforts to monitor, track and study members Police Officers who responded on 9/11 and participated in the World Trade Center rescue, recovery and clean-up operations. The only reason that the

impacts of 9/11 are from the data collected by these centers of excellence and by the World Trade Center Health Registry (the “Registry” or the WTC “Health Registry”), a collaboration of the City’s Department of Health and Mental Hygiene and the federal Agency for Toxic Substances and Disease Registry (ATSDR) of the Department of Health and Human Services, and from the voluminous amounts of environmental data collected after the attacks. The Registry aims to document and evaluate the short- and long-term physical and mental health issues associated with the disaster on a large sample of those exposed or potentially exposed to the attacks.

Due in large part to the work done by these three centers of excellence and the Registry, dozens of scientific papers have been published over the past five years that, among other things, assess the impact of 9/11 on the health of various populations, analyze the contaminants released by the collapse of the towers, and study how the public health system has been impacted by 9/11.⁵ While our knowledge of these issues continues to evolve, five years after 9/11 we do know a significant amount about the short-term health impacts of the attacks on certain populations.

It is impossible to calculate with precision the entire universe of persons affected by the 9/11 attacks. Hundreds of thousands were in the vicinity of the World Trade Center on 9/11, and many millions watched the towers collapse around the country and the world. To learn more about individuals who were most heavily exposed, the Registry established eligibility criteria that factored in an individual’s residence, location at the time of the attacks, intensity of exposure, and duration of exposure.⁶ It defined four principal groups with possible exposure: workers and volunteers;⁷ residents, school students and staff; building occupants; people in

NYPD is not characterized as a center of excellence in this report is because it does not provide in-house treatment for 9/11-related, or any other symptoms or illnesses.

⁵ See U.S. Dept. of Health and Human Services, World Trade Center Health Resources: Scientific Reports, <http://www.hhs.gov/wtc/reports> (last visited Feb. 4, 2007) (linking to published scientific reports, dating back to 2001, about 9/11 health issues); GAO, [September 11: Health Effects in the Aftermath of the World Trade Center Attack 26-30](#) (2004), available at <http://www.gao.gov/new.items/d041068t.pdf> (listing about 30 articles on 9/11 health issues).

⁶ While the criteria were designed to provide meaningful research results, they did not and could not define the entire universe of individuals potentially affected by the disaster.

⁷ This category was limited to individuals, including first responders, involved in the rescue, recovery, clean-up, or other disaster-related activities at the WTC and related sites, see DOHMH & ATSDR, [World Trade Center Health Registry: Data File User’s Manual 3](#) (2006), available at <http://www.nyc.gov/html/doh/downloads/pdf/wtc/wtc-datafile-manual.pdf>.

transit and pedestrians.⁸ Of the estimated 410,000 people who met the Registry's exposure criteria, more than 71,400 individuals, including residents of every state in the country, volunteered to be included in the database by the time enrollment closed in November 2004.⁹ This makes the Registry the largest undertaking of its kind in the United States.

Two of the largest populations eligible for the Registry were volunteers and contractors involved in WTC rescue, recovery, and clean up operations. The Registry estimates that more than 26,000 volunteers working with 13 different organizations were eligible for inclusion in the its database;¹⁰ thousands of other volunteers provided important services, such as counseling and housing for those injured in the attacks, outside of the vicinity of the WTC and related sites. And thousands of contractors and subcontractors worked with the City on the unprecedented recovery and clean-up effort that lasted through June 2002. The Panel met with a number of non-profit groups that organized large numbers of volunteers, including the American Red Cross, the Salvation Army, and Safe Horizons, and affirmed that many volunteers arrived from the tri-state area within hours after the planes hit the World Trade Center towers, and volunteered for weeks or even months, while others (especially those who traveled long distances when air travel was restricted in the days following the attacks) took several days or weeks to arrive, but worked for equally long stretches of time. Some volunteers had been previously trained to respond in disasters, while many more were "spontaneous" volunteers who had no previous training or experience in disaster response. Most volunteers involved in rescue, recovery, and clean up are eligible for monitoring and treatment through the Mt. Sinai program.

In addition, the FDNY, Mt. Sinai and Bellevue centers of excellence are an important data source on first responders and others who were exposed. While existing treatment programs and the Registry do not account for every person whose health was or may be impacted by 9/11, the discussion that follows is based to a large extent on the work of these programs and related research.¹¹

⁸ See Joseph Murphy, RTI International (prepared for DOHMH and ATSDR), World Trade Center Health Registry: Explanation and Calculation of Outcome Rates 1 (2006), available at <http://www.nyc.gov/html/doh/downloads/pdf/wtc/wtc-outcome-explanation.pdf> (providing more information on eligibility criteria).

⁹ See id.

¹⁰ World Trade Center Health Registry Sample Building and Denominator Estimation

¹¹ While some people whose health was affected or may have been affected by 9/11 may not be represented in these programs, additional biases in the opposite direction are also expected. As with all research and treatment efforts dependent on voluntary participation, those who enrolled in the Registry, or sought care at the Mt. Sinai and

1. Symptoms

The plane crashes into the World Trade Center towers resulted in massive combustions of jet fuel that produced toxic plumes of smoke, and the collapse of the towers released a dust cloud¹² that covered much of lower Manhattan and surrounding areas. The resulting fires burned on the site for months, and recovery and clean-up activities may have re-suspended particulates,¹³ including asbestos, volatile organic compounds, dioxins, PCBs, metals, and other contaminants.¹⁴ While it is true that airborne particulate concentrations were highest immediately after the buildings collapsed and quickly declined within days, particulates and smoke settled in many outdoor and indoor sites, and individuals may have been exposed if these substances were re-suspended during recovery operations.¹⁵

The populations at greatest risk to experience adverse health effects from World Trade Center exposure included rescue and recovery workers on the debris pile or near the site, persons with pre-existing health conditions, children and the elderly.¹⁶ FDNY first responders showed health effects soon after the attacks, with 99% of exposed firefighters within the first week reporting at least one new onset respiratory symptom while working at the World Trade Center site.¹⁷ Within the first six months after 9/11, the “World Trade Center Cough” was diagnosed among 3% of firefighters performing WTC rescue and recovery work who were enrolled in FDNY’s WTC monitoring program, and among 8% of those present during the collapse of the towers.¹⁸ FDNY members, almost all of whom responded to the World Trade Center site within

Belleuve treatment programs, may be motivated to do so by adverse health conditions. Those programs, therefore, likely under-represent those who remain in good health after 9/11.

¹² The dust cloud released at the collapse was comprised of materials that were used in the construction of the buildings, such as concrete and insulation materials. Along with dust cloud from the building collapse, contaminants were released in fire fed by jet fuel and the combustible materials in the buildings. DOHMH & ATSDR, Final Report of the Public Health Investigation to Assess Potential Exposures to Airborne and Settled Surface Dust in Residential Areas of Lower Manhattan 11 (2002).

¹³ See P.J. Liou et al, Characterization of the Dust/Smoke Aerosol that Settled East of the World Trade Center (WTC) in Lower Manhattan after the Collapse of the WTC, 11 September 2001, 110 Environ. Health Perspect. 703 (2002).

¹⁴ Hearing Before the New York City Council Comm. on Environmental Protection (Nov. 1, 2001) (testimony of Jessica Leighton, Ph.D., Assistant Commissioner, Environmental Risk Assessment, New York City Department of Health) (hereinafter Leighton Testimony).

¹⁵ See Liou et al, supra note 12, at 703–14.

¹⁶ See Leighton Testimony, supra note 13.

¹⁷ Progress Since 9/11: Protecting Public Health and Safety Against Terrorist Attacks, Hearing Before the Subcomm. on National Security, Emerging Threats and International Relations of the H. Comm. on Government Reform (Feb. 28, 2006) (testimony of Kerry J. Kelly, MD, Chief Medical Officer, Bureau of Health Services, FDNY and Co Director, FDNY-WTC Medical Program New York City) (hereinafter Kelly Testimony Feb. 28, 2006).

¹⁸ D. Prezant et al, Cough and Bronchial Responsiveness in Firefighters at the World Trade Center Site, 347 New Eng. J. Med. 806 (2002).

the first week after the attacks, represent the most highly exposed group of WTC workers. More than 2,000 of FDNY's 14,000 first responders (about 15%) have sought treatment for respiratory conditions since September 11, 2001. Of those 2,000, more than 700 developed permanent and disabling respiratory illnesses leading to retirement as firefighters, a four- to five-fold increase over average rates in the years prior to 9/11.¹⁹

The mental health of FDNY first responders was also affected by the World Trade Center disaster and rescue and recovery operations, as suggested by the 1,277 stress-related incidents reported among these responders in the first 11 months after 9/11, as compared to 75 stress-related incidents reported during the 11 months before the attacks.²⁰ These mental health conditions appear to persist—by early 2006, the FDNY's Counseling Services Unit (CSU) was still receiving an average of 260 new intakes each month, compared to a rate of 50 new cases per month prior to 9/11.²¹

Among a sample of 9,442 rescue and recovery workers examined by the Mt. Sinai program between July 2002 and April 2004,²² 32% self-reported lower respiratory symptoms and 50% reported upper-respiratory symptoms near the time of their initial medical evaluation.²³ Registry data collected between two and three years after the attacks indicates that the prevalence of probable Post-Traumatic Stress Disorder (PTSD) among all enrolled rescue and recovery workers at the World Trade Center site is 12.4% and ranges from 21.2% for unaffiliated volunteers to 7.2% for police.²⁴ In a study of mental health impacts on police officers, more than

¹⁹ Progress Since 9/11: Protecting Public Health and Safety of the Responders and Residents: Field Hearing (New York, NY) Before the Subcomm. on National Security, Emerging Threats and International Relations of the H. Comm. on Government Reform (Sept. 8, 2006) (testimony of Nicholas Scoppetta, New York City Fire Commissioner) (hereinafter Scoppetta Testimony Sept. 8, 2006); New York City Dept. of Finance, Jan. 2007 WTC Disability Pensions Report. Five years after the attacks, more than 30% of FDNY first responders were still experiencing some respiratory symptoms, although not all at a severity level requiring treatment. See FDNY, NIOSH FDNY-WTC Treatment Supplement Grant 50 (2006) (hereinafter FDNY Grant).

²⁰ G.I. Banauch et al, Injuries and Illnesses Among New York City Fire Department Rescue Workers After Responding to the World Trade Center Attacks, Morbidity & Mortality Wkly. Rep., Sept. 11, 2002 (Special Issue), at 1-5.

²¹ See Kelly Testimony Feb. 28, 2006, supra note 16; Scoppetta Testimony Sept. 8, 2006, supra note 18.

²² R. Herbert et al, The World Trade Center Disaster and the Health of Workers: Five-Year Assessment of a Unique Medical Screening Program 114 Environ Health Perspect. 1853 (2006). There were 16,528 responders in the New York/New Jersey regional consortium that met the eligibility criteria for the Mt. Sinai program and 11,095 of these persons ultimately received medical screenings, while 9,442 gave consent to be included in the published article. Id.

²³ Id.

²⁴ DOHMH, the World Trade Center Health Registry (unpublished data).

68% reported experiencing at least one disaster-related stress symptom 15 to 27 months after the attacks.²⁵ Nearly identical data has been reported by FDNY.²⁶

Other populations, including residents in the vicinity of the WTC site, also reported a variety of health conditions, including acute breathing problems; worsening of asthma; eye, nose, and throat irritation; nausea; headaches; and stress-related illness and anxiety.²⁷ Registry data shows that more than half (66%) of adult enrollees experienced new or worsened sinus or nasal problems after exposure to WTC, with 25% reporting new or worsened symptoms of reflux or heartburn. Enrollees also reported higher levels of psychological distress than the citywide average between two and three years after 9/11.²⁸ Community needs assessments conducted in October 2001 show that approximately 50% of residents experienced nose, throat, and eye irritation, and 40% reported mental health symptoms consistent with PTSD.²⁹ Moreover, two studies suggested there may have been an increased incidence of new-onset respiratory symptoms for residents living near the WTC site compared to a control population.³⁰ Lastly, students of Stuyvesant High School, who returned to classes on October 9, 2001, complained of headaches, and respiratory, skin, eye, and throat conditions at rates higher than the prior year and above the rates recorded at four other New York City public high schools.³¹

²⁵ F.G. Dowling et al, A Peer-based Assistance Program for Officers with the New York City Police Department: Report of the Effects of Sept. 11, 2001, 163 Am. J. of Psych. 151 (2006).

²⁶ See FDNY Grant, supra note 18.

²⁷ Field Hearing (New York, NY) Before the Subcomm. on Clean Air, Wetlands, and Climate Change of the S. Comm. on Environment and Public Works, (Feb. 11, 2002) (testimony of Thomas R. Frieden, M.D., M.P.H., DOHMH Commissioner) (hereinafter Frieden Testimony Feb. 11, 2002).

²⁸ Progress Since 9/11: Protecting Public Health and Safety of the Responders and Residents, Field Hearing (New York, NY) Before the Subcomm. on National Security, Emerging Threats and International Relations of the H. Comm. on Government Reform (Sept. 8, 2006) (testimony of Thomas R. Frieden, M.D., M.P.H., DOHMH Commissioner) (hereinafter Frieden Testimony Sept. 8, 2006).

²⁹ Assessing Sept 11th Health Effects: What Should be Done? Field Hearing (New York, NY) Before the Subcomm. on National Security, Emerging Threats and International Relations of the H. Comm. on Government Reform (Oct. 28, 2003) (testimony of Thomas R. Frieden, M.D., M.P.H., DOHMH Commissioner) (hereinafter Frieden Testimony, Oct. 28, 2003). See also R. Kramer et al, Community Needs Assessment of Lower Manhattan Residents Following the World Trade Center Attacks -- Manhattan, New York City, 2001, Morb. Mortal. Wkly Rep., Sept. 11, 2002 (Special Issue), at 10-13.

³⁰ J. Reibman et al, The World Trade Center Residents' Respiratory Health Study: New-Onset Respiratory Symptoms and Pulmonary Function, 113 Environ Health Perspect. 406 (2005); S. Lin et al, Upper Respiratory Symptoms and Other Health Effects Among Residents Living near the World Trade Center site after September 11, 2001, 162 Am. J. Epidemiol. 499 (2005).

³¹ See Field Hearing (New York, NY) Before the Subcomm. on Clean Air, Wetlands, and Climate Change of the S. Com. on Environment and Public Works (Feb. 11, 2002) (testimony of Thomas R. Frieden, M.D., M.P.H., DOHMH Commissioner and Joel A. Miele Sr., P.E., City Department of Environmental Protection Commissioner).

2. Exposure Factors and Health Risk

As noted above, a number of factors—including proximity to the dust cloud or to the attacks, duration of exposure, and the initial unavailability of adequate respiratory protective equipment—contribute to an individual’s risk of developing symptoms that may be related to 9/11. To date, the medical evidence suggests that first responders are most affected, due in part to intense exposure to particulate matter during the collapse of the towers and the immediate recovery efforts that followed. Many responders also witnessed horrific events at close range, including the loss of colleagues and the gruesome recovery and removal of body parts.³² Additionally, pulmonary function for firefighters in the year after 9/11 declined at a rate eleven times greater than the average decline expected with aging; for those exposed at the time of the tower collapse(s), the effects of the pulmonary decline were even greater.³³ A study of participants in the Mt. Sinai program showed a strong association between worsened respiratory symptoms and early arrival at the WTC site.³⁴ Registry data shows that survivors of collapsed and damaged buildings were more likely to report respiratory symptoms, severe headaches, skin rash/irritation, and self-reported depression, anxiety, or other emotional problems, than those less directly exposed to the dust cloud and other contaminants.³⁵

The research produced to date is necessarily limited to short- and medium-term symptoms experienced by those most heavily exposed to the attacks and their aftermath; at this point, we cannot predict the long-term health impacts of 9/11 exposure.³⁶ It could take twenty years or longer to detect and understand any long-term health impacts,³⁷ and individual risk to WTC-related illnesses, like risk of any other illness, involves an interaction between environment and host factors including pre-existing diseases, co-morbidity, age, gender,

³² See Hearing Before the City Council Committee on Civil Service and Labor (testimony of Dr. Kerry Kelly, FDNY); Kelly Testimony Feb. 28, 2006, *supra* note 16.

³³ Kelly Testimony Feb. 28, 2006, *supra* note 16. While time and subsequent treatments improved conditions for many of these firefighters, the need for continued monitoring and treatment persists.

³⁴ R. Herbert et al, *supra* note 21.

³⁵ R. Brackbill et al, Surveillance for World Trade Center Disaster Health Effects Among Survivors of Collapsed and Damaged Buildings, *Morbidity & Mortality Wkly. Rep. Surveillance Summaries*, April 7, 2006, at 1-18.

³⁶ Although the World Trade Center contained contaminants such as asbestos, which is associated with cancers in individuals with long-term occupational exposure, such cancers are usually limited to individuals exposed to elevated levels of asbestos over long periods of time, and not comparatively short-term exposure. See Frieden Testimony Feb. 11, 2002, *supra* note 26.

³⁷ Kelly Testimony Feb. 28, 2006, *supra* note 16.

socioeconomic status and genetics.³⁸ Medical and scientific researchers note that clinical observations need to be balanced by population-based surveillance and research in order to understand the type and magnitude of health impact associated or possibly associated with exposure to the 9/11 attacks. This underlines the importance of long-term longitudinal studies using data from the 9/11 health treatment programs and from the Registry.

B. Support to Address the Health Impacts of 9/11

In addition to the now well-established FDNY, Mt. Sinai and Bellevue centers of excellence, a variety of WTC-related physical and mental health programs were established following the attacks that were supported by a patchwork of time-limited public and private grants and the City's existing health care infrastructure. For example, the Federal Emergency Management Agency (FEMA) provided funds that led to the creation of Project Liberty. Funding totaled more than \$115 million and was distributed to 80 community based agencies as well as the Fire Department, Police Department and Department of Education. From September 11, 2001 through December 31, 2004, NYC Project Liberty served nearly 1.5 million people coping with the trauma of the 9/11 attacks. Millions more were reached through media campaigns. NYC Project Liberty reached-out extensively to many of the City's ethnic and linguistic minority groups, including those particularly impacted, such as the residents of Chinatown. While programs addressing physical conditions continue to function, many programs providing mental health services have since lost funding and closed their doors, and others struggle to stay afloat.³⁹ Due in part to the extensive efforts of the New York delegation, since late 2006, grants from the National Institute for Occupational Safety and Health (NIOSH)

³⁸ See e.g., K. Olden et al , Health-related disparities: Influence of Environmental Factors, 89 Med. Clin. North Am. 721 (2005).

