September 11 and the Shifting Priorities of Public and Population Health in New York

by David Rosner and Gerald Markowitz

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Foreword

David Rosner and Gerald Markowitz are writing the history of the effects of the horrible events of September 11 on policy for the health of populations in the United States. In this report, the first of three that are planned, they examine the politics of policy in New York City. They base their report on interviews, accounts by journalists, and the first public documents to be released. They emphasize responses to the attack by officials responsible for public health, environmental, educational, and social welfare policy and by various segments of the public.

The authors conclude, "While the immediate response revealed the surprising strength of the existing public health and social welfare infrastructure in New York City, the attack also revealed important weaknesses in that infrastructure. . . ." The most important implication of this conclusion for the immediate future is that policy for response to emergencies "must continue to expand the purview of public health" to include the "breadth of social and medical activities that determine a population's health and well-being."

The Milbank Memorial Fund, an endowed philanthropic foundation, collaborates with decision makers in the public and private sectors to develop and implement policy that maintains and improves health. The Fund is eager to make available reliable information that could inform policymaking. Thus, the Fund is publishing Rosner and Markowitz's study of the impact of September 11 on policy in three installments in order to make it widely available as soon as segments have been researched, written, reviewed, and edited.

Rosner and Markowitz are distinguished historians who have written extensively about recent events. Brief descriptions of their careers are at the end of the report. Many people made possible their research and the

prompt publication of their findings. They are identified in the Acknowledgments.

Daniel M. Fox
President

Samuel L. Milbank
Chairman

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The following persons were interviewed for this report and/or reviewed it in draft. They are listed in the positions they held at the time of their participation.

Barbara Aaron, Director, 9/11 Projects, Department of Epidemiology, Mailman School of Public Health, Columbia University; Mimi Abramovitz, Professor of Social Policy, Hunter College School of Social Work; Edward L. Baker, Director, Public Health Practice Program Office, Centers for Disease Control and Prevention; Susan Blank, Deputy Commissioner, New York City Department of Health; Andy Goodman, Associate Commissioner, Community HealthWorks, New York; Richard N. Gottfried, Chair, Health Committee, New York State Assembly; Norma D. Gyle, Deputy Commissioner, Connecticut Department of Public Health; Richard J. Jackson, Director, National Center for Environmental Health, Centers for Disease Control and Prevention; Igal Jellinek, Executive Director, Council of Senior Centers and Services of New York City; David Klasfeld, Deputy Chancellor for Operations, New York City Board of Education; Jack Krauskopf, Chief Program Officer, 9/11 Services Group, New York; Keith Kutler, Assistant Attorney General, Oregon Department of Justice; Stephen Levin, Medical Co-Director, World Trade Center Worker and Volunteer Medical Screening Program, and Medical Director, Mount Sinai-Irving J. Selikoff Clinical Center for Occupational and Environmental Medicine, Mount Sinai School of Medicine; John R. Lumpkin, Director, Illinois Department of Public Health; Ekaterina Malievskaia, Research Associate, Center for the Biology of Natural Systems, Queens College; Steven Markowitz, Director, Center for the Biology of Natural Systems, Queens College; Kelly McKinney, Associate Commissioner, Environmental Health Services, New York City Department of Health; Benjamin Mojica, Senior Assistant Vice President, New York Health and Hospitals Corporation; Sandra Mullin, Associate Commissioner, Office of Public Affairs, New York City Department of Health; Jerrold Nadler, Member, Judiciary Committee, U.S. House of Representatives; Gail B. Nayowith, Executive Director, Citizens' Committee for Children, New York; Peggy Reeves, Chair, Appropriations Committee, Colorado Senate; Allan Rosenfield, Dean, Joseph L. Mailman School of Public Health, Columbia University; Steve Rubin, Deputy Director, STD Control Program, New York City Department of Health; Samuel Sebiyam, Clinical Consultant, New York City Department of Health; Steve Siegfried, Chairman, Governor's Security Council, Office of the Governor of South Carolina; Marvin A. Singleton, Chair, Public Health and Welfare Committee, Missouri Senate; Kathy W. Stein, Vice Chair, Health and Welfare Committee, Kentucky House of Representatives; Ezra S. Susser, Chair, Department of Epidemiology, Mailman School of Public Health, Columbia University; Kathleen E. Toomey, Director, Division of Public Health, Georgia Department of Human Resources; Doris Varlese, Associate General Counsel, Greater New York Hospital Association; Susan C. Waltman, Senior Vice President and General Counsel, Greater New York Hospital Association; Isaac Weisfuse, Deputy Commissioner, New York City Department of Health; and Lucindy Williams, STD Clinic Manager, New York City Department of Health.

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Executive Summary

The experience of the September 11 attacks on the World Trade Center and the Pentagon has highlighted the interrelationships among biological, sanitary, medical, social, and economic factors that together affect

the well-being of populations.

This report, the first of three, steps back from the immediate crisis and examines the response by local public health, environmental, educational, and social welfare personnel and the political agendas that began to shape the response in the weeks and months following the attack on New York City in particular. In future reports we will look at the impact on state and federal population health policies and how they were implemented.

Here we focus on certain issues that seem particularly salient because of the historical lessons they present:

- New York's extensive public health and social welfare infrastructure played a critical role in the relatively smooth response to the immediate crisis in the days and weeks following the attack on the World Trade Center (WTC) on September 11.
- The drive for a return to normalcy in social and political life came into conflict with principles of openness, resulting in increasing distrust among large segments of health, social welfare, and political leaders.
- The initial response of the public health and social welfare communities was to abandon decades-long—indeed, century-long—practices that had often