³⁹ Another example is the American Red Cross Liberty Disaster Relief Fund, which provided start-up grants for what have become the FDNY and Mt. Sinai centers of excellence and the Bellevue Asthma Clinic. Over the years, the National Institute for Occupational Safety and Health (NIOSH) made various grants to the FDNY and Mt. Sinai Programs to cover monitoring, but not treatment costs for first responders in the FDNY and Mt. Sinai clinical programs. See, e.g., S. Donahue et al, Project Liberty: New York's Crisis Counseling Program Created in the Aftermath of September 11, 2001, 57 Psychiatric Services 1253 (2006) (describing the Project Liberty Program); GAO, Federal Emergency Management Agency: Crisis Counseling Grants Awarded to the State of New York After the September 11 Terrorist Attacks, (2005) (discussing issues that arose in the administration of the Project Liberty Program); Lloyd Dixon & Rachel Kaganoff Stern, RAND Institute for Civil Justice, Compensation for Losses From the 9/11 Attacks (2004) (discussing the institutions, programs, and policies that provided benefits to businesses and individuals affected by the 9/11 attacks); GAO, September 11: Overview of Federal Disaster Assistance to the New York City Area, (2003) (chronicling the flow of federal aid to New York City); Press Release, U.S. Dept. of Justice, Justice Department Awards More Than \$40 Million To Help Victims Of September 11 Terrorist Attacks, (April 23, 2002).

have covered monitoring and treatment costs for participants in the FDNY and Mt. Sinai treatment programs, but despite President Bush's recent commitment of \$25 million,⁴⁰ the funding for these programs is not expected to last beyond 2007. Moreover, the City is providing nearly all of the funding for the Bellevue center of excellence—the only specialized treatment program currently available to residents, office workers and other non-responders.

While there has been limited federal support for monitoring and treatment programs for 9/11 responders, as well as for the World Trade Center Health Registry, there has been no federal funding for the health care treatment of residents and other non-responders who are ineligible for the FDNY and Mt. Sinai programs. In short, the federal government has not provided or committed to provide the substantial, long-term funding needed to sustain existing treatment programs and to develop the capacity to provide health care to the non-responder populations that need or may eventually need to seek treatment.

This is not to say that the federal government did not contribute substantially to the City's economic recovery after 9/11. In the days immediately following the attacks, President Bush pledged at least \$20 billion to New York City's recovery, and Congress passed three emergency appropriations over the following 11 months that provided more than \$15 billion in direct financial assistance, and an estimated \$5 billion tax-benefit plan for the New York City area.⁴¹ Congress also created the Victim Compensation Fund (VCF), a litigation alternative for victims of the attacks that provided compensation through a structured claims process.⁴² When Congress created the VCF immediately following the terrorist attacks, it chose a no-fault compensation program—those injured were paid without any need to find negligence or fault by the City or anyone else. But the VCF legislation placed significant limitations on eligibility.⁴³ Those who did not meet those criteria had to pursue compensation claims through the traditional litigation

⁴⁰ See FY 2008 President's Budget for HHS 7, 108 (2007), [available at](http://www.hhs.gov/budget/08budget/2008BudgetInBrief.pdf) <http://www.hhs.gov/budget/08budget/2008BudgetInBrief.pdf>.

⁴¹ Instituted under the Title III of the Job Creation and Worker Assistance Act of 2002, Pub. L. 107-147, the tax benefits primarily targeted the Liberty Zone, defined as the area south of Canal Street, East Broadway (east of its intersection with Canal Street), or Grant Street (east of its intersection with East Broadway) in lower Manhattan. See GAO, [September 11: Overview of Federal Disaster Assistance to the New York City Area](#) 74 (2003). For this area, the law contained seven specific tax benefits, including a business employee credit, a special depreciation allowance, tax-exempt private activity bonds ("Liberty Bonds") and increased expensing. *Id.* at 74-76.

⁴² See Kenneth Feinberg et al, [Final Report of the Special Master for the September 11th Victim Compensation Fund of 2001](#) (2004), [available at](http://www.usdoj.gov/final_report.pdf) http://www.usdoj.gov/final_report.pdf.

⁴³ Only those injured on 9/11 or in the immediate aftermath were eligible and applications for compensation had to be filed by December 22, 2003. People whose injuries manifested themselves after the filing deadline or were otherwise ineligible for the Fund were left with no possible recourse for compensation other than litigation.

process—a lawsuit premised on a claim (or claims) that the City and/or the contractors are liable for alleged harm that workers and others who answered the City’s call after 9/11 suffered during the clean-up operations.

Congress did recognize that the City and its contractors could not get adequate insurance for the WTC recovery and clean-up operations from private markets, however, and the WTC Captive Insurance Company (CIC) was created in 2004 and funded with \$1 billion in federal money to insure the City and its contractors against claims against them arising from the clean-up work.⁴⁴ Prior legislation capped the City’s potential liability arising from the 9/11 terrorist attacks at \$350 million, but the contractors’ liability was not expressly limited by statute. As of this writing, approximately 6,000 people who participated in the WTC clean-up operations have filed suit against the City and the contractors alleging harm in connection with the World Trade Center clean-up operations. Both the City and its contractors have defenses that preclude liability or, at a minimum, raise serious questions as to whether they have any liability arising from their response to the terrorist attacks. Depending on how numerous legal and factual issues are resolved, the insurance might prove inadequate to fully protect the City and its contractors from liability, should it be established. The insurance cannot be used to provide health care or compensation to those exposed to the attacks, except through a lengthy litigation process, and the prospect for recovery is questionable at best.

While the City and its contractors need the protection that the CIC currently provides, only Congress can take the steps necessary to help victims get compensation quickly and protect the City and those who answered the nation’s call to participate in the 9/11 recovery effort. Unless Congress re-opens the Victim Compensation Fund and continues to provide federal funding for 9/11-related health issues, a prompt and comprehensive resolution of the health care and compensation issues that are one legacy of the 9/11 attacks is highly unlikely.

III. PANEL FORMATION AND PROCESS

As the fifth anniversary of the attacks approached, it became clear from sources inside and outside City government that some 9/11 health care needs were going unmet—ranging from information about health risks to the adequacy of available and sustainable treatment programs.

⁴⁴ Pub. L. 108-7.

In addition, public concerns about the potential appearance of 9/11-related late-emerging diseases — including cancer and pulmonary fibrosis — remained prominent.

On September 5, 2006, Mayor Bloomberg announced three new initiatives to strengthen the City's response to emerging health issues related to the World Trade Center attacks: significant expansions of the WTC Environmental Health Center at Bellevue Hospital and the World Trade Center Unit of the Department of Health and Mental Hygiene (DOHMH), and the creation of a Mayoral Review Panel to undertake a thorough assessment of the adequacy of resources dedicated to addressing the health impacts of 9/11. The Mayor asked Deputy Mayor for Administration Edward Skyler and Deputy Mayor for Health and Human Services Linda Gibbs to convene the Panel and to make recommendations to improve and guarantee the long-term sufficiency of those resources.

Panel participants came from agencies whose personnel were first responders or otherwise participated in the WTC rescue, recovery and clean-up operations, and those who are responsible for studying and maintaining public health. They included the Health and Hospitals Corporation (HHC), the Fire Department (FDNY), the Police Department (NYPD), the Office of Emergency Management (OEM), DOHMH, the Department of Correction (DOC), the Office of Labor Relations (OLR), the Department of Sanitation (DSNY), and the Office of Management and Budget (OMB). A full list of Panel members is attached as Appendix 1. Early in the process, Panel staff met with staff from the FDNY, Mt. Sinai and Bellevue programs and distributed a survey to every City agency on health-related activities undertaken in response to 9/11 (A copy of the survey is attached as Appendix 7).

Based on those initial meetings and survey responses, Panel staff conducted follow-up interviews with more than a dozen City agencies, with the Municipal Labor Committee and individually with union representatives from all City uniformed agencies and District Council 37. Meetings were also held with representatives of non-City unions and with members of the Executive Steering Committee and staff of the Mt. Sinai program. To solicit community input, the Panel held a series of forums with representatives of community-based organizations, immigrant laborers, area schools, volunteer groups and affected businesses, and organizations that provide health-related services to groups exposed or potentially exposed to the 9/11 attacks. In addition, Panel staff conducted site visits to the FDNY, Mt. Sinai and Bellevue centers of excellence and met with congressional and federal agency staff in Washington D.C. to discuss

the Panel's work and pending legislation to address the health impacts of 9/11. Overall, the Panel conducted approximately 60 meetings, site visits and forums as part of its work (a list of City Agencies and Other Organizations Interviewed by Panel Staff, along with dates of constituent forums, is attached as Appendix 2); and the full Panel convened nine times over the past five months.

The result is this report and the recommendations it contains. While the recommendations stand on their own, the report provides important context for the measures the Panel recommends.

IV. UNDERSTANDING EMERGING HEALTH ISSUES

To properly inform and treat those who are experiencing or may experience health issues attributable or that may be attributable to 9/11, an effective means must be established to process and understand the clinical and other research that is being produced regularly. In the more than five years since 9/11, hundreds of articles, comments and other publications have explored various aspects of 9/11 health. Among these, a smaller but significant number of peer-reviewed articles have been published in scientific journals that provide important scientific information on environmental conditions, evacuation experiences, traumatic events, and the short- and medium-term physical and mental health effects of exposure to the attacks and environmental contaminants. Dozens of monographs, health bulletins, and other reports have also explored these topics. Data and published reports will continue to emerge in the coming years, as the results of ongoing longitudinal studies are analyzed and released to the public. The federal Department of Health and Human Services (HHS), through its National Institute for Occupational Safety and Health (NIOSH), has promoted scientifically rigorous studies and reviews of potential health issues or risk factors associated with WTC exposure. To ensure that new scientific reports are added to the peer-reviewed literature as regularly as possible, HHS is working with a host of organizations to raise awareness and encourage reporting, and HHS has posted on its Internet site a comprehensive library of published reports on 9/11 health effects and other issues, which can be searched by topic, author and year.⁴⁵ Some of the most significant

⁴⁵ See U.S. Dept. of Health and Human Services, World Trade Center Health Resources: Scientific Reports, <http://www.hhs.gov/wtc/reports> (last visited Feb. 4, 2007).

findings emerging from WTC-related research and data from New York City-based institutions are presented here.

A. Centers of Excellence and Other Research

The FDNY, Mt. Sinai and Bellevue programs have each contributed substantially to our knowledge about the health effects of 9/11. The FDNY program with its pre-9/11 health information and high program participation rates (over 90%), for example, provides a robust source of data for conducting longitudinal analyses. In addition, the NYPD monitoring and study of Police Officers who participated in WTC operations provides important data on a large population of responders that may more closely represent the general public than other responder groups. All of these efforts provide complimentary data that can be cross validated in different groups of workers, volunteers, and residents. Particular findings and studies made in connection with each of these programs are discussed in Section V below.

B. The WTC Health Registry

One of the most significant research efforts undertaken by the City is the World Trade Center Health Registry (“the Registry”), a collaborative effort of the New York City Department of Health and Mental Hygiene (DOHMH) and the federal Agency for Toxic Substances and Disease Registry (ATSDR) within the Department of Health and Human Services. The Registry is an important platform for research, and so long as funding is sufficient, will continue to provide a rich source of information about the health effects of WTC exposure in the years and decades ahead. Launched in 2003 with federal funding, the purpose of the Registry is to document and evaluate the short- and long-term physical and mental health effects of the WTC disaster on diverse populations with a range of exposures to the environmental effects of the attack.⁴⁶ It is the largest effort in U.S. history to study the health effects of a disaster, and it includes enrollees in all 50 states.⁴⁷

The Registry targeted for outreach and recruitment a diverse group of individuals who were potentially the most highly exposed to the environmental and psychological effects of the World Trade Center collapses, including lower Manhattan residents, school children and staff, building occupants, persons in transit and visitors, as well as rescue, recovery, and cleanup

⁴⁶ Presentation by Mark Farfel, Sc.D., Director, WTC Health Registry, The WTC Health Registry: An Overview (presented at a meeting with U.S. Dept. of Health and Human Services, Washington, DC, Oct. 18, 2006).

⁴⁷ WTC Health Registry, Data Snapshot: Understanding the Health Impact of 9/11, at 5 (2005).

workers and volunteers.⁴⁸ To have a full picture of long-term health impacts of 9/11, both healthy people and those with illnesses were strongly encouraged to enroll. A multi-pronged recruitment strategy — including self-identification through a toll-free number equipped to handle multiple languages; a public Internet site accessible in English, Chinese, and Spanish; and recruitment from an extensive collection of lists of potentially eligible persons — was launched in an effort to maximize the number of enrollees and create a robust cohort that could yield meaningful research results. To boost enrollment, the Registry conducted community outreach, participated in public forums, and launched a significant advertising campaign.

Out of an estimated 410,000 individuals who met the Registry's exposure criteria, more than 71,000 individuals volunteered to be included in the database and complete a 30-minute health interview developed with input from scientific, labor, and community advisors. The ranks of the enrollees included residents of all 50 states – including hundreds from California, Florida, North Carolina, and Massachusetts.⁴⁹

Information from the first survey has been used to compare the health of enrollees with the health of the non-exposed general population. The Registry released preliminary findings from the first 60,000 survey participants in November 2004, one month before enrollment officially closed. The Registry's first scientific publication appeared in April 2006, examining the health effects of approximately 8,500 adult survivors of 38 damaged buildings.⁵⁰ Four additional scientific research papers are under scholarly review, covering issues that include probable Post-Traumatic Stress Disorder in adult residents, tower survivors, and rescue and recovery workers; new onset asthma rates among rescue and recovery workers; and the respiratory and psychological health of children exposed to the 9/11 attacks.

⁴⁸ Specifically, the Registry targeted the following populations for inclusion in the database: Workers and volunteers involved in rescue, recovery, clean-up, or other disaster-related activities at the WTC and/or at the Staten Island Recovery Operations or on transport barges for at least one shift anytime from September 11, 2001 through June 30, 2002; persons whose primary residence was south of Canal Street on September 11, 2001; students who were enrolled in, or staff who worked at, a school or day care center south of Canal Street on September 11, 2001; people present south of Chambers Street on September 11, 2001 any time between the first plane impact and noon (including persons who were in collapsed or damaged buildings, people in other buildings, and passersby).

⁴⁹ See WTCHR, Data Snapshot: Understanding the Health Impact of 9/11, at 5 (2005) (providing a state-by-state breakdown of all enrollees in the Registry). See also *id.* at 4 (map showing enrollees by state of residence on 9/11); American Red Cross in Greater New York, Unprecedented Events – Unprecedented Response: The American Red Cross Response to the World Trade Center Disaster During the Past Year (2002) (noting that more than 55,000 volunteers from all 50 states and offshore territories worked with the Red Cross to aid those affected).

⁵⁰ See Brackbill et al, supra note 34.

The Registry launched the first follow-up health survey in 2006 and is currently collecting data and compiling feedback; it plans to continue to send surveys to enrollees every two to three years for up to twenty years, or for as long as funding allows. The Registry will conduct in-depth studies of particular groups of enrollees and will continue to be a major resource for other institutions conducting 9/11-related research, including the U.S. Centers for Disease Control and Prevention (CDC), Columbia University, FDNY, the Johns Hopkins Bloomberg School of Public Health, Bellevue Hospital Center, and the Mt. Sinai Medical Center. Additional funding provided in 2006 from the federal government and New York City ensures that the Registry will continue to provide a platform for research on 9/11-related health effects in the immediate future. That funding is being used to conduct in-depth studies on pregnancy outcomes among WTC-exposed women, clinical studies of risk for lower respiratory illnesses among exposed residents, and 9/11-related mortality and cancer incidence assessments in exposed and potentially exposed groups compared with the general population.

C. WTC Clinical Guidelines

In collaboration with the FDNY, Mt. Sinai and Bellevue programs, DOHMH also developed clinical guidelines to help physicians and other health professionals recognize and effectively treat conditions that may be WTC-related. In 2003, DOHMH released its first set of clinical guidelines on how to treat individuals who present with depression, Post-Traumatic Stress Disorder, and substance abuse disorders potentially related to WTC exposure. In 2006, DOHMH led an initiative to update and disseminate DOHMH's mental health treatment guidelines as well as guidelines on the diagnosis and treatment of respiratory, gastrointestinal, and sinus diseases previously developed by Mt. Sinai and FDNY physicians. DOHMH's most recent guidelines were developed in collaboration with medical experts from Mt. Sinai, FDNY, Bellevue, and other clinical and mental health specialists. They outline appropriate diagnostic and treatment approaches and they prompt health care providers to assess for possible association to WTC exposures. They received broad expert peer review, as well as repeated input from labor and community advisors, and they were widely disseminated through DOHMH's City Health Information (CHI) publication and Internet site. They were distributed to approximately 25,000 doctors in the New York City area. To make them more readily available to providers outside the New York City area, the guidelines were also posted on the U.S.

Department of Health and Human Services Internet site. DOHMH expects to update the guidelines periodically based on published scientific data.⁵¹

D. Interpreting Studies of WTC Health Effects

The studies on WTC health effects vary in research designs and methodologies, health outcomes, survey instruments, time periods, and studied populations; some provide empirical study results of population-level health effects, clinical case studies, and analyses of environmental exposures, and some review the existing literature. Because of these differences in approach, these studies are often difficult to compare directly,⁵² and they may be especially challenging to understand for those who are not trained to interpret scientific literature. Furthermore, not all studies articulate how the research results relate to policy and practice.

While DOHMH, along with the three centers of excellence, established a successful process for developing clinical guidelines for health care professionals, there is no similar mechanism for thoroughly and systematically communicating information from emerging data and scientific literature to policymakers and affected populations. Yet, the value of the scientific literature ultimately depends on policymakers and affected populations understanding the implications—and limitations—of the research. This is particularly true for anyone trying to make important decisions about his or her health, such as whether to be screened for specific illnesses when asymptomatic and whether to seek care for an illness that may be 9/11-related. Scientific reporting can also allow health care professionals to make earlier diagnoses of certain conditions, which leads to more effective treatment. Health research should help inform answers to these important and personal questions, and should help guide policymakers' decisions about a host of issues, including the level and allocation of resources to help affected or potentially affected populations.

⁵¹ Frieden Testimony Oct. 28, 2003, supra note 28.

⁵² See GAO, September 11: Health Effects in the Aftermath of the World Trade Center Attack 2 (2004), available at <http://www.gao.gov/new.items/d041068t.pdf> (“The studies of health effects vary in study design, measures used, survey instruments, time periods, and populations studied, and thus in many cases the reported results cannot be directly compared.”).

To assist in this process, a working group of the Panel comprised of medical professionals and researchers⁵³ developed recommendations for assessing scientific data on 9/11-related physical and mental health effects and communicating the assessments to the public. The group reached a consensus that a long-term working group of medical professionals and researchers should be formed to review 9/11-related health literature and other data and to advise the Mayor on emerging information relevant to City and public policy about health effects that are related or potentially related to 9/11. The Panel accepted the medical working group's recommendation and agreed that to ensure a diversity of perspectives and the broadest possible coverage of emerging scientific literature, membership in the long-term working group should include medical professionals and researchers inside and outside City government, and that a representative from the Mt. Sinai Consortium should be invited to participate. The full recommendation follows.

Recommendation 1: Establish a Medical Working Group

The Mayor should establish a working group of up to 15 public health, mental health, environmental health and medical professionals and researchers from within and outside of New York City government, including the Department of Health and Mental Hygiene, Fire Department, Police Department, Health and Hospitals Corporation, Department of Correction, the Office of the Chief Medical Examiner; and medical and mental health professionals and researchers with expertise in studying and/or treating World Trade Center health effects and other issues. The working group should be co-chaired by the Deputy Mayor for Health and Human Services and the Commissioner of the Department of Health and Mental Hygiene, and be charged to:

1. Consult with outside experts and other individuals and organizations on an as-needed basis;
2. Review the existing and emerging scientific data, including new clinical and research findings by working group members, on the potential health effects of WTC exposure and its applicability to different subpopulations to identify evidence of clinical risks and potential gaps in available clinical information related to WTC-exposed persons;
3. Recommend approaches to communicating health risk information and treatment options to the public; and

⁵³ Members of this working group include Dr. David Prezant, Deputy Chief Medical Officer, New York City Fire Department (FDNY), Office of Medical Affairs; Dr. Eli Kleinman, Supervising Chief Surgeon, New York City Police Department (NYPD); Dr. Ramanathan Raju, Executive Vice President for Medical and Professional Affairs, NYC Health and Hospitals Corporation; Lorna Thorpe, PhD, MPH, Deputy Commissioner, NYC Department of Health and Mental Hygiene; Dr. Joan Reibman, Associate Director of Medicine and Environmental Medicine, NYU Medical Center, and Director, WTC Environmental Health Center at Bellevue; and Dr. Barbara Sampson, First Deputy Chief Medical Examiner, Office of the Chief Medical Examiner.

4. Review the adequacy of health and mental health resources available to affected and potentially affected populations in light of the emerging scientific data and any other relevant studies or reports; and
5. Prepare an Annual Report to the Mayor.

The Working Group should meet at least quarterly in the first year after appointment and no less than twice in each year thereafter. In 2012, the structure and function of the Working Group should be evaluated to determine whether it should be continued in its current form.

V. TREATMENT RESOURCES: CENTERS OF EXCELLENCE

Three clinical Centers of Excellence are dedicated to addressing 9/11 health issues: the FDNY and Mt. Sinai programs for first-responders and others who participated in the WTC rescue, recovery and clean-up operations; and the Environmental Health Center at Bellevue for residents, workers and other non-responders. Ensuring a dependable funding source is the primary—and essentially only—serious challenge facing the FDNY and Mt. Sinai programs. Bellevue, on the other hand, is designed to serve diverse populations, many of whom do not know that the program exists and/or that they could be experiencing 9/11-related symptoms. Working with limited capacity and using targeted outreach, the Bellevue program, which is almost entirely City funded, has treated 900 patients. However, a substantial increase in the number of people seeking treatment from the current program would require significant expansion and additional funding.

In addition to the centers of excellence, the NYPD tracks any member of the force referred for treatment for a 9/11-related condition, and has commissioned two studies of NYPD officers who served for an extended period of time at the World Trade Center site. These efforts, undertaken without the benefit of federal funding, will contribute substantially to our understanding of 9/11 health effects on responder populations, and federal support is needed to sustain ongoing tracking efforts and follow-up studies. This section discusses the operations and scientific findings of the FDNY, Mt. Sinai and Bellevue programs, as well as the NYPD's efforts. Additional issues specific to residents, office workers and other non-responders are addressed in section VI.

A. The FDNY World Trade Center Medical Screening and Treatment Program⁵⁴

The FDNY Screening and Treatment Program provides comprehensive physical and mental health services to all active and retired FDNY members who responded to the 9/11 attacks. The program is based within the Department's Bureau of Health Services (BHS) and evolved from efforts that began on September 11, 2001 to treat firefighters injured when responding at the WTC site. With the support of the City and FDNY leadership, BHS began to put in place processes to recognize, treat, categorize and describe injuries and illnesses experienced by firefighters and EMS responders. Supported by City funding and federal and philanthropic grants,⁵⁵ the program monitors, screens and treats firefighters, emergency medical technicians, paramedics and officers who responded to the WTC disaster and participated in rescue, recovery and clean-up operations. FDNY retirees who volunteered at Ground Zero are eligible as well. As of September 15, 2006, approximately 16,200 individuals were active participants in the program.

Participants receive a free, comprehensive, initial medical evaluation at BHS and are eligible for follow-up examinations every 18 months. If a medical evaluation reveals a need for treatment for WTC-related symptoms, active-duty firefighters and EMS responders are either treated at BHS or referred to a health care provider at no cost to them. Most diagnostic and treatment services are provided within the BHS clinic, which has expertise in a wide range of disciplines, including internal medicine, occupational health, pulmonary care, and orthopedic evaluations. Mental health care is provided through FDNY's Counseling Services Unit (CSU) and is available to all program participants and their families at seven treatment locations (five in New York City, one in Long Island, and one in upstate New York). The CSUs have collectively evaluated and treated more than 9,000 members, active and retired, suffering from WTC-related bereavement, depression, anxiety and Post-Traumatic Stress Disorder (PTSD).⁵⁶

Of the three WTC centers of excellence, the FDNY program has the highest rate of participation among eligible patients: 94% of active and retired FDNY firefighters and EMS workers who responded are enrolled. The FDNY program is also a uniquely valuable source of

⁵⁴ This summary is based on discussions with FDNY officials and staff of BHS, and other materials made available to the Panel.

⁵⁵ Public support comes from the Substance Abuse and Mental Health Services Administration (SAMHSA), the FEMA, and NIOSH. Private funding sources include the American Red Cross, the National Firefighters Foundation, and the International Association of Fire Fighters.

⁵⁶ See FDNY Grant, supra note 18, at 62.

data. Because FDNY requires all members to undergo a pre-employment medical evaluation administered through BHS, the Department has pre-9/11 health data on all active and retired members who responded to the attacks. This data serves as a crucial pre-exposure baseline for comparison and longitudinal data analyses and, over the long term, will contribute substantially to a more complete understanding of the health effects of the 9/11 attacks among first responders. The data has already been used to inform the development of clinical guidelines for treatment of 9/11-related symptoms.⁵⁷ BHS medical staff has co-authored numerous articles drawing upon the data from the FDNY program, which have been published in scientific and medical journals. For example, the “World Trade Center Cough” was first described by BHS medical staff in an article published in 2002.⁵⁸ By comparing post-9/11 to pre-9/11 data, BHS medical staff also demonstrated a decline in pulmonary functions that correlated with exposure intensity for the entire WTC-exposed cohort.⁵⁹ This study has also been critically important for post-WTC disease surveillance and in this capacity identified a temporary increase in the incidence of the interstitial lung disease sarcoidosis among FDNY responders.⁶⁰

B. The World Trade Center Medical Monitoring Program at Mt. Sinai⁶¹

The WTC Medical Monitoring Program (“Mt. Sinai”) is a consortium of clinical centers that provides standardized periodic monitoring, health screening, referral and recently, treatment for workers and volunteers who participated in WTC rescue, recovery, cleanup and related activities. The program originated at Mt. Sinai’s Center for Occupational and Environmental Medicine (COEM), which evaluated more than 300 WTC responders in the months following 9/11 and began to identify a pattern of 9/11-related conditions that suggested a need for a clinical screening program.⁶² COEM was uniquely positioned to coordinate such a program and, due largely to the lobbying efforts of New York City’s labor unions and the support of local elected

⁵⁷ DOHMH, Clinical Guidelines for Adults Exposed to the World Trade Center Disaster (2006), available at <http://www.nyc.gov/html/doh/downloads/pdf/chi/chi25-7.pdf>

⁵⁸ D. Prezant et al, supra note 17.

⁵⁹ Banauch et al, supra note 19.

⁶⁰ G. Izbicki, World Trade Center Sarcoid-like Granulomatous Pulmonary Disease in NYC Fire Department Rescue Workers – a 5 Year Experience, CHEST (In Press).

⁶¹ This summary is based on discussions with members of the Mt. Sinai Executive Steering Committee, with the directors and staff of the Mt. Sinai COEM, and other materials made available to the Panel and publicly available reports, including COEM, World Trade Center Worker and Volunteer Medical Screening Program Final Report (Dec. 15, 2005) (hereinafter “Mt. Sinai Final Report”); Herbert et al, supra note 21.

⁶² Mt. Sinai Final Report, supra note 60, at 1. WTC-related conditions included new on-set asthma, asthma exacerbation, rhinosinusitis and psychiatric illness, see id.

officials,⁶³ signed a contract with NIOSH for what has become an established clinical screening and treatment program with a national reach. Since seeing its first patient in July 2002, the Mt. Sinai program has examined more than 19,000 workers and volunteers,⁶⁴ And approximately 4,000 New York City Police Officers have participated in the program.

The Mt. Sinai program is governed by a 17-member Executive Steering Committee (ESC) composed of participating health care providers, representatives of the consortium clinics and organized labor, including the state AFL-CIO, District Council 37, FDNY, the Detectives Endowment Association, and the New York Committee for Occupational Safety and Health. Monitoring and treatment are provided by the consortium members, which include COEM (which is also a clinical provider), Bellevue/New York University Occupational and Environmental Medicine Clinic, the SUNY Stony Brook/the Long Island Occupational and Environmental Health Center ("Long Island"), the Center for the Biology of Natural Systems at Queens College in New York, and the Clinical Center of the Environmental and Occupational Health Sciences Institute at UMDNJ-Robert Wood Johnson Medical School in New Jersey.⁶⁵ For eligible participants who live outside the New York regional area, the Association of Occupational and Environmental Clinics (AOEC) helps coordinate treatment and referrals, and the Mt. Sinai program has separate contracts in parts of the country where AOEC does not operate.⁶⁶

Consistent with its mission to screen potentially heavily exposed workers and volunteers who participated in WTC rescue, recovery and clean-up, eligibility for the Mt. Sinai program is limited to individuals who meet specific requirements with respect to the number of hours worked and proximity to Ground Zero or related sites.⁶⁷ Participants receive a clinical

⁶³ See Herbert et al, supra note 21.

⁶⁴ Presentation by Robin Herbert, M.D., Mt. Sinai co-director, The World Trade Center Medical Monitoring and Treatment Program (undated), and subsequent interviews.

⁶⁵ Clinic locations outside of New York City and New Jersey include Little Rock, Arkansas; Redwood City, California; Chicago, Illinois; Waltham, Massachusetts; Greenbelt, Maryland; Lorain and Cincinnati, Ohio; and Albany, Syracuse, and Rochester, New York.

⁶⁶ In addition to screening, monitoring and treatment, the Mt. Sinai's Population Protection Committee (formerly the Research Oversight Committee) coordinates data-management and research policies, and an "Outreach Core" has developed extensive educational and other materials to promote participation in the Mt. Sinai program and awareness about WTC-related health issues.

⁶⁷ Under the final eligibility criteria, workers and volunteers were eligible for the Mt. Sinai program if they had "performed rescue, recovery, debris cleanup and related support services within (a) lower Manhattan south of Canal Street, and/or (b) the Staten Island Landfill, and/or (c) barge loading piers; and worked and/or volunteered on-site for 4 hours from September 11-14, 2001 or at least 24 hours during the month of September, or for at least 80 hours during the months of September, October, November and December combined." Mt. Sinai Final Report, supra note

evaluation that includes questionnaires on exposure, medical and mental health; a standardized physical examination; spirometry; a chest x-ray and numerous other tests.⁶⁸ On a voluntary basis, participants agree to take part in follow-up monitoring, research, and to have their information aggregated in a database.⁶⁹

In September 2006, the Mt. Sinai program published clinical findings based on medical screening examinations conducted on participants between July 2002 and April 2004.⁷⁰ Most of the participants (69%) reported new or worsened respiratory symptoms persisting at some time during engagement in WTC-related work, and 59% of all responders in the study group had these symptoms persist until the later medical screening. Consistent with FDNY data, early arrival at the site and direct exposure to the dust cloud was associated with an increased prevalence of respiratory symptoms. Of those responders directly exposed to the dust cloud resulting from collapse of the towers on 9/11, 66% had upper airway symptoms and 54% had lower airway symptoms. For those responders not directly exposed to the dust cloud but starting work on 9/11, prevalence of upper airway symptoms was 62% and 47% for lower airway symptoms.

Panel staff met on numerous occasions with Mt. Sinai program clinical staff and with members of the ESC. In addition to the need for continued federal funding, the Panel got extensive feedback on the City's relationship with the Mt. Sinai program and how it could be improved. ESC members noted that FDNY is a member of the steering committee and works closely with the Mt. Sinai program on screening, treatment and other issues. However, ESC members said that the City had not lobbied the federal government strongly enough for funding

60, at 10. Workers and volunteers eligible for the FDNY program and other monitoring and screening programs are ineligible for the Mt. Sinai program. This initially included state and federal employees, who were eligible for programs established by New York State and the federal government. *Id.* At present, state employees and retired federal employees are eligible for the Mt. Sinai program under the same criteria that apply to all participants.

⁶⁸ See Herbert et al, *supra* note 21.

⁶⁹ Data collection, aggregation and sharing is done in accordance with HIPPA, *see* Mt. Sinai Final Report, *supra* note 60, at 13.

⁷⁰ See Herbert et al, *supra* note 21. There were 16,528 responders in the New York/New Jersey regional consortium that met the eligibility criteria for Mt. Sinai and 11,095 of these persons ultimately received medical screenings, while 9,442 gave consent to be included in the published article. The 9,442 responders included in the study sample were by far male (87%) and the median age was 42 years old, with age ranging from 18 to 82 years. Most of the responders were white (66%); while 11.2 % were Black and 19.1% were of unknown racial origin; and 23.8% of persons identified their ethnicity as Hispanic. Just over half of the population (54%) lived in New York City; 15% resided on Long Island; and 92% lived within the Tri-state area of New York, New Jersey, or Connecticut. The cohort was predominantly unionized (86%), and while most of the responders worked in construction (34%) and law enforcement (29.4%), the rest of the cohort was made of workers from various industries such as the blue collar public sector (7.8%), technical and utilities (7.2%), transportation (5.5%), cleaning/maintenance (2.7%), volunteers (1.5%), non-FDNY firefighters (1.5%), and others trades.

when the Mt. Sinai program was first proposed. Although the Mt. Sinai program has relationships with FDNY and Bellevue at a programmatic level, ESC members said that the program does not have a strong working relationship with the City and expressed interest in changing that dynamic—perhaps through the designation of a City liaison who could work with the Mt. Sinai program on legislative initiatives and other issues where the Mt. Sinai program and the City share the same goals.

C. The WTC Environmental Health Center at Bellevue Hospital⁷¹

In September 2006 the City established the WTC Environmental Health Center at Bellevue Hospital (the "Bellevue") to provide comprehensive physical and mental health treatment to all individuals with suspected WTC-related health problems. The program absorbed a pre-existing WTC-related program that was started in 2005 with a grant from the American Red Cross. The Bellevue program is open to anyone experiencing 9/11-related health symptoms who is not otherwise eligible to participate in the Mt. Sinai or FDNY programs, and the program is almost entirely City funded.⁷² Each participant receives a social service needs assessment that can lead to subspecialty testing and consultation for diagnosis and further evaluation, as well as treatment for WTC-associated illnesses. Primary care, mental health care, and specialty care referrals within and without the NYC Health and Hospitals Corporation (HHC) system are provided, but are not covered by funding for the Bellevue Program.

In the months following 9/11, NYU/Bellevue staff, in collaboration with the New York State Department of Health, documented an increase in respiratory symptoms in residents of Lower Manhattan⁷³ and upper respiratory symptoms and other health effects among residents living near the World Trade Center site after September 11, 2001.⁷⁴ Bellevue Hospital initially leveraged its existing Asthma Clinic program to handle these complaints, and then began working with community groups that approached the hospital, including the Beyond Ground

⁷¹ This summary is based on multiple meetings and discussions with Dr. Joan Reibman and other HHC staff and background working documents submitted to the Panel.

⁷² City employees, local residents, students, office workers, rescue and clean-up workers, and anyone else with 9/11-related symptoms are eligible for the program. Note that Bellevue Hospital, like all HHC facilities, is open to the public, so eligibility for the FDNY and Mt. Sinai programs does not preclude treatment at the Bellevue program.

⁷³ Reibman et al, The World Trade Center Residents' Respiratory Health Study: New-Onset Respiratory Symptoms and Pulmonary Function, 113 *Environ Health Perspect.* 406 (2005).

⁷⁴ S. Lin et al, Upper Respiratory Symptoms and Other Health Effects Among Residents Living near the World Trade Center Site After September 11, 2001, 162 *Am. J. Epidemiol.* 499 (2005).

Zero Network, to develop a program to address specific 9/11-related health problems for those not served by existing treatment programs.

As of December 2006, the Bellevue Program has evaluated and is currently treating over 900 people. There is a current waiting list of over 700 people, generated by outreach from the Beyond Ground Zero Network as well as from daily calls to the Bellevue program.⁷⁵ With respect to the first 793 patients under treatment at the Bellevue WTC Environmental Health Center, as expanded into the current Bellevue Program, 55% are male. Seventy-two percent are white, and 19% Asian, and 55% are of Latino ethnicity. The mean age is 45. The majority of patients, 65%, have incomes less than \$15,000/year, and 59% of them are uninsured. Clean-up laborers and residents of Lower Manhattan/Chinatown, in the aggregate, represent 77% of the patients. With respect to persistent physical symptoms of patients treated at Bellevue, 72% have shortness of breath, 57% have cough, and 39% wheeze. Fifty-two percent have sinus congestion while half continue to have acid reflux.⁷⁶ The new Bellevue program is currently funded to serve 6,000 people over the next five years.

The Bellevue Program leverages the significant resources of HHC—a sophisticated public hospital system with a legal obligation to provide care to those who cannot pay for it and advanced medical interpretation services for patients with limited English proficiency. Apart from a small amount of spending for capital improvements and related start up costs, the majority of committed funds over the next five years will pay for treatment of 9/11-related health conditions.⁷⁷ The five-year funding schedule for the Bellevue program was based upon demand generated by outreach efforts with the Beyond Ground Zero Network. It is not clear that such funding would be sufficient to meet demand generated by expanded outreach efforts recommended in this report and discussed below.

⁷⁵ Calls average 40/week with no advertising. This wait list gives some indication of demand for treatment services among people unable to be treated under the FDNY or the Mt. Sinai programs.

⁷⁶ Data based on discussions with Dr. Joan Reibman. Totals add up to more than 100% due to the fact that physical symptoms are not mutually exclusive.

⁷⁷ The City's commitment anticipates a small amount of reimbursement from public and private health insurance programs over the five years, in part due to the fact that the program projected high usage by uninsured and underinsured people with 9/11-related symptoms.

D. NYPD Tracking and Research Efforts

NYPD estimates that more than 34,200 officer and civilian members participated in the World Trade Center rescue, recovery and clean-up operations.⁷⁸ The Department does not treat its members in-house, but monitors, tracks, evaluates and refers members of the service with 9/11-related symptoms to the physician or medical center of their choice for treatment. The Medical Division has the capacity to conduct medical and psychological screenings and Police Officers with 9/11-related symptoms are referred for treatment at no out-of-pocket cost to the patient. Shortly after 9/11, NYPD authorized voluntary WTC-related medical and psychological screenings for anyone who participated in WTC operations and provided referrals for follow-up treatment based on screening results.⁷⁹ The Medical Division has collected and analyzed treatment data based on these screenings, and continues to track any member who continues to experience 9/11-related symptoms or illness. Shortly after WTC operations concluded in 2002, the Medical Division conducted targeted medical psychological testing at Kingsborough Community College on more than 600 Police Officers who served at the World Trade Center and related sites for extended periods of time.

Members of the NYPD underwent extensive medical and psychological examinations including cardiac, pulmonary, audiometric and laboratory testing. Preliminary results at that time revealed that 38% had medical abnormalities, of which 25% were respiratory in nature, 30% hearing related, and 15% showed elevated mercury levels. However, no members showed evidence of severe respiratory compromise, and in subsequent blood testing soon afterwards, all levels returned to normal limits. During this early evaluation, 69% denied psychological symptoms and, of the 31% with psychological symptoms, 24% were only mildly, and 7% moderately affected.

The Department has commissioned a five-year follow-up to the Kingsborough Study scheduled for Spring 2007. In addition, a five-year follow-up study is nearing completion, tracking the respiratory conditions of the NYPD's Emergency Service Unit members, comparing their current status with their pre-9/11 baseline data, as well as a second study following other members of the service who have newly diagnosed respiratory conditions since 9/11, or continue

⁷⁸ NYPD and other City agency efforts with respect to 9/11-related health impacts are discussed in greater detail in Section VIII.

⁷⁹ As of November 11, 2006, NYPD reported issuing 3,088 authorizations for medical treatment and appliances to active uniformed members who had sustained a WTC-related line-of-duty injury or illness.

to have respiratory ailments since their initial complaint. The results of studies will be of great importance as they represent a cross-section of exposed individuals that may more closely resemble the general population than other responder groups, such as the FDNY.

E. Sustainability of the WTC Centers of Excellence

The FDNY, Mt. Sinai and Bellevue programs have sufficient funding to continue operating in the short term, but all three lack the dedicated federal support needed to guarantee the medium- and long-term sustainability of these critical centers for WTC treatment and research. And the NYPD has had to self-fund its tracking and treatment efforts, as it has not received any federal funding to date for 9/11-related medical treatment or research. While funding for the FDNY and Mt Sinai programs has increased over time, they continue to rely on a patchwork of non-recurring philanthropic and federal grants.⁸⁰ After years of lobbying by the New York Congressional delegation and the City, NIOSH committed approximately \$58 million in October 2006 to fund continued monitoring and treatment for participants in the FDNY and Mt. Sinai programs. The grants cover all medical services and medications needed to treat 9/11-related morbidities and expanded support for treatment that, in the case of the Mt. Sinai program in particular, had previously been supported primarily by grants from the American Red Cross. In January of this year, President Bush committed an additional \$25 million to the FDNY and Mt. Sinai programs.

Nonetheless, based on existing and anticipated treatment needs, FDNY officials and Mt. Sinai program directors estimate that current funding commitments will not sustain the programs beyond 2007. FDNY active-duty firefighters and EMS personnel will still have access to treatment through BHS for injury or illness—whether WTC-related or due to any other cause. But continuity of treatment and comprehensive cost coverage would be threatened for retirees, and the unparalleled data collection, analysis and research available through the FDNY program will end or be severely curtailed. The threat to Mt. Sinai’s program is equally serious. Members

⁸⁰ The October 2006 grants have essentially eliminated medication costs for active-duty and retired FDNY members, as well as out-of-pocket payments formerly borne by retirees for medical treatment (i.e., there is no longer any out-of-pocket cost to participants in the FDNY program). For those who choose to get treatment outside of the FDNY program, costs are covered through traditional mechanisms (e.g., City funding for line of duty injuries, workers compensation (for EMS responders) and private insurance for retirees) that may require the employee to cover, e.g., a deductible or co-payment. Until the 2006 NIOSH grants, there was no federal funding for treatment of participants in the Mt. Sinai program, who were referred to other providers or treated through Mt. Sinai with American Red Cross funding. See Mt. Sinai Final Report, supra note 60, at 28.

of the Mt. Sinai Executive Steering Committee explained that the entire treatment component of the program will abruptly end when current and committed funding is exhausted. Well before that time, treatment termination notifications will have to be sent to allow patients sufficient time to find alternative health care providers. Since approximately 40% of the Mt. Sinai program population is uninsured (and many others have inadequate insurance), prospects for alternative care for many patients will likely be severely limited in the event that the treatment component of the Mt. Sinai program is terminated.⁸¹

Currently, the Bellevue Program is almost entirely City funded and leverages the considerable resources of HHC—a sophisticated public hospital system with a legal obligation to provide care to those who cannot pay for it. In September 2006 the City committed \$16 million over five years to expand the Bellevue program, and apart from some minimal capital improvement and related start-up costs, the majority of committed funds will pay for evaluation and treatment for 9/11-related health conditions.⁸² The five-year funding schedule for the Bellevue Program was based on demand generated by outreach efforts with Beyond Ground Zero, and it is not clear that such funding would be sufficient to meet future demand. Moreover, the federal government has so far provided no funding for the potential health needs of the many thousands of non-responders exposed to the physical and mental trauma of 9/11; without such support it is unclear whether the City can indefinitely bear 100% of the cost for these affected and potentially affected populations.

Finally, NYPD will need significant federal funding to sustain and expand its efforts to track and study 9/11 health impacts on the Department's large and critically important group of active and retired members who participated in the World Trade Center rescue, recovery and clean-up operations.

⁸¹ Grants for monitoring and treatment are awarded separately.

⁸² The City's commitment anticipates a small amount of reimbursement from public and private health insurance programs over the five years, in part due to the fact that the program projected high usage by uninsured and underinsured people with 9/11 related symptoms.

Recommendation 2: Aggressively Seek Federal Funding to Sustain the Centers of Excellence, Mental Health Services and 9/11-related Medical Research

The City should vigorously advocate for federal resources sufficient to fully fund 9/11-related health and mental health needs for all affected populations, including responders, laborers and other contractors, volunteers, residents, office workers in surrounding buildings, students and others. The federal commitment should be sufficient to sustain existing programs, support any need-based expansion of services, consistent and sustained over the long-term, and should incorporate three core elements:

- (1) Flexibility to enable health care providers and policymakers to adjust programs to respond to new research findings and emerging needs;
- (2) A funding mechanism that will enable the City to leverage existing monitoring, evaluation, and treatment programs to take full advantage of the expertise in treating and studying 9/11-related health issues that has accrued since 9/11, and to ensure minimal disruption to participants in existing programs.
- (3) Sufficient universality such that all affected and potentially affected individuals, including WTC volunteers and workers who came to the City's aid from all 50 states, have access to the care they need.
 - In particular the City should advocate for immediate federal funding to sustain the existing FDNY, Mt. Sinai and Bellevue programs and to expand and actively promote the Bellevue program (see Recommendation 7).
 - The Registry is one of the best resources we have to learn about and address the health impacts of the World Trade Center disaster and should be fully funded for its estimated useful life. Continued support for longitudinal data analysis of FDNY, Mt. Sinai and Registry data is critical to a comprehensive understanding of 9/11-related health effects.
 - The City should lobby the state and federal governments to cover its obligations under the WTC Disability Presumption and Death Benefit laws.⁸³

⁸³ Actuarial estimates have projected that the WTC presumption law will cost \$53 million a year to meet the immediate pension costs and future payments. It is further estimated that the death benefit will cost the City \$10 million annually.

F. Re-opening the Victim Compensation Fund

The Panel focused primarily on the current and potential health impacts of 9/11. But it is impossible to fully separate the health problems that have arisen since 9/11 from the broader compensation questions that continue to force the City and others into an adversarial position with thousands of employees, laborers and others who joined in the recovery and clean-up efforts that followed the 9/11 terrorist attacks. Resolving these issues will not be easy, but the Panel concluded that a necessary first step is to re-open the Victim Compensation Fund that closed in December 2003.

As noted in Section II above, the WTC Captive Insurance Company (CIC) was created in 2004 pursuant to federal and state legislation. It was funded by \$1 billion in federal money to insure the City and its contractors and sub-contractors on claims against them arising from the clean-up work at the World Trade Center. Prior legislation capped the City's potential liability arising from the 9/11 terrorist attacks at \$350 million. The CIC insurance coverage is available to defend and indemnify both the City and the contractors and sub-contractors who answered the City's call after 9/11. The contractors' liability, unlike the City's, was not expressly limited by statute. Both the City and its contractors have defenses that preclude liability or, at a minimum, raise serious questions as to whether they have any liability arising from their response to the terrorist attacks.

When Congress created the Victim Compensation Fund (VCF) following the terrorist attacks, it chose a no-fault compensation program -- those injured were paid without any need to find negligence or fault by the City or anyone else. But when Congress dealt with claims for injuries arising after the collapse of the Twin Towers, it chose a traditional fault-based system -- those injured were not to be paid without a finding of fault on the part of the City, its contractors, or others. As an insurance company, the CIC, under its policy, is required to defend the City and its contractors against every claim of liability. Importantly, state laws require that insurance companies meet the duties and obligations expressed by their insurance contracts.

The different approach that Congress took toward compensating those injured in the immediate aftermath of 9/11 as compared with those injured in the weeks and months that followed has placed the City, its contractors, the CIC and all other defendants in the position of having to assert the numerous and meritorious defenses available to all of the defendants. In the fault-based system that Congress adopted for post-9/11 injury claims, the CIC (on behalf of the

City and its contractors) would be failing in its duty if it did not defend its insured diligently. And, the City and its contractors have a corresponding duty to cooperate and assist in that defense.

The fact that Congress provided no alternative to the traditional fault-based system has put the City in the untenable position of being forced to expend time and resources in the defense of claims brought by those who responded on 9/11, instead of allowing the City to focus all its time and energies on how best to help those who have been harmed, or believe they have been harmed during the rescue and recovery work.

Recommendation 3: Congress should Re-open the Victim Compensation Fund

The Panel recommends that Congress reopen the VCF so that victims can quickly get fair compensation for fatalities and injuries suffered as a result of the 9/11 terrorist attacks. Congress created the fund immediately following the attacks, in recognition of the national nature of the tragedy and the need to compensate those who unfairly suffered from the attacks, without prolonged and divisive litigation. But the initial VCF legislation placed significant limitations on eligibility.⁸⁴ At the same time the VCF is re-opened, Congress should eliminate the liability of the City and its contractors for claims arising out of the clean-up at the World Trade Center and, since the CIC would no longer be needed, could also liquidate the CIC and put its \$1 billion into the re-opened VCF.

Kenneth Feinberg, who won well-deserved praise for his work as the Special Master of the VCF, could again be called to the nation's service to administer the re-opened fund, as he did so well immediately after the attacks, and, should he agree, could work with members of the medical community and others familiar with the health effects of the World Trade Center collapse to establish eligibility and compensation guidelines. Those guidelines would not be as strict as the criteria for recovery in litigation and would enable injured people to obtain compensation without the delay and uncertainty of litigation.

The re-opening of the Victim Compensation Fund is a necessary step in healing the rifts that have surfaced in the years since 9/11.

⁸⁴ Only those injured on 9/11 or in the immediate aftermath were eligible and applications for compensation had to be filed by December 22, 2003. People whose injuries manifested themselves after the filing deadline or were otherwise ineligible for the Fund were left with no possible recourse for compensation other than litigation.

VI. CONCERNS OF RESIDENTS, OFFICE AND COMMERCIAL WORKERS, AND OTHER NON-RESPONDERS

In an effort to understand and address the 9/11 health concerns of non-responders, the Panel sought input from a wide range of people and organizations that represent the interests of those exposed to the 9/11 attacks, but who did not participate in WTC rescue, recovery, and clean-up operations. Panel staff met with various resident groups, including members of Community Board 1, parents of area school children, as well as representatives of large and small businesses in downtown Manhattan, immigrant and other commercial workers, and organizations that provide WTC-related health and mental health services to these groups.⁸⁵ The Panel staff cast a wide net to solicit as many concerns and perspectives as possible.⁸⁶

Business representatives said that five years after the 9/11 attacks, anxiety, depression, and other mental health issues remain a primary concern; some cited evidence that sick leave and other indicators have not yet returned to pre-9/11 levels. Though representatives did not request a particular programmatic response to this issue, they noted that the City could more effectively communicate information about mental health and other services available to those who might experience symptoms associated with 9/11. Community representatives were more critical of the City's efforts to date. Residents in particular said that the City has not done enough to recognize or provide services to non-responders and that to this point, the majority of federal and philanthropic support and attention had been directed to first responders and others who participated in rescue, recovery, and clean-up operations.

The numerous concerns raised during discussions with these groups fall into three broad categories: (i) a need for the City to provide clear, accurate information about 9/11 health risks; (ii) a need for 9/11-specific treatment options for non-responders; and (iii) various environmental

⁸⁵ See Appendix 2 for a list of organizations interviewed by Panel staff and dates of constituent forums. These organizations were identified in consultation with City agencies, health and mental health care providers, and others concerned about 9/11 health issues. Panel staff met with representatives from some groups on repeated occasions and tried to accommodate all requests for follow-up discussions. Because many issues were raised by more than one organization or group, the findings discussed in this section represent a distillation of concerns and comments raised during discussions with panel staff.

⁸⁶ It is worth noting at the outset that the Bellevue Center of Excellence is open to anyone experiencing symptoms related or potentially related to the 9/11 attacks, and that as of this writing, approximately 900 people have sought evaluation and treatment through the program. This is a relatively modest number given the size of the potentially affected population, and the 32,000 participants in the Sinai and FDNY programs. Many factors could explain Bellevue's low participation rate, including lack of demand, ignorance about the program by those experiencing WTC-related symptoms, or a desire to get treatment through a personal physician or from another source.

concerns, including concerns about the overall adequacy of the EPA's clean-up efforts following the attacks, and whether the City is sufficiently prepared to respond to a future environmental disaster approaching the scope and magnitude of 9/11.

A. Information

Community representatives stated that authorities need to provide clear, accurate information about the specific health risks associated with 9/11, and expressed frustration that they consequently do not have access to the information necessary to make informed health care decisions. Moreover, many individuals noted that they are unaware of the WTC health services actually available to them. Although some people knew about the Bellevue program, many did not, or did not know whether they qualify for services. Those interviewed thought the City could communicate more effectively and directly with local community-based organizations about Bellevue and other programs available to help people deal with the 9/11-related health issues. Chinatown representatives in particular said that City outreach to their community about 9/11 health and mental health issues and services should be enhanced and more culturally sensitive. Also, while most community representatives were aware of the Registry, some criticized the perceived narrowness of its eligibility criteria, the fact that enrollment closed in November 2004, and its focus on research rather than treatment. Though some of these criticisms appear to be based on a misunderstanding of the Registry's purpose as a research tool, there is nonetheless a perception that the Registry somehow limits or does not advance access to 9/11-related health services. Representatives also expressed general frustration that information about all of the WTC-related health and mental health programs is not available in a single, accessible place, and that people often had to deal with multiple City and non-profit entities to obtain services, forcing residents and others to report the same information repeatedly, years after the attacks.⁸⁷

B. Treatment

Many community representatives believe that WTC-related symptoms require special expertise for diagnosis and treatment and that practitioners without such expertise often do not recognize conditions as WTC-related or are skeptical as to whether their conditions are related to WTC exposure. This perception remains strong despite the recent, widespread dissemination of

⁸⁷ It should be noted that New York City's Internet site, [nyc.gov](http://www.nyc.gov), contains a variety of 9/11-related information pages. Of particular note is DOHMH's comprehensive 9/11-related Resource Guide, most recently updated in January 2007, is available at <http://www.nyc.gov/html/doh/html/wtc/wtc-resource.pdf>.

DOHMH's *Clinical Guidelines for Adults Exposed to the World Trade Center Disaster* to physicians throughout New York City.⁸⁸ Agreement was unanimous that anyone, and particularly children and the elderly, who seeks clinical care for a 9/11-related symptom should receive treatment either from a specialist in WTC health, or from a clinician who has the latest medical knowledge about the health effects of exposure to the attacks. Many also suggested that the City should do more to ensure that consistent, state-of-the-art care is available to those who need it.

In addition to the request for more culturally and linguistically appropriate outreach to exposed immigrant groups, residents and other community representatives suggested that Bellevue be expanded to a location more convenient to those living and working in Lower Manhattan. Community representatives also expressed concern that undocumented immigrants and other vulnerable populations, such as low-wage workers and the uninsured, may not access health care services; they requested that the City provide relevant information and undertake outreach specifically targeted to these vulnerable populations.

C. Environmental Concerns

Community representatives also expressed strong, repeated concerns about the health risks of exposure to 9/11-related contaminants that may have settled on area buildings, and that they fear could continue to put their health at risk.⁸⁹ Similar concerns were raised about the deconstruction of 130 Liberty Street (Deutsche Bank) and other buildings near the WTC site, leading to the suggestion that the City enhance outreach to potentially affected lower Manhattan communities about construction and deconstruction schedules and about the health risks and safety protocols associated with these efforts.⁹⁰

Residents also stressed the importance of adequate planning for future environmental disasters and requested that the City review its emergency plans to ensure that they address the health and safety of responders, residents, and others. Some representatives stressed the need to

⁸⁸ New York City Department of Health and Mental Hygiene, *Clinical Guidelines for Adults Exposed to the World Trade Center Disaster* (August 2006), available at <http://www.nyc.gov/html/doh/downloads/pdf/chi/chi25-7.pdf>

⁸⁹ Residents particularly criticized the EPA's efforts to clean businesses and residences following 9/11 as inadequate. At the end of 2006 the EPA announced a new clean-up program that is currently under way; the panel was encouraged by this renewed effort, though it is too soon to know whether it will adequately address community concerns.

⁹⁰ It should be noted that numerous community meetings were held and attended by City representatives prior to the commencement of Deutsche Bank's deconstruction, and the deconstruction project has proceeded smoothly since being commenced.

plan for scenarios like 9/11 that could affect large resident, worker, and student populations and suggested that the City strengthen its partnerships with community-based organizations to improve communication with residents, schools, and businesses in the event of an emergency.

D. Recommendations to Address the Concerns of Non-Responders

Panel staff spent many hours meeting with community representatives, and the Panel spent considerable time considering how best to address the numerous concerns raised during the discussions. The Panel recognizes the importance of maintaining an ongoing dialogue with community groups about WTC-related health issues and offers the following recommendations to expand and enhance the health-related information and services available to anyone exposed or potentially exposed to the effects of 9/11.

Recommendation 4A: Appoint a Citywide WTC Health Coordinator.

The Department of Health and Mental Hygiene should appoint a WTC Health Coordinator to foster and provide communication and outreach to all populations affected or potentially affected by 9/11 health issues. The WTC Health Coordinator should meet regularly with representatives of community groups, area businesses, school students and others concerned about WTC health issues to elicit concerns and suggestions.

Recommendation 4B: Widely Disseminate 9/11 Health Data.

The WTC Health Coordinator should ensure that emerging data on 9/11-related issues as well as existing surveillance data on incidence and/or prevalence of health conditions of interest (e.g., asthma, PTSD) are effectively communicated to affected or potentially affected populations. The coordinator should work with the Mayor's Medical Working Group (see Recommendation 1) and to ensure that any relevant information is readily available to the public.

Recommendation 5: Create a WTC Health Resources Internet site.

The City should establish an Internet site that will be managed by the WTC Health Coordinator and focused on populations facing WTC-related or potentially related health issues. The Internet site should contain sections that cater to specific sub-groups (e.g., residents, City employees, others) and should be a "one-stop" resource with comprehensive coverage of health-related issues, including links to other relevant sites..

Recommendation 6: Ensure a Consistent Standard of Care for WTC-related illness.

To ensure that those who experience mental health or physical symptoms that may be related to 9/11 obtain the best treatment available, the City should undertake an effort with HIP, GHI, and other health care providers and insurers to distribute the DOHMH clinical guidelines to all doctors in their respective networks. In addition, the WTC Coordinator (see Recommendation 4) should regularly work with health care providers

and insurers on public information initiatives and discuss trends and other pattern data that may be relevant to WTC health.

Recommendation 7: Expand the WTC Environmental Health Center at Bellevue Hospital and Actively Promote it.

Anyone, including residents, students, office and commercial workers, and others, with a reasonable history of dust exposure and symptoms that could be WTC-related should be able to be evaluated at Bellevue and treated at this center of excellence. The Bellevue program should be aggressively promoted through an outreach campaign targeted at affected or potentially affected populations. To facilitate access, participants should receive a WTC Access card that will enable them to obtain services throughout the HHC system for 9/11-related treatment. Bellevue should also commit to expand to an additional location or locations if demand for service requires it. If an evaluation reveals that additional treatment is necessary for 9/11-related symptoms, the treatment should be provided with no out-of-pocket costs to the patient.

Recommendation 7A: Enhance Cultural Sensitivity in the Delivery of 9/11-related healthcare.

The City should invest resources in the Bellevue program sufficient to ensure culturally and linguistically appropriate health care services, including language interpretation and translation services, culturally sensitive mental health screenings and other services to all who need it. Additional outreach should also be targeted to non-English speaking populations.

Recommendation 8: Establish a Program to Provide Additional Mental Health Services and Promote Existing Programs.

The Department of Health and Mental Hygiene (DOHMH) should replace and expand the American Red Cross mental health benefit, which will no longer operate after 2007, with a program that provides community-based treatment options for individuals who are or suspect they may be experiencing 9/11-related mental health conditions. DOHMH should expand its current mental health public outreach campaign to include promotion of this new program.

Recommendation 9: Enhance Environmental Hazard Coordination and Outreach.

The Lower Manhattan Construction Command Center (LMCCC), in coordination with the Department of Environmental Protection (DEP), Office of Emergency Management (OEM), Community Assistance Unit (CAU), and other relevant agencies should ensure that construction, deconstruction, and other activities that could pose environmental hazards are effectively coordinated and expand outreach about such activities to affected and potentially affected lower Manhattan communities.

Recommendation 10: Review Environmental Hazard Emergency Planning.

OEM should convene the relevant City agencies (including NYPD, FDNY, DEP, DOHMH, DOB, DDC, and the Citywide Office of Occupational Safety and Health) to assess and supplement as necessary the environmental and health-safety aspects of the City’s disaster response plans to prepare for future emergencies.

E. Department of Education Issues

Along with hearing from community organizations, resident groups and business representatives, the Panel met with the City Department of Education (DOE) to discuss DOE’s efforts to respond to the mental health needs of school students in the wake of the attacks. More than 1,400 students suffered the loss of a family member or friend on 9/11, and within hours of the disaster, the Board of Education provided principals and teachers with guidance on addressing the immediate needs of students.⁹¹ The Board recognized, however, that its students needed immediate, expanded mental health services—including grief counseling, early intervention of post-traumatic stress, and assistance managing fear, anxiety, and anger—that could not be provided by the existing staff of school-based mental health professionals.

In the first year after 9/11, City DOE used a \$4 million federal grant to expand mental health services. For the next two years, DOE participated in the federally funded Project Liberty program, administered by DOHMH in collaboration with the state Office of Mental Health (OMH). Using \$11.8 million from FEMA and \$17 million in city funds, DOE provided more than 400,000 members of the school community with individual and group crisis counseling and public education sessions. The program also offered referrals for more intensive and long-term care.

In 2004, as Project Liberty services were ending, the City DOE received another grant to from the federal Department of Education to address the continuing 9/11 needs of the City’s school children. This \$4 million “SERV II”⁹² grant supported professional development to assist schools in addressing ongoing student needs by enhancing the capacity of in-house staff to assist with conflict resolution and make referrals for mental health services. The SERV II grant is

⁹¹ Additionally, the department provided all school districts with lists of outside mental health providers that could be accessed at no cost to assist students and families, as well as specific recommendations and curriculum on how to prevent and respond to bias-related incidents. DOE also solicited assistance from mental health professionals from New York and the rest of the country, and created an advisory group, the Partnership for Recovery of the New York City Public Schools to oversee these efforts.

⁹² Schools Emergency Response to Violence.

ending at the close of this fiscal year, and DOE has committed to ensure that services continue for those still in the public school system who may continue to experience 9/11-related mental health issues, and to coordinate with the Department of Mental Health and Hygiene to direct students and staff who may need it to the community-based mental health services that the Panel recommends should be established by DOHMH (See Recommendation 8.)

VII. 9/11 HEALTH IMPACTS: POTENTIAL COSTS

It is impossible to predict with any precision or certainty the total potential costs of addressing 9/11 health issues. We do have data about symptoms and treatment costs for current participants in the FDNY, Mt. Sinai and Bellevue WTC programs; and specifically, we know that participants in these programs primarily report respiratory conditions and/or symptoms of PTSD, anxiety or depression (see discussions of 9/11-related health effects in Sections II and IV above). But five years after the attacks, we do not know enough about who may eventually need treatment, and for what conditions, to project future 9/11-related health care costs. Moreover, we currently have no basis to make judgments about what, if any, long-term conditions may someday be associated with the attacks. Nonetheless, some cost estimate is necessary to ensure that sufficient resources are dedicated to meet what is currently a substantial and potentially growing need.

A. NIOSH Estimate

Using data from the FDNY and Mt. Sinai programs, the National Institute for Occupational Safety and Health (NIOSH) recently estimated that sustaining these two centers could cost as much as \$257 million per year. The NIOSH estimate assumes that participation in these programs will remain constant at approximately 32,000 responders per year and that some percentage of these responders will need treatment for respiratory, mental health and/or musculoskeletal conditions. The percentages are based on data from the FDNY and Mt. Sinai programs and the estimate incorporates costs for potential hospitalizations, translation services and other special needs, ongoing monitoring, and infrastructure and other indirect costs, as follows:

NIOSH Projected Annual Cost of FDNY and Mt. Sinai Programs				
Condition	Treatment Rate	Estimated Patients	Annual Cost (per Patient)	Total
Respiratory (Aerodigestive)	30.0%	9,600	\$9,529	\$91,478,400
Mental Health (Medicated)	10.0%	3,200	\$8,811	\$28,195,200
Mental Health (Non-medicated)	15.0%	4,800	\$6,200	\$29,760,000
Musculoskeletal	5.0%	1,600	\$9,000	\$14,400,000
Treatment Sub-total				\$163,833,600
Monitoring	62.5%	20,000	\$1,500	\$30,000,000
Other Costs				
Hospitalization ⁹³				\$8,191,680
Special Needs ⁹⁴				6,000,000
Infrastructure & Other Indirect Costs ⁹⁵				\$49,150,080
Total Annual Cost				\$257,175,360

The NIOSH estimate covers treatment costs only for conditions that have been identified to date through the Mt. Sinai and FDNY programs; it does not account for (or even attempt to estimate) the potential treatment needs of residents, office workers and other non-responders. Moreover, the estimate does not incorporate potential costs for late-emerging diseases, though it suggests that such conditions could appear over time.⁹⁶ The estimate is based on one set of assumptions for disease incidence and treatment rates. As the estimate presented below demonstrates, however, different assumptions could lead to substantially different results.

B. Panel Estimate

Panel experts and staff first attempted to develop a gross estimate of the total potential costs to treat possible 9/11 health issues (*i.e.*, regardless of who pays). Because affected and potentially affected populations extend beyond the responders eligible to participate in the FDNY and Mt. Sinai programs, panel experts and staff attempted to estimate the costs of addressing potential 9/11 health issues for both responders and the many non-responders potentially affected by the attacks. As noted above, there is insufficient data to produce a reliable and precise cost estimate of these impacts. At best, the limited information available can

⁹³ Because neither program has significant experience with hospitalization the NIOSH estimate assumes that hospitalization costs will be 5% of Treatment Costs.

⁹⁴ The NIOSH estimate assumes that 10% of the treatment population will need translation or other special services and that these services will increase per-patient treatment costs by 35% for this group.

⁹⁵ The NIOSH estimate assumes that infrastructure, patient management and other costs will be 30% of total Treatment Costs.

⁹⁶ See Sewell Chan, Money to Treat 9/11 Officials Workers Will Run Out, Officials Say, N.Y. Times (Dec. 19, 2006).

be used to provide a proxy of what the cost might be under a series of reasonable assumptions. Different assumptions could produce substantially different results. The estimates that follow are based, to the extent possible, on actual treatment data from the FDNY and NYPD, from the Mt. Sinai and Bellevue programs, and from Registry data and other reliable sources. Given the limited scientific foundation for many of the assumptions, actual costs may differ significantly from the panel's estimates. These estimates must be refined over time as additional data about possible 9/11-related health effects becomes available.

The analysis that follows is based on a series of assumptions about treatment and medication needs for suspected WTC-related conditions, the size of the potentially affected populations, and the estimated disease and treatment rates in those populations. Consistent with the NIOSH estimate summarized above, the projection presented below assumes that most people who seek treatment will present with symptoms of respiratory and mental health conditions.⁹⁷ To estimate treatment and medication costs, panel experts with experience treating WTC-related issues used the DOHMH WTC clinical guidelines (see Sections II and IV) to develop and estimate the cost of a standard course of treatment for a hypothetical patient diagnosed with symptoms that may be related to WTC exposure.⁹⁸ Per-patient treatment costs were developed for the seven population sub-groups presented below using FDNY data. Appendix 3 describes in detail the course of treatment used as a basis for this estimate.

Panel experts and staff used the analysis undertaken by the Registry as a baseline to determine the affected or potentially affected population. It is important to note that the panel did not attempt to determine how many people are likely to experience symptoms caused by 9/11; rather, it estimated the population that may develop and seek treatment for symptoms that a prospective patient may associate with 9/11—regardless of whether causation is or could be established. The Registry estimates that approximately 410,000 people were the most heavily exposed to the possible environmental hazards and trauma of the 9/11 attacks (i.e., approximately 410,000 people met the Registry's eligibility criteria). While few similar exposure analyses have been undertaken, based on this estimate, the approximately 32,000 participants in the FDNY and Mt. Sinai programs represent approximately 7.8% of that estimated exposed population. While no similar exposure analysis has been undertaken for areas

⁹⁷ Note that the panel estimate does not break-out musculoskeletal conditions as a separate line item.

⁹⁸ This estimate too is by necessity an extrapolation that at this point cannot be verified, as the cost of treating persons can vary widely. For example, those with post nasal drip may be less costly to treat than those with asthma.

and people that do not meet the Registry's eligibility criteria, the available evidence suggests that the percentage of persons who believe they are experiencing symptoms possibly related to 9/11, as well as the percentage potentially requiring treatment, decreases as the distance from the disaster site increases.⁹⁹ The estimate presented below includes residents within a two-mile radius of the WTC site and includes portions of Brooklyn and New Jersey. While it covers an area that extends beyond the populations and geographic area identified by the Registry, it is impossible to know how many people from either the Registry population or those who live in areas not covered by the Registry may eventually seek treatment for symptoms that a prospective patient may associate with 9/11.¹⁰⁰

⁹⁹ See Liroy et al, The Anatomy of the Exposures That Occurred Around the World Trade Center Site: 9/11 and Beyond, Ann. N.Y. Acad. Sci. 1076: 54–79 (2006) (discussing the five categories of outdoor exposure to toxicants that have been encountered since 9/11 and describing in detail the movement of the plume of smoke created by the WTC attacks); R. Herbert et al, The World Trade Center Disaster and the Health of Workers: Five-Year Assessment of a Unique Medical Screening Program 114 Env. Health Perspectives 12 (2006) (noting that early arrival at the WTC site was significantly associated with an increased reported prevalence of both newly incident and worsened respiratory symptoms); Liroy et al, The World Trade Center Aftermath and Its Effects on Health: Understanding and Learning through Human-Exposure Science, 40 Environmental Science & Technology 6876 (2006) (discussing the issues associated with applying conventional measurements to the WTC aftermath as surrogates for exposure and how the divergent exposure periods cascaded into unusual adverse health conditions). Additionally, unpublished data from the World Trade Center Health Registry shows that, among residents eligible for Registry enrollment, a gradient of PTSD expanding outward from the WTC Site, with populations less likely to experience PTSD if they were located farther away from the Site. The observed gradient reflects the fact that people living closer to the WTC site had a higher probability of witnessing horror or being potentially injured.

¹⁰⁰ There is evidence for respiratory effects secondary to exposure to the dust and fumes immediately after the collapse of the towers and in the subsequent weeks, see J. B. Herbstman et al., Respiratory Effects of Inhalation Exposure Among Workers During the Clean-up Effort at the WTC Disaster Site, 99 Environmental Research 85, (2005); K. Wheeler et. al. (personal communication). There is some evidence for an increase in asthma among Medicaid managed care enrollees in the quarter following September 11, 2001, see, e.g., (Wagner VL et al., Asthma in Medicaid managed care enrollees residing in NYC: results from a post-WTC disaster survey, 82 J. Urban Health 76 (2005), although asthma hospitalization data are less supportive. Given the concern about persistence of disease and the documentation of dust particles potentially carried to Western Brooklyn, it may be prudent to contemplate the possibility of an increase in respiratory disease extending beyond the immediate vicinity of the disaster, albeit at a rate possibly lower than that anticipated in workers at the site.

Panel experts and staff estimated treatment rates and costs for the following seven subgroups:

	Group	Estimated Population	Explanation
1	FDNY Responders	16,200	Population in FDNY Monitoring and Treatment Program.
2	NYPD Responders	34,250	Population enrolled in NYPD WTC Database.
3	Other City Workers	7,842	City workers other than FDNY and NYPD that participated in WTC rescue, recovery and clean-up operations, according to Agency survey data.
4	Other Workers and Volunteers	64,810	Participants in WTC rescue, recovery and clean-up operations, other than City employees, who satisfy the Registry criteria.
5	Registry eligible Residents, Businesses & Schools	267,640	Estimate of residents, office and commercial workers and school students and staff who satisfy the Registry eligibility criteria.
6	Other Residents (Respiratory)	290,513	Estimate of additional residents who may seek treatment for respiratory or other physical symptoms that a prospective patient could associate with 9/11. ¹⁰¹
7	Other residents (Mental Health)	Citywide	Estimate of additional residents who may seek treatment for mental health conditions that a prospective patient could associate with 9/11. ¹⁰²

To calculate a cost estimate for those populations, panel experts established treatment rates for respiratory and mental health conditions for each subgroup based on available treatment data, Registry data, and from other sources, as indicated below.¹⁰³ Based on the assumed treatment regimens and rates, panel experts and staff estimate that the gross costs of treating the possible health impacts of 9/11 could exceed \$392 million per year.

¹⁰¹ This is the estimated number of residents within a two-mile radius of the WTC site, including portions of Brooklyn and New Jersey, excluding residents who satisfy the WTC Health Registry eligibility criteria.

¹⁰² Panel experts and staff did not set geographic limitations on New York City residents who could seek mental health services for 9/11-related mental health conditions.

¹⁰³ Panel experts developed treatment rates—based on available FDNY, Registry and other health care data and certain assumptions about the estimated interested populations—that were applied to the six sub-populations used to make the estimate. WTC and non-WTC studies have universally shown that the numbers of persons requesting treatment are always far lower than the numbers of persons with symptoms or illness (prevalence of disease). This is multi-factorial based on lower treatment rates in males, workers, the uninsured and others who, for a number of reasons (e.g., stoicism or denial) will not seek treatment.

		Direct Treatment Costs				
Group	Total Population	Condition	Treatment Rate	Estimated Patients	Annual Cost (per patient)	Total
FDNY/EMS Responders ¹⁰⁴	16,200	Respiratory	7.00%	1,134	\$8,016	\$9,090,144
		Mental Health (Medicated)	6.67%	1,080	\$5,631	\$6,081,480
		Mental Health (Non-medicated)	13.33%	2,160	\$3,120	\$6,739,200
NYPD Responders ¹⁰⁵	34,250	Respiratory	4.71%	1,613	\$8,016	\$12,931,211
		Mental Health (Medicated)	1.67%	571	\$5,631	\$3,214,363
		Mental Health (Non-medicated)	3.33%	1,142	\$3,120	\$3,562,000
Other City Workers ¹⁰⁶	7,842	Respiratory	3.50%	274	\$8,016	\$2,200,152
		Mental Health (Medicated)	1.67%	131	\$5,631	\$735,972
		Mental Health (Non-medicated)	3.33%	261	\$3,120	\$815,568
Other Workers and Volunteers ¹⁰⁷	64,810	Respiratory	3.50%	2,268	\$8,016	\$18,183,094
		Mental Health (Medicated)	1.67%	1,080	\$5,631	\$6,082,419
		Mental Health (Non-medicated)	3.33%	2,160	\$3,120	\$6,740,240
WTCHR Residents, Businesses & Schools ¹⁰⁸	267,640	Respiratory	3.50%	9,367	\$8,016	\$75,089,078
		Mental Health (Medicated)	1.67%	4,461	\$5,631	\$25,118,014
		Mental Health (Non-medicated)	3.33%	8,921	\$3,120	\$27,834,560
Other Residents (Respiratory) ¹⁰⁹	290,513	Respiratory	1.00%	2,905	\$8,016	\$23,287,522
Other Residents (Mental Health) ¹¹⁰	7,950,767	Mental Health (Medicated)	0.04%	3,445	\$5,631	\$19,400,667
		Mental Health (Non-medicated)	0.09%	6,891	\$3,120	\$21,498,874
		Direct Treatment Subtotal		42,975		\$268,604,556
		Other Costs				
		FDNY Monitoring		9,000		\$6,300,000
		NYPD Monitoring		34,250		\$14,331,220
		Mt. Sinai Monitoring		11,000		\$16,200,000
		Hospitalization				\$15,629,680
		Special Needs				\$4,353,097
		Indirect Costs				\$67,151,139
		Other Costs Subtotal				\$123,965,136
Total Projected Annual Cost						\$392,569,692

¹⁰⁴ Treatment rates based on data from the FDNY Monitoring and Screening Program

¹⁰⁵ Treatment rates based on NYPD data.

¹⁰⁶ Treatment rate based on new-onset asthma levels identified in the World Trade Center Health Registry Initial Enrollment survey (unpublished) and expected proportion to seek treatment.

¹⁰⁷ Treatment estimate based on new-onset asthma levels identified in the World Trade Center Health Registry Initial Enrollment survey (unpublished) and expected proportion to seek treatment.

¹⁰⁸ Treatment estimate based on new-onset asthma levels identified in the World Trade Center Health Registry Initial Enrollment survey (unpublished) and expected proportion to seek treatment.

¹⁰⁹ Treatment estimate based on new-onset asthma levels identified in the World Trade Center Health Registry Initial Enrollment survey (unpublished) and expected proportion to seek treatment.

¹¹⁰ Estimate based on 6-month post disaster rates of probable Post-Traumatic Stress Disorder among Manhattan residents from representative telephone survey (Galea S et al, Am J Epidemiol 2003), discounted to account for expected proportion that would develop chronic symptoms and expected proportion to seek treatment. Total treatment rate was then doubled to account for non-PTSD depression needs as well, per WTC treating clinician observation.

Although this is a gross estimate based on a number of assumptions, it is clear that substantial and sustained financial resources will be needed to address the potential health impacts of 9/11, and that current resources dedicated to the problem are insufficient. Indeed, both the Mt. Sinai and FDNY programs—which monitor and treat only 32,000 responders—project that current funding will not last beyond 2007. Furthermore, the \$3 million per year that the City committed to provide to the WTC Environmental Health Center at Bellevue is likely to be insufficient to meet the increased demand that could result from the additional publicity and outreach recommended in Section VI, above.

C. Resources Needed to Sustain and Expand 9/11-related Treatment and Research

As noted, the approximately \$392 million projection detailed above is a gross estimate of the potential treatment costs of 9/11 health impacts. Not everyone with symptoms can or will seek treatment at the FDNY, Mt. Sinai or Bellevue programs, and many of those affected or potentially affected by 9/11 have health insurance and will seek treatment through a personal physician.¹¹¹ At a minimum, however, the FDNY, Mt. Sinai and Bellevue centers of excellence need sufficient funding to be sustained and expanded as necessary, and the Registry's efforts must continue for at least the next 20 years. In addition, the City must ensure adequate funding for mental health services for those still suffering, or who may suffer PTSD, depression and anxiety associated with 9/11. The Panel looked at the current operating costs of the FDNY and Bellevue programs and the Registry and estimated the cost of the public advertising campaign and service expansion for the Bellevue program and DOHMH's 9/11-related mental health services program recommended in Section VI above. Although the Panel did not have the current budget for the Mt. Sinai program, for estimation purposes, panel experts and staff assumed that the program's annual operating costs would be twice that needed to fund WTC operations at FDNY's Bureau of Health Services.

¹¹¹ Virtually all the City employees are covered under one of the thirteen health insurance plans offered by the City of New York. Contractors who were involved in the clean up effort were required to have health insurance coverage once they were working at the WTC site. According to the latest data on Statehealthfacts.org (a Henry J Kaiser Family Foundation database) about 13% of the entire New York State population is uninsured. Twenty-two percent of the New York City residents are uninsured, according to United Hospital Fund.

Based on this analysis, the panel estimates that beginning in FY 2008, approximately \$153 million will be needed to operate current WTC-related health programs and expand services as recommended in this report, and that amount will increase in subsequent years as follows:

Mayoral Review Panel Recommendations	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Sustain and Expand the Bellevue Program	\$3,000,021	\$13,734,462	\$9,092,853	\$11,722,880	\$11,318,839
Sustain FDNY WTC Program (Currently NIOSH Funded)	\$34,203,667	\$35,571,814	\$36,994,686	\$38,474,474	\$40,013,453
Sustain the Mt Sinai WTC Program (Currently NIOSH Funded)	\$68,407,334	\$71,143,627	\$73,989,372	\$76,948,947	\$80,026,905
Sustain and Expand the DOHMH Mental Health Program	\$3,400,000	\$8,900,000	\$8,150,000	\$7,750,000	\$7,400,000
Sustain the WTC Health Registry	\$4,359,000	\$7,047,000	\$3,117,000	\$3,100,000	\$2,619,000
NYPD Cost for Continued Monitoring of Exposed Employees	\$0	\$7,165,610	\$14,331,220	\$14,904,469	\$15,500,648
WTC Health Coordinator	\$0	\$336,000	\$339,000	\$341,000	\$344,000
Environmental Health & Safety Protocol Staff	\$0	\$251,000	\$241,000	\$241,000	\$241,000
Database of City Employees who participated in WTC Operations	\$0	\$50,000	\$0	\$0	\$0
Identify Contractors who participated in WTC Operations	\$0	\$150,000	\$0	\$0	\$0
WTC Health Resource Website	\$0	\$20,000	\$20,000	\$20,000	\$20,000
Grand Total	\$113,370,022	\$144,369,513	\$146,275,131	\$153,502,770	\$157,483,845

While these amounts may not cover the full costs of the potential health impacts of 9/11, they will help to ensure that current medical treatment and research continue. This investment also will offer the best chance to develop a full understanding of, and hopefully mitigate, the ultimate health care impacts of the worst terrorist attack in our nation's history.

VIII. CITY POLICIES PERTAINING TO 9/11-RELATED HEALTH ISSUES

The Panel also reviewed the City's WTC health policies to determine whether they are consistent and coordinated across agencies. Specifically, the Panel looked at agency practices with respect to the collection and dissemination of information about WTC-related health issues; the availability of monitoring, treatment and other resources to City employees who participated in WTC rescue, recovery and clean-up operations (collectively, "WTC Operations"); and agency pension, disability, workers' compensation and other related issues. To conduct this assessment, the Panel distributed a survey to every City agency (attached as Appendix 7), and Panel staff held follow-up discussions with representatives from thirteen agencies, unions from each of the uniformed services, District Council 37, and a number of private-sector unions (see Appendix 2).

A. Agency Participation in Rescue, Recovery and Clean-up Operations

Overall, 36 agencies reported that approximately 59,000 City employees participated in WTC operations;¹¹² the summary information and recommendations presented here apply to these agencies and individuals.¹¹³ The Fire Department (FDNY) and the Police Department (NYPD) account for the majority of reported participants (85%), and the Department of Sanitation (DSNY) with 5.9%, Department of Transportation (DOT) with 3%, and Department of Corrections (DOC) with 1.7% each reported substantial employee participation. The following table provides a breakdown of self-reported participation based on survey responses and follow-up discussions with agency personnel.

Self-reported Agency Participation in WTC Operations		
Agency	On-duty at site	% of Citywide Total
DOC	1,019	1.72%
DOT	1,805	3.05%
DSNY	3,463	5.86%
FDNY	16,219	27%
NYPD	34,250	58%
All Other Agencies	2,372	4%
Total	59,128	100%

¹¹² Ten agencies reported that no survey response was necessary because no agency personnel participated in operations at the WTC site, nor did the agency serve affected clients or constituencies.

¹¹³ The Panel did not verify agency participation data or evaluate the criteria used by agencies to calculate employee participation.

As a general matter, uniformed agencies had a greater capacity to identify participants in 9/11 operations than non-uniformed agencies. Among uniformed agencies, FDNY maintains the most extensive, up-to-date data on members who participated in 9/11 response, due primarily to FDNY's center of excellence at the Bureau of Health Services (BHS) (discussed at length in Section V, above). BHS maintains a computerized medical tracking system¹¹⁴ that captures duty status (medical leave, light duty, full duty), diagnoses, and whether an injury is connected to service. In short, FDNY had the infrastructure in place to immediately identify, monitor and treat its members following the attacks.

FDNY reported that a total of 16,219 personnel participated in WTC operations (approximately 14,580 uniformed members and 1,639 retirees and civilians). With the exception of a small number of fire marshals assigned to the City Morgue and the Fresh Kills Landfill, nearly 100% of active, uniformed FDNY personnel worked at Ground Zero for some period of time within one week of the attacks. Thereafter FDNY personnel served shifts at the site for the duration of the recovery and clean-up operations. Three-hundred forty-three firefighters died on 9/11, and the Department reports that approximately 4,214 firefighters and several hundred EMS workers who participated in WTC operations have retired since September 11, 2001. EMS and civilian fire personnel have filed 274 Workers' Compensation claims in connection with their participation in WTC operations.

The NYPD also developed a database of members who participated in WTC operations. Shortly after the attacks, NYPD directed Commanding Officers to report to the Medical Division the rank, name and other information of "all members of the service, both uniform and civilian, who were assigned to report, or who voluntarily reported"¹¹⁵ to the WTC site.¹¹⁶ This message and a subsequent order resulted in the creation of the NYPD World Trade Center Database, which contains the names of 34,250 then-active employees (31,270 uniformed members and 2,980 civilian members) exposed to airborne or other contaminants as a result of their participation in WTC operations. Among other things, the database includes information about duty status, line-of-duty injury claims and injuries and illnesses attributed to 9/11. The

¹¹⁴ FDNY Human Resources Information System (HRIS). Different units have different sections on HRIS, and a designation within the system provides information on the location and date of the injury.

¹¹⁵ According to the order, the purpose of the reporting was to "accurately record and document possible exposures to airborne contaminants by members of the service who were present in the vicinity" of the WTC site.

¹¹⁶ In follow-up discussions, NYPD officials indicated that Commanding Officers were required to submit the name of any officer under their command who participated in operations at the site. It also includes all members who, with or without the permission of their Commanding Officer, report exposure to the WTC site.

Department is currently updating the database to detail members' specific posts and job functions during WTC operations. Twenty-three members of the department died on 9/11, and of the 34,240 NYPD members in the World Trade Center database, 18,649 are active and 15,438 are retired. With respect to uniformed members reporting exposure, approximately 17,059 remain active, and 14,083 are retired. Of the 17,059 uniformed members on active duty, twenty are on WTC-related sick leave and seven are on light-duty status.

DSNY, DOT and DOC also reported that a substantial number of employees participated in WTC operations. Shortly after the attacks, DSNY created an Emergency Response Division (ERD), which operated from September 2001 through August 2002 and tracked employees and resources deployed to the WTC and Fresh Kills sites. DSNY established a database of 3,463 employees who participated in WTC operations,¹¹⁷ and tracked resources deployed so that the agency could be reimbursed by the Federal Emergency Management Agency (FEMA). DSNY ultimately received \$110 million in FEMA reimbursements for WTC-related operations¹¹⁸ and the unit was disbanded in August 2002; DSNY's Medical Clinic maintains and updates the WTC database with information about active-duty status and line-of-duty injuries. Approximately 2,600 (75%) of the active-duty members of the Department who participated in WTC operations remain active as of January 31, 2007.¹¹⁹

DOT and DOC efforts to identify and track participants in WTC operations were less organized. DOT reported that approximately 1,805 employees participated in the operations—a figure based on a recent analysis of lists submitted to FEMA for reimbursement purposes¹²⁰—but the agency does not maintain a database or otherwise track employees who participated in WTC operations. DOC reported that approximately 1,019 employees participated in WTC operations, though the agency has no formal, targeted means to identify and communicate with

¹¹⁷ To be included in the database, an individual had to work at Ground Zero, Fresh Kills, or the Manhattan District 3 garage where debris was stored. DSNY members were not included if they toured the location or worked in a DSNY office in lower Manhattan.

¹¹⁸ In order to facilitate reimbursement by FEMA, many agencies submitted to the City's Office of Management and Budget (OMB) lists of employees involved in 9/11 work. These lists are over-inclusive in that, along with employees who participated in World Trade Center operations, they include staff who performed administrative work relating to the World Trade Center disaster and "backfill" employees who substituted for employees working at the WTC site. For many agencies, however, the lists have proven a valuable resource in determining potentially exposed populations.

¹¹⁹ DSNY maintains a list of those employees who received a letter stating that they worked in the area of the World Trade Center debris on or after September 11, 2001.

¹²⁰ This total of 1,805 includes 243 ferry workers responsible for transporting food, equipment and water to Ground Zero.

those employees. In meetings with Panel staff, union representatives and agency staff agreed that the agency (DOC) had not communicated on a regular basis with agency personnel who participated in WTC operations, and agency staff indicated that a renewed effort would ensure that everyone who took part can be targeted for outreach and services.

Other agencies that reported significant numbers of participants include the Department of Environmental Protection (685),¹²¹ the Health and Hospitals Corporation (216), the Department of Finance (165), DDC (163)¹²², DOHMH (up to 122, not including the Office of the Chief Medical Examiner), and the Department of Buildings (119).¹²³ Based on agency surveys, a total of 2,372 City employees participated in WTC operations from agencies other than FDNY, NYPD, DSNY, DOC and DOT, but each agency's efforts to track basic information about these employees (e.g. retirement and active-duty status) varied considerably. Overall, the Panel found that agencies should do a better job identifying and tracking employees who participated in 9/11 operations, which would enable the City to more effectively communicate with this group about WTC-related health issues and resources and ensure the most consistent approach as possible.

B. 9/11 Health Monitoring and Treatment

The Panel also reviewed 9/11-related health care programs available to City employees, either through their agency or from another source. No City agency other than FDNY has an in-house monitoring and treatment program for employees who participated in WTC operations; and generally speaking, other uniformed agencies handle 9/11-related health issues in the same way they treat other injury or illness. Many first responders and other uniformed employees who participated in WTC operations are eligible for the Mt. Sinai program, and any City employee with WTC-related symptoms can get treatment at Bellevue. But City employees have some disincentives to take part in these programs. This section reviews City employees' access to and participation in 9/11-related physical and mental health programs and related issues.

¹²¹ DEP reported "possible exposures," based on its FEMA list.

¹²² This number does not include the estimated 6,000-7,000 contractors that participated in WTC operations through DDC contracts.

¹²³ Additionally, many employees from the Office of Emergency Management (OEM) worked at the site but were included in other agency counts since most of them were on loan from other city agencies.

1. FDNY

As earlier sections of this report have described in detail, FDNY offers its employees comprehensive WTC-related monitoring and treatment and nearly all eligible fire and EMS responders participate.¹²⁴ As of late 2006, FDNY and EMS members and retirees in the program get treatment—including medications—for mental and medical 9/11-related conditions at no out-of-pocket costs to the patient.¹²⁵ Based on interviews with FDNY staff and union representatives, it appears that FDNY members are largely satisfied with the level and quality of WTC-related health care provided through the Department's program, though there are some gaps in coverage. As has been noted elsewhere, current and committed funding for the FDNY program will not sustain the current level of services beyond 2007. The free medications recently made available through NIOSH funding are particularly vulnerable.¹²⁶ In addition to treatment, BHS doctors stressed that it is imperative to continue the monitoring component of the FDNY program for at least another 20 years—in part because it may take that long to know whether pulmonary fibrosis, cancers and other late-emerging diseases may be attributable to 9/11. Sustained funding is particularly important for FDNY retirees, who constitute a substantial and growing percentage of WTC responders.¹²⁷ BHS has made its WTC medical monitoring and treatment program available to retirees, thanks to funding from federal and philanthropic resources. If that funding were to end, services to FDNY retirees would have to be seriously curtailed or eliminated.

Retirees must use their own health insurance, which is paid for by the City as a retirement benefit, to cover BHS treatment authorized outside of the FDNY WTC Monitoring and Treatment program. Union representatives said that this restriction particularly impacts retirees

¹²⁴ See Section V, above. For active-duty firefighters, treatment through an outside provider is available at no cost. For retirees, private health insurance covers the cost of care provided outside of BHS.

¹²⁵ A firefighter enrolled in the program receives an FDNY WTC Prescription Medication Card, which covers approved medications for certain WTC-related illnesses. See FDNY, World Trade Center Medical Monitoring Program WTC FREE Prescription Medication Plan, available at <http://www.nyc.gov/html/fdny/insider/bhs/wtcmm/prescription.shtml>.

¹²⁶ According to FDNY, the sustainability of its treatment program will largely depend on assumptions about medication utilization; if utilization is lower than expected, funding could last longer. This is difficult to gauge, however, because, as of February 2007, FDNY has been providing free medications for only about one month.

¹²⁷ Between September 11, 2001 and September 10, 2006, 4,214 (36.6%) of FDNY's fire members retired.

living outside New York, New Jersey and Pennsylvania,¹²⁸ who may not have easy access to experts who treat pulmonary and other conditions associated with WTC exposure.¹²⁹

2. Other Uniformed Agencies

Due to the fact that no other City agency performs the unique operations that necessitate the substantial medical-treatment infrastructure possessed by the FDNY, no other City agency, uniformed or civilian, has a comparable infrastructure. But all City employees who participated in WTC operations had health coverage on 9/11 and presumably still have it if they are currently employed by the City, or retired with vested health benefits. And active employees still have access to any medical services that their agency may provide. For active-duty uniformed employees, the Line of Duty Injury (LODI) process is the primary means to get treatment for illnesses and injuries arising out of participation in WTC operations. Once an agency medical professional determines that a uniformed employee's ailment is work-related, the employee is entitled to free health care services—including physician visits, diagnostic tests, and inpatient care—with no out-of-pocket payments by the employee.¹³⁰ In contrast to the workers' compensation system which covers non-uniformed employees, this LODI free medical coverage ends when the uniformed member retires.

Beyond LODI, the availability of WTC-specific treatment options and programs differs across agencies. For example, NYPD authorized voluntary WTC-related medical and psychological screenings for anyone in the Department's WTC database (or for any participants in WTC operations), and provided referrals for follow-up treatment based on screening results.¹³¹ DOC did not provide 9/11-specific health services, but its Health Management Division (HMD) did offer evaluations to employees upon request. DSNY does not have a medical division comparable to FDNY and NYPD, and did not offer monitoring, treatment or

¹²⁸ Of the retirees living outside New York, New Jersey and Pennsylvania, most live in Florida or the Carolinas.

¹²⁹ Additionally, FDNY doctors note that private health insurance does not provide comprehensive mental health coverage.

¹³⁰ Uniformed members obtaining LODI coverage must pay for medications out-of-pocket and then later seek reimbursement. As an alternative, many members use their union health insurance card. In interviews, union representatives stated that use of union-provided insurance cards for WTC-related medications had significant, if not precisely known, impacts on their respective health benefit funds.

¹³¹ As of November 11, 2006, NYPD reported issuing 3,088 authorizations for medical treatment and appliances to active uniformed members who had sustained a WTC-related line-of-duty injury or illness.

screening for employees who participated in WTC operations.¹³² Union representatives for uniformed agency employees voiced concerns that their agency had not done enough to monitor and treat their members' 9/11-related health concerns. Although many members of uniformed agencies are eligible to participate in the Mt. Sinai program, and any City employee with suspected 9/11-related symptoms is eligible for Bellevue, agency officials and union representatives alike said that employees are reluctant to participate in these programs unless and until they experience acute symptoms. Additionally, employees have to use sick leave to do the initial screening.¹³³

The availability of mental health services also varies by agency. As described above, FDNY members (uniform, civilian, retirees, and affected family members) are eligible for care through FDNY's Counseling Services Unit (CSU) at seven treatment locations in New York City, Long Island, and upstate New York. Members of the NYPD who participated in WTC operations—and any other member of the Department—can get care through two NYPD-affiliated, but independent programs: COPE and the Police Organization Providing Peer Assistance (POPPA).¹³⁴ DOC offers employees mental health services through its Correction Assistance Response for Employees (CARE) unit,¹³⁵ and DSNY employees can receive counseling through the Department's Employee Assistance Unit, though neither of these services specifically target suspected 9/11-related conditions. Agency staff and union representatives explained that many employees do not seek needed psychological treatment because of a stigma associated with mental health services—even if services are confidential.¹³⁶ For these reasons,

¹³² DSNY did, however, offer treatment to its employees through a contract with the New York Rescue Workers Detoxification Project.

¹³³ It should be noted that uniformed personnel of Fire, Police, Corrections, and Sanitation have unlimited sick leave.

¹³⁴ POPPA provides a full range of confidential mental health services, including peer counseling, offered independently of the NYPD. A 24-hour helpline also provides assistance to members seeking mental healthcare and needing crisis intervention services. Project COPE, developed in coordination with Columbia University, provides mental health services to police officers, civilian members, and their families. The program has held 600 educational sessions attended by 18,000 employees, and a helpline continues to average 5 calls per day, totaling 4,600 calls since its inception. The program is both a referral service for psychological counseling and early intervention. Members can apply to access COPE directly as well as can be referred to be part of the program. Funding for COPE is available for the next three years.

¹³⁵ The CARE Unit aims to ensure that each DOC member is in a position to be a viable and motivated employee. Employees can either be referred to CARE or seek its services directly. Services provided by CARE staff include trauma response, hospital visitation, assistance and referrals.

¹³⁶ The reluctance to use mental health services can be particularly acute in uniformed agencies, where an employee could face a substantial change in active-duty status as a result of a mental health issue. These situations are not unique to WTC-related mental health issues, however.

union leaders say their members are more likely to access mental health services that are offered outside of an employee assistance program or other official agency channels.

3. Civilian Agencies

The City's civilian personnel and agencies, including the Mayor's Office, were a vital component of WTC operations, particularly EMS workers, who responded on 9/11 and were present at the site for the duration of the rescue, recovery and clean-up. Other examples of participation by civilian employees include DOT personnel who removed and hauled debris, Parks Department employees who helped to patrol the site and to clean area parks, and DOHMH workers who distributed masks and the other safety gear. As with most uniformed agencies, civilian agencies did not provide specialized monitoring and treatment programs for participants in WTC operations; and since most civilian employees work in agencies that do not have medical divisions, employees generally get health care through their City-provided health insurance and prescription-drug benefit plans. For active duty employees, workers compensation and disability benefits are the primary means for employees to get reimbursed for job-related injuries; and post-retirement benefits are handled through the pension system.¹³⁷ Some civilian employees qualify for the Mt. Sinai program, and any employee with 9/11-related symptoms can go to the Bellevue center of excellence (described in Section IV), but agency staff and union representatives said the fact that workers must use sick leave to access services discourages participation in the program.¹³⁸

Civilian employees have mental health coverage under GHI and HIP. Though there is a co-payment for these services, there is no cap on the number of visits insurance will cover. Another vital resource is the City's Employee Assistance Program (EAP), which provides education, information, counseling and referrals to City employees with personal and social problems. In the wake of September 11, the EAP took significant steps to address the 9/11-related mental health needs of the City's workforce. With support from a \$300,000 FEMA grant in 2002, EAP established the Project NYCope program, which facilitated workshops, provided crisis counseling and produced educational materials on 9/11 health issues. In total, the program

¹³⁷ Two significant exceptions are EMS workers, who are eligible for FDNY's medical monitoring and treatment program, and DEP hazardous materials workers, whose health is monitored pursuant to federal law.

¹³⁸ Uniformed personnel of Fire, Police, Corrections, and Sanitation have unlimited sick leave. Civilian employees, on average have 12 sick days per calendar year. Three of which can be used to care for ill family members. Effective July 1, 2004, newly-hired employees are entitled to 10 days per year for the first five years of service; at the beginning of the sixth year, they begin to accrue at 12 days per year.

contacted 1,700 employees at 20 agencies. While Project NYCope has ended, EAP continues to offer mental health care to City employees.

C. Agency Communications

The Panel also reviewed agency communications about 9/11-related health issues, including the availability of treatment programs, and whether agencies had any mechanisms in place that enabled or encouraged employees who participated in WTC operations to express concerns or to seek guidance. These issues were also explored in discussions with union representatives, who were asked for suggestions about how City agencies could supplement or improve current practices.

With the exception of FDNY and DOHMH, five years after the 9/11 attacks, most City agencies do not have formal mechanisms in place to regularly communicate with City employees about WTC-related health issues. Without exception, uniformed agency staff and union representatives said that they widely publicized the Mt. Sinai program when it was established in 2003, and that employees were encouraged to participate in the WTC Health Registry before enrollment closed. But beyond several Internet sites that are largely outdated,¹³⁹ there appears to be little in the way of sustained, up-to-date communications with still-active employees who participated in WTC operations about 9/11-related health issues. And Citywide, few agencies other than FDNY appear to make a sustained effort to stay in touch with retirees about 9/11-related health issues—a population that is already large (e.g., 45% of NYPD members who took part in WTC operations have retired) and will inevitably grow.

Although union representatives are aware of the Registry and WTC health information that is available from DOHMH, there was a general consensus that individual agencies could play a more active role in communicating with employees about 9/11-related health issues. DOC representatives were particularly critical of the agency's efforts in this respect, and said that until recently, little effort was made to target information and resources to employees who participated in WTC operations. DSNY representatives suggested that their members would be more likely to pay attention to and act on information if it was communicated through the agency chain of command, rather than through a DOHMH Internet site. Overall, the Panel found that most

¹³⁹ See e.g., http://nyc.gov/html/nypd/html/nypd_wtc_emerg.html (NYPD WTC Disaster Info); http://home2.nyc.gov/html/dsny/html/reports/nl0203_010.shtml (information to DSNY employees about enrollment in the WTC Health Registry).

agencies with large numbers of employees who participated in WTC operations could do more to provide them with information about WTC-related health issues, but leave it to the employees to seek out information and resources on their own. While there is a wealth of 9/11-related health information available on the City's Internet site (particularly through DOHMH) and from other internet sources, these passive and indirect mediums are insufficient to ensure that City employees who participated in the City's recovery after 9/11 get the health care resources they need.

D. Recommendations Regarding City Agencies 9/11-Health Policies

The Panel makes the following recommendations to improve the City's ability to provide important health-related information to employees who participated in WTC operations and to ensure that those employees get the health care resources they may need now and in the future.

Recommendation 11: Establish Agency 9/11 Health Liaisons.

The Mayor should direct all relevant agencies to appoint a WTC Health Liaison. Working in conjunction with the WTC Health Coordinator and consistent with HIPAA and any other applicable confidentiality laws or rules, the coordinators should (i) track relevant agency-specific information about WTC-related health issues (e.g., 9/11-related disability & retirement claims); (ii) distribute WTC-related information to agency employees and retirees who participated in WTC operations; (iii) meet regularly as a group with the Citywide WTC Health Coordinator to review WTC-related health issues that span across agencies and ensure consistency in approach to the degree possible.¹⁴⁰

Recommendation 12: Identify all Participants in WTC Operations.

To facilitate targeted WTC-related communications and service delivery, the City should undertake a renewed effort to identify City employees, former employees and retirees who participated in WTC operations. Specifically, the City should create a voluntary database for individuals who participated in WTC operations and offer all City employees who participated the opportunity to sign-up. The database should include certain basic information (e.g., active-duty status and post-employment contact data) and should be maintained by each agency. The WTC Health Coordinator (see Recommendation 4) should work with Agency WTC health liaisons to standardize the information collected and coordinate the outreach/sign-up effort.¹⁴¹

¹⁴⁰ Information should be disseminated about DOHMH's on-line WTC health resource guide, which contains an exhaustive description of available WTC related resources, was just updated in January 2007, and can be accessed at <http://www.nyc.gov/html/doh/html/wtc/wtc-resource.pdf>

¹⁴¹ This last aspect of the liaison's work could help agencies in addressing a concern that they are not certain how to respond when an employee states that he or she is ill because of a WTC-related illness or injury.

Recommendation 13: Encourage Screening by Allowing Use of City Time.

City employees who are eligible for the Mt. Sinai program but are not currently participating should be given the opportunity to do an initial screening on City time. All City employees who participated in WTC operations should be informed about the Bellevue program and should be given the opportunity to have an initial evaluation on City time.

Recommendation 14: Promote Use of Mental Health Services

Agency WTC- health liaisons, in coordination with the City WTC Health Coordinator, should encourage enrollment in programs, including those offered outside the auspices of a City agency, that offer treatment for mental health conditions related to 9/11.

Recommendation 15: Promote registration of participation in World Trade Center Rescue, Recovery and/or Clean-Up Operations with the New York State Workers' Compensation Board by August 14, 2007.¹⁴²

In 2006, the state created a mechanism, administered by the Workers Compensation Board, through which enrollees who do not currently have, but could potentially develop a 9/11-related illness can remain eligible for workers' compensation benefits. The registration deadline is August 14, 2007 and only 3,000 notices have been filed to date. Agency WTC Health Liaisons should work with the Citywide WTC Health Coordinator to actively promote registration with the WCB before the August 14, 2007 deadline.¹⁴³

IX. CONCLUSION

While no one can erase the pain and loss New York City and our nation endured on September 11, 2001, we can — and must commit to ensuring that those who may suffer ill health from WTC exposure get the very best information, treatment, and support available. This report and its recommendations lay the groundwork for realizing this commitment. The mechanisms we recommend establishing are designed to endure as long as they are needed, and to help us address the potential health consequences of any future disasters. This is the least that we can do

¹⁴² Although a full treatment of workers' compensation and pension issues is beyond the scope of this report, the Panel devoted considerable time to looking at aspects of these systems. A brief discussion is found in Appendix 5.

¹⁴³ Recently the Business and Labor Coalition of New York (BALCONY) along with NYCOSH have released two public service announcements featuring actress Sigourney Weaver, her husband/director Jim Simpson, and boxing champion Jose Torres. The PSA's, in both English and Spanish, urge all individuals who worked or volunteered in the affected area to register. Information is available at www.nycosh.org/environment_wtc/WTC/Late9-11WCclaimsAmendment.htm.

for the men, women, and children who lived through the worst terrorist attack in our nation's history.

APPENDICES

1. Participants in the WTC Mayoral Review Panel
2. City Agencies and Other Entities Interviewed by Panel Staff and Dates of Constituent Forums
3. Cost Analysis Appendix – Treatment and Medication
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5. Workers’ Compensation and Pension Issues
6. Acronym Index
7. WTC Mayoral Review Panel – City Agency Survey

APPENDIX 1

Participants in the WTC Mayoral Review Panel

Panel Co-Chairs

Linda I. Gibbs, *Deputy Mayor for Health and Human Services*
Edward G. Skyler, *Deputy Mayor for Administration*

Panel Participants

Alan D. Aviles, *President & Chief Executive, Health and Hospitals Corporation*
Dr. Ramanathan Raju, *Executive Vice President Medical & Professional Affairs*
Dr. Joan Reibman, *Associate Director of Medicine and Environmental Medicine, NYU Medical Center, and Director, WTC Environmental Health Center at Bellevue*
Joseph F. Bruno, *Commissioner, Office of Emergency Management*
David J. Burney, *Commissioner, Department of Design and Construction*
Michael Cardozo, *Corporation Counsel*
Anthony Crowell, *Counselor to the Mayor*
John J. Doherty, *Commissioner, Department of Sanitation*
Thomas R. Frieden, M.D., M.P.H., *Commissioner, Department of Health and Mental Hygiene*
Dr. Lorna Thorpe, *Ph.D., Deputy Commissioner, Division of Epidemiology*
James F. Hanley, *Commissioner, Office of Labor Relations*
Charles S. Hirsch, M.D., *Chief Medical Examiner*
Martin F. Horn, *Commissioner, Department of Correction*
Raymond W. Kelly, *Commissioner, New York City Police Department*
Dr. Eli J. Kleinman, *Supervising Chief Surgeon*
Mark Page, *Director, Office of Management and Budget*
Bud Larson, *Associate Director*
Nicholas Scoppetta, *Commissioner, New York City Fire Department*
Dr. Kerry Kelly, *Chief Medical Officer*
Dr. David Prezant, *Deputy Chief Medical Officer*
Iris Weinshall, *Commissioner, Department of Transportation*

APPENDIX 2

City Agencies and Other Entities Interviewed by Panel Staff and Dates of Constituent Forums¹⁴⁴

City Agencies

1. Department of Design and Construction (DDC)
2. Department of Environmental Protection (DEP)
3. Department of Correction (DOC)
4. Department of Education (DOE)
5. Department of Probation (DOP)
6. Department of Transportation (DOT)
7. Department of Sanitation (DSNY)
8. Fire Department (FDNY)
9. Health and Hospitals Corporation (HHC)
10. Police Department (NYPD)
11. Office of the Chief Medical Examiner (OCME)
12. Office of Emergency Management (OEM)
13. Department of Parks & Recreation (DPR)

Organizations

1. American Group Psychotherapy Association
2. Bellevue Hospital Center
3. Beyond Ground Zero
4. Charles B. Wang Community Health Center
5. Correction Captains' Association
6. Correction Officers' Benevolent Association
7. District Council 37
8. Elected Officials
9. EMS Retiree Association
10. Friends of Firefighters
11. GHI
12. HIP
13. Human Services Council
14. Latin American Workers Project
15. Mental Health Association of New York City
16. Mt. Sinai Medical Center

¹⁴⁴ Along with holding separate meetings with representatives the Panel in its forums heard from members of a variety of organizations. These include: 9/11 Environmental Action, Asian American Legal Defense and Education Fund, New York Asian Americans for Equality, Battery Park City United, Borough of Manhattan Community College, Chinatown Partnership Local Development Corporation, Chinese Consolidated Benevolent Association, Community Board 1, Community Board 2, Community Board 3, St. John's University, Tribeca Community Association, Alliance for Downtown New York, Goldman Sachs, Bank of New York, Merrill Lynch, Citigroup, New York Metropolitan Transportation Council, Partnership for New York City, JP Morgan Chase, From the Ground Up, Morgan Stanley, Rebuild with a Spotlight on the Poor Coalition, World Trade Center Resident Coalition, Good Old Lower East Side, Inc. (GOLES) New York State Public Employees Federation AFL-CIO, Independence Plaza North Tenant Association, and University Settlement.

17. Mt. Sinai Consortium
18. Municipal Labor Committee
19. Police Organization Providing Peer Assistance (POPPA)
20. New York Committee for Occupational Safety and Health (NYCOSH)
21. New York Disaster Interfaith Services (NYDIS)
22. New York Police Foundation
23. New York State Laborers
24. New York State Building & Trades Council
25. The *New York Times* Company Foundation
26. Uniformed Emergency Medical Services Officers
27. Uniformed EMTs and Paramedics
28. Uniformed Firefighters' Association
29. Uniformed Fire Officers Association
30. Uniformed Sanitation Chiefs Association
31. Uniformed Sanitationmen's Association
32. Patrolmen's Benevolent Association
33. Detectives Endowment Association
34. Project COPE
35. Red Cross (NYC)
36. Safe Horizon
37. Salvation Army
38. St. Vincent's Catholic Medical Center
39. Teamsters union

Other Interviews

1. National Institute for Occupational Safety and Health
2. The World Trade Center Health Registry
3. Congressional staff

Constituent Forums

1. Residents (Jan. 2, 2007)
2. Businesses (Jan. 3, 2007)
3. Community Board 1 (Jan. 9, 2007)
4. Residents (Jan. 25, 2007)

APPENDIX 3

Cost Analysis Appendix --Treatment and Medication

Panel experts and staff made separate cost estimates for treatment of respiratory and mental-health conditions. Mental Health treatment was further sub-divided into medicated and non-medicated regimens. Using the DOHMH Clinical guidelines to identify the range of known WTC-related respiratory and mental-health illnesses (“WTC Clinical Guidelines”)—a collaboration with the FDNY Bureau of Health Services and the Mt. Sinai consortium—the cost estimate presented in Section VI of the Report is on actual treatment data from the FDNY and Bellevue programs. These treatment regimens were heavily weighted towards the first years of treatment, when the need for diagnostic testing is greatest and when more frequent visits may be required to stabilize symptoms and adjust medications.

For upper and lower respiratory treatment (e.g., for sinus and asthma) panel experts assumed that an average number of 6 visits in year one (an initial visit with 5 follow-ups) and that nearly all patients would require chest radiographs, simple breathing tests (spirometry) and complex breathing tests (lung volumes and diffusion). Those with unusual presentations or who are non-responsive to treatment (could range from 10% to 33%) would require more advanced or invasive testing, such as chest CT scan, sinus CT scan, direct visualization of the upper airway (laryngoscopy), esophagus (endoscopy) or lower airway (bronchoscopy). Rarely, biopsy of abnormal tissue may be required. Medication needs are based on the American College of Chest Physicians’ chronic cough guidelines panel experts developed three typical regimens for WTC-related respiratory illness based on FDNY experience.

The same process was followed to develop a treatment regimen for mental health conditions—primarily WTC-related PTSD, depression, anxiety and persistent grief. Panel experts used the WTC Clinical Guidelines and FDNY experience to estimate treatment regimen and costs. As would be expected, the overall cost of treatment is driven by both the number of treatment visits (25 to 50 per year for individual and/or group therapy) and medications.

APPENDIX 4

WTC Health Legislation Introduced in the U.S. Congress¹⁴⁵

2007

9/11 Heroes Health Improvement Act of 2007 (S.120), introduced by Senator Clinton in January 2007. Cosponsored by Senators Schumer, Kennedy, Lautenberg and Menendez.

Would provide over \$1.9 billion in medical and mental health monitoring and treatment grants, available from 2008-2012, to eligible entities to provide medical and mental health monitoring, tracking, and treatment to individuals (including responders, workers, volunteers and residents) whose health has been directly impacted as a result of the attacks on New York City and at the Pentagon on September 11, 2001. Funding would be administered through the Centers for Disease Control and Prevention. Entities receiving grants under this bill would have to use funds to provide assistance in the following order of priority: 1) uninsured individuals; 2) individuals needing health care beyond what their insurance provides; 3) individuals with insufficient health-care insurance coverage; 4) others individuals.

2006

The Remember 9/11 Health Act (H.R. 6124), introduced by Representative Maloney in September 2006. Cosponsored by Ackerman, Bishop (NY), Crowley, Engel, Fossella, Grijalva, Hinchey, McCarthy, McNulty, Meehan, Meeks, Owens, Pascrell, and Serrano

Would provides federal health insurance, modeled after a program that provides health coverage for injured volunteer forest firefighters, to individuals suffering injuries and/or health problems as a result of 9/11. Also would include mental health and prescription drug coverage. Would direct the Department of Health and Human Services (HHS) to award grants or cooperative agreements to specified programs, including FDNY's, to carry out screening and clinical examinations and long-term health monitoring and analysis for up to 20 years for up to 40,000 eligible individuals. Would allow HHS to establish a similar program for those affected by the

¹⁴⁵ Updated through January 31, 2007.

Pentagon attack of 9/11. Would direct the National Institutes of Health to conduct or support diagnostic and treatment research for health conditions that are associated with the exposure to the 9/11 attacks. Would establish the 9/11 Health Emergency Coordinating Council for the purpose of discussing, examining, and formulating recommendations for the adequacy and coordination of the Federal government's, state governments' and local governments' response to 9/11. Would authorize \$1.9 billion for the first five years and such sums as necessary thereafter. Senator Clinton, with Senators Schumer and Kennedy as original co-sponsors, introduced companion legislation with similar provisions in September 2006 (S. 4022). Representative Maloney introduced earlier versions of the legislation in March 2004 (H.R. 4059) cosponsored by Representatives Bishop (NY), Emanuel, Frost, Grijalva, Hinchey, Kind, McHugh, McNulty, Nadler, Owens, Rangel, Serrano, Shays, Towns, and Weiner.

James Zadroga Act of 2006 (H.R. 6045), introduced by Representative Maloney in September 2006. Cosponsored by Representatives Bishop (NY), Engel, Fossella, Grijalva, Hinchey, Honda, Kelly, King, McCarthy, Meehan, Nadler, Rangel, Serrano, Smith and Wexler.

The bill would reopen the September 11th Victims Compensation Fund (VCF) for individuals who became ill or did not file before the original December 22, 2003 deadline. Amends eligibility rules so that responders and others (including area workers, residents and school children) who arrived at the site or were exposed later than the first 96 hours after the attack could be eligible if they experienced illness or injury from exposure to the site. Would allow previous awards to be adjusted if the Special Master of the VCF determines the medical condition of the claimant warrants an adjustment.

Representative Maloney had previously introduced legislation to reopen the VCF through The Victims Compensation Fund Extension Act in September 2004 (H.R. 5076) with cosponsors Bishop (NY), McCarthy, Price, Serrano, and Towns and, in February 2005 (H.R. 565), with cosponsors Bishop (NY), Hinchey, Israel, Jackson-Lee, McCarthy, Menendez, Nadler, Owens, Serrano, and Weiner. Senator Menendez, with Senators Clinton, Schumer, and Lautenberg as original cosponsors, introduced a companion bill in the Senate (S. 3891).

The 9/11 Comprehensive Health Benefits Act (H.R. 6046), introduced by Representative Nadler in September 2006. Cosponsors were: Representatives Ackerman, Allen, Andrews, Bishop (GA), Bishop (NY), Brown, Christensen, Conyers, Crowley, DeLauro, Engel, Eshoo, Filner, Green, Grijalva, Hastings, Higgins, Hinchey, Holt, Israel, Jackson-Lee, Kucinich, Lantos, Lee, Lowey, Markey, Matsui, McCarthy, McDermott, McGovern, Meehan, Meeks, Miller, Neal, Norton, Oberstar, Olver, Owens, Pallone, Pascrell, Payne, Rothman, Roybal-Allard, Rush, Serrano, Slaughter, Solis, Stark, Towns, Velazquez, Waters, Weiner and Woolsey.

Would extend Medicare benefits to individuals with adverse physical or mental health conditions associated with exposure to the terrorist attacks – including first responders, rescue and recovery personnel, and other individuals exposed to hazardous substances, pollutants or contaminants – and cover their 9/11 health-related illnesses. All costs for such illnesses, including premiums, deductibles, and co-pays, would be covered. For those with private insurance, Medicare would provide supplemental coverage for 9/11-related conditions. Would establish a consortium of institutions, practitioners, and community-based organizations that would act as the Federal government’s primary mechanism for screening, monitoring, testing and research for 9/11 health conditions. As part of consortium, the Federal government would also be responsible for setting up a state-of-the-art health care facility in Lower Manhattan focused on 9/11 health.

Senator Clinton introduced a companion bill (S. 4021) in the Senate, with Senators Schumer and Kennedy as original cosponsors.

APPENDIX 5

Workers' Compensation and Pension Issues

Thousands of City employees participated in the rescue, recovery and clean-up of the World Trade Center disaster. The City bears a special responsibility to ensure that the best health care, based on the most current research, is available to those who are ill, or who may someday develop symptoms associated with the 9/11 attacks. The analysis and recommendations presented in this report are directed to meeting those responsibilities. Intertwined with these efforts are issues arising from the provision of workers' compensation and pension benefits that many employees—and eventually, retirees—must rely upon when they are injured or retire from City service. Although a full treatment of these subjects is beyond the scope of this report, the Panel devoted considerable time to looking at aspects of the workers' compensation and pension systems that bear particularly on 9/11 health issues and believes that these subjects merit further analysis and consideration by the City.

1. Workers' Compensation

Workers' compensation benefits are available for all injuries or deaths that arise out of and in the course of employment.¹⁴⁶ Eligibility is determined by the New York State Workers' Compensation Board (WCB) and administered by the City's Law Department. A City employee¹⁴⁷ seeking workers' compensation should submit it through their agency,¹⁴⁸ which in turn transmits the claim to the Law Department for submission to the WCB. The Workers' Compensation system is well-equipped to handle typical workplace injuries that are apparent from the moment an accident or other injury-causing event takes place (e.g., when a worker sprains his or her back moving office equipment). But problems have arisen in the adjudication and administration of 9/11-related claims—particularly for conditions that an employee claims are attributable to 9/11, but that did not manifest within two years of the 9/11 attacks or the end of the recovery and clean-up operations.¹⁴⁹ Under the law, claims not submitted within two years of an injury are considered untimely and the City is required—absent special

¹⁴⁶ The benefits include wage replacement (of up to \$400 per week); medical treatment related to the injury; death payments to statutory dependents; in the case of no dependents, a lump sum of \$50,000 payable to the decedent's parents or estate.

¹⁴⁷ Other than uniformed police officers, firefighters uniformed sanitation workers, and pedagogical employees at the Board of Education, who are not eligible.

¹⁴⁸ Or, in the alternative, to the state WCB.

¹⁴⁹ Two years is the statute of limitations to file a workers compensation claim.

circumstances—to petition the WCB to deny the claim as late. And even if the timing issue could be resolved—as a recently enacted state law sought to do¹⁵⁰—the workers’ compensation law places the burden on the employee to prove that his or her injury was a result of participating in the WTC recovery and clean-up operations. In most 9/11-related cases, we do not yet know—as earlier sections of this report make clear—whether particular conditions are caused by exposure to the WTC disaster. The result of these factors, as confirmed by discussions with the Law Department and union representatives, is that the City is obligated to challenge a high proportion of workers’ compensation claims as late and/or lacking medical evidence,¹⁵¹ and employees do not get the benefits they seek. Until we have better medical evidence of the health effects of 9/11, or the state changes the workers’ compensation scheme to better-address late-emerging 9/11-related claims, this unfortunate tension will continue.¹⁵²

The state did create a mechanism, administered by the WCB, through which enrollees who do not currently have, but could potentially develop a 9/11-related illness can remain eligible for workers’ compensation benefits. The registration deadline is August 14, 2007 and only 3,000 notices have been filed to date. Labor organizations have made significant efforts to promote registration, but have asked the City to join in that effort.¹⁵³

2. Pensions

Retirees of the City of New York with sufficient service are eligible to receive a pension. The City has five defined benefit pension plans: the New York City Employees’ Retirement System (“NYCERS”), the Police Pension Fund (“PPF”), the Fire Department Pension Fund (“Fire System”), the Teachers Retirement System (“TRS”), and the Board of Education Retirement System (“BERS”). In certain cases, members can qualify for accident or ordinary

¹⁵⁰ See Chapter 446 of 2006.

¹⁵¹ The City has controverted 35% total WTC-related claims, and 17% of WTC-related claims filed by FDNY members (almost all EMS, though a small share are FDNY civilian workers). As a general matter, the City controverts only about 5% of total workers’ compensation claims.

¹⁵² Although it will do little to address the problems discussed here, the Law Department, which is a member of the Panel, has committed to expedite the submission of 9/11-related claims to the WCB in an effort to have them adjudicated as quickly as possible. Working with the City Agency liaisons, the Law Department will ensure that any 9/11-related workers’ compensation claim submitted through a City Agency is processed and transmitted to the WCB within 48 hours of receipt.

¹⁵³ Recently the Business and Labor Coalition of New York (BALCONY) along with NYCOSH have released two public service announcements featuring actress Sigourney Weaver, her husband/director Jim Simpson, and boxing champion Jose Torres. The PSA’s, in both English and Spanish, urge all individuals who worked or volunteered in the affected area to register. Information is available at www.nycosh.org/environment_wtc/WTC/Late9-11WCclaimsAmendment.htm.

disability pension benefits.¹⁵⁴ The World Trade Center Presumption Bill, enacted in 2005, makes it easier for certain 9/11 responders to qualify for an accident disability pension by presuming that certain disabling conditions are the result of WTC-related work, unless the contrary is proved by “competent evidence.”¹⁵⁵ The death benefit bill, enacted last year, provides a death benefit for all who qualify under the presumption bill.¹⁵⁶

Unions representing uniformed employees view the WTC Presumption Law and Death Benefit Law as positive developments.¹⁵⁷ However, the bills do not rely on medical research, but presume that certain conditions are the result of the 9/11 attacks. This is problematic in cases where a pension plan’s medical board determinations are broader than those of the agency’s medical clinic. For example, under the Presumption Law, the Police Pension Fund’s medical board may find that an applicant is disabled by a qualifying condition. If there is no competent evidence to rebut the presumption afforded by the law, the medical board will recommend that the applicant be awarded an accident disability pension. However, the NYPD Medical Division line-of-duty injury decisions are based on the DOHMH WTC clinical guidelines and the latest available medical research, and their decisions may appear to be contradictory. As a result, a uniformed officer may not be deemed to have suffered a line-of-duty injury, but upon retirement, will be eligible for a disability pension.¹⁵⁸ This tension is an unfortunate by-product of the Presumption Bill which, though generous to its beneficiaries, makes categorical determinations that cannot yet (and may not ever) be attributable to the 9/11 attacks. The Medical Working Group recommended in this report should continue to study this issue, and LODI decisions

¹⁵⁴ An ordinary disability retirement benefit may be payable when a disability, that is not the result of a work related illness or injury, prevents members from performing the routine duties of their job titles. An accidental disability retirement benefit may be payable when a disability is the result of accidental injury sustained while in the performance of City duties and not caused by willful negligence.

¹⁵⁵ This law applies not only to uniformed members of the NYPD, FDNY, DSNY and DOC, but it also covers EMS and other civilian employees who took a physical exam upon entry to City service and who participated in WTC rescue, recovery and clean-up operations. Other civilian employees are most likely ineligible because they probably did not have a physical exam prior to entry into civil service.

¹⁵⁶ For active uniformed members, the death benefit is 100% of the member’s final salary. (Half paid by the City, half paid by the State). For retired uniformed members, the death benefit is 50% of the member’s final salary. Survivors of a pension member who dies and otherwise meets the criteria under the WTC laws may apply for this benefit up to 25 years after the member’s retirement

¹⁵⁷ Additionally, representatives of civilian employees note that because the presumption bill requires a pre-employment physical, it only heightens the disparities between uniformed and non-uniformed responders.

¹⁵⁸ Similarly, fire union representatives have voiced concern that the doctors of the Fire System’s 1-B medical board utilize a different lung function test than the Bureau of Health Services (BHS) uses to determine whether a firefighter can return to full duty. This has created instances in which a firefighter passes the 1-B Medical Board test (and thus does not receive a disability retirement) but does not pass the BHS test (and thus may be receiving LODI medical benefits and cannot return to full duty). This has left many firefighters on light duty.

should be harmonized with pension-board decisions to the extent that such consistency is supported by the medical research.

APPENDIX 6

Acronym Index

Acronym	Agency
AOEC	Association of Occupational and Environmental Clinics
ATSDR	Agency for Toxic Substances and Disease Registry
BALCONY	Business and Labor Coalition of New York
BERS	Board of Education Retirement System
BHS	Fire Department Bureau of Health Services
CARE	Correction Assistance Response for Employees
CAU	Community Assistance Unit
CDC	U.S. Centers for Disease Control and Prevention
CHI	Department of Health and Mental Hygiene City Health Information Publication
CIC	Captive Insurance Company
City	City of New York
COEM	Mt. Sinai Center for Occupational and Environmental Medicine
COSH	Citywide Office of Occupational Safety and Health
CSU	Fire Department Counseling Services Unit
DDC	Department of Design and Construction
DEP	Department of Environmental Protection
DOB	Department of Buildings
DOC	Department of Correction
DOE	Department of Education
DOHMH	Department of Health and Mental Hygiene
DOT	Department of Transportation
DSNY	Department of Sanitation
EAP	Employee Assistance Program
ERD	Department of Sanitation, Emergency Response Division
ESC	Mt. Sinai Executive Steering Committee
FDNY	Fire Department
FEMA	Federal Emergency Management Agency
Fire System	Fire Department Pension Fund
GAO	United States Government Accountability Office
HHC	New York City Health and Hospitals Corporation
HHS	U.S. Department of Health and Human Services
HMD	Department of Correction Health and Management Division
HRIS	Fire Department Human Resources Information System
LMCCC	Lower Manhattan Construction Command Center

Acronym	Agency
LODI	Line of Duty Injury
NIOSH	National Institute for Occupational Safety and Health
NYCERS	New York City Employees' Retirement System
NYCOSH	New York Committee for Occupational Safety and Health
NYPD	Police Department
OEM	Office of Emergency Management
OLR	Office of Labor Relations
OMB	Office of Management and Budget
OMH	New York State Office of Mental Health
PCBs	Polychlorinated Biphenyls
POPPA	Police Organization Providing Peer Assistance
PPF	Police Pension Fund
PTSD	Post-Traumatic Stress Disorder
Registry	World Trade Center Health Registry
SAMHSA	Substance Abuse and Mental Health Services Administration
TRS	Teachers Retirement System
VCF	Victim Compensation Fund
WCB	New York State Workers' Compensation Board
WTC	World Trade Center

APPENDIX 7

WTC Mayoral Review Panel – City Agency Survey

Confidential
For Internal Agency use Only

WTC Mayoral Review Panel
September 26, 2006

Information Survey

The following survey requests information, to the extent that it is available, on four distinct populations exposed to the WTC site and surrounding area after the 9/11 attacks, to identify who may be at risk to develop a WTC-related illness or are currently ill:

1. City employees;
2. Employees of contractors who worked at the WTC site;
3. Volunteers who worked at the WTC site (e.g., Red Cross, Salvation Army); and
4. Clients and other constituencies exposed to the WTC site who are ill or may be at risk to develop WTC-related illness (e.g., businesses south of Canal Street, Chinatown residents, etc.)

For the purpose of this survey, “WTC site” means the World Trade Center site, the WTC-related Fresh Kills Landfill operation, the Office of the Chief Medical Examiner (OCME) and any other site where City employees, contractors, volunteers and other City clients or constituencies were exposed to conditions that caused or potentially could cause WTC-related illness.

We ask that you respond to the following requests only for City employees, contractors and volunteers of your agency or for clients and other constituencies served by your agency. This survey does not seek a definitive or complete account of your agency’s actions with respect to WTC health issues, but rather, is designed for the exclusive purpose of evaluating the current and future availability and sufficiency of resources for persons exposed to the WTC site and who have developed or may be at risk of developing WTC-related illness. Please prepare your responses with that goal in mind. Responses to this survey will be used to develop recommendations for the Mayor.

If you have relevant information that can partially satisfy a request, or information that is relevant but is not specifically requested, please explain what the information is and review the issue with Cas Holloway ((212) 788-8235), or simply provide it. Information can be provided in the format that is easiest for your agency to use (e.g., Excel spreadsheets); you do not need to fill out this form, though it will be helpful if your response is keyed to this request.

Please ensure that any information provided in response to this survey is disclosed in a manner consistent with the Health Insurance Portability and Accountability Act of 1996 (HIPAA), and any rules and regulations promulgated pursuant to the Act.¹ If you have any

¹ A summary of HIPAA and relevant rules and regulations prepared by the U.S. Department of Health & Human Services is available at <http://www.hhs.gov/ocr/privacy/summary.pdf>.

questions regarding the relevance or disclosure of any information collected in response to this survey, contact Cas Holloway ((212) 788-8235; cholloway@cityhall.nyc.gov) for further assistance.

Information Requests

- I. To the extent applicable, please provide the information requested for (i) City employees, (ii) contractors' employees, (iii) volunteers, and (iv) any other agency clients and constituencies who were exposed to the WTC site.

Note: Responses should separately address each of the four populations listed above. If a particular population is not relevant to your agency, please indicate that in your response.

- A. Please provide aggregate data showing how many employees, contractors' employees, volunteers or other clients or constituencies were exposed to the WTC site, where the exposure occurred, for what period of time, and the tasks performed. To the extent available, the data should include:

- (1) **[For City employees only]** How many employees remain active at the agency (or within City government), how many are retired and how many are deceased.

(a) Of active City employees, how many are on (i) sick leave or (ii) light duty or (iii) worker's compensation or other disability in connection with a WTC-related injury or illness?

(b) Please provide aggregate data on the number of employees exposed who were covered by city-funded health insurance as of September 11, 2001, the coverage providers/plans, and any changes in coverage status, if available.

- (2) **[For clients or constituencies only]** Please provide data explaining what the client or constituency group is and the basis for identifying the clients or constituency as an exposed group;

- B. Since September 11, 2001, how has your agency tracked and/or monitored exposed City employees, contractors' employees, volunteers and/or clients and other constituencies for WTC-related health issues or for any other WTC-related reason?

- C. Since the completion of the rescue and recovery efforts, has your agency established any formal communications programs regarding WTC health issues for exposed City employees, contractors' employees, volunteers and/or clients and other constituencies? What information is provided, and how frequently is such information conveyed?

- (1) **[For contractors' employees and volunteer organizations]** Has your agency had any communications with relevant contractors and volunteer organizations about treatment for WTC-related health conditions of exposed individuals or requested any information about such conditions and treatment?
 - (a) If so, please indicate the contractor's or volunteer organization's response to the request and whether you can provide the information submitted.
- D. Since the completion of the rescue and recovery efforts, what mechanisms exist or have existed for exposed City employees, contractors' employees, volunteers and/or clients and other constituencies to communicate with agency personnel about WTC health-related issues? How is such information received, catalogued and acted on?
- E. Please provide a summary of health-related services available since September 11, 2001 to exposed City employees, contractors' employees, volunteers and/or clients and other constituencies, including whether your agency provided and/or provides any treatment services to these populations. Responses to this request should include:
 - (1) A description of available treatment(s);
 - (2) Whether such treatments are covered by participating populations' health insurance (or any relevant health insurance data);
 - (3) Any data on the extent to which exposed City employees, contractors' employees, volunteers and/or clients and other constituencies have used such services and the quality of such services;
 - (4) The approximate annual cost of providing these services to exposed City employees, contractors' employees, volunteers and/or clients and other constituencies, and projected annual costs for as many years as you are able to provide;
 - (5) If these services are not covered by health insurance, explain how these services are funded (e.g., tax-levy, state/federal grants, philanthropy, etc.);
 - (a) To the extent possible, please identify any known shortfalls in available funding in future years; and
 - (6) Out of pocket costs incurred by exposed City employees, contractors' employees, volunteers and/or clients and other constituencies for services not covered by insurance or other funding (if any).

- F. Provide any available data that shows whether exposed City employees, contractors' employees, volunteers and/or clients and other constituencies:
- (1) Have been diagnosed with a known WTC-related health condition; or
 - (2) Have no known health condition in connection with exposure to the WTC site; or
 - (3) Whose health status is unknown.
- G. Since the completion of the rescue and recovery efforts, please explain how your agency has collected, reviewed, reported and disseminated trend data or other information about the health of exposed City employees, contractors' employees, volunteers and/or clients and other constituencies.
- H. [For City employees and contractors' employees only] Since September 11, 2001, has any person, organization or entity (e.g., a labor union that represents exposed employees, a FOIL request, etc.) requested and has your agency provided any information regarding WTC-related health effects pertaining to City employees or contractors' employees?
- II. Does your agency generate any reports or other compilation of information regarding WTC-related illness with respect to your agency's employees, clients, volunteers or other clients or constituencies?
- A. How is such information shared among City agencies and between your agency and any state or federal government entity or any other group?
 - B. Please provide any suggestions to improve existing channels of communication for such information or to establish new means of communicating such information
- III. Please provide any other information not specifically requested, but that may be relevant to the issues covered in this survey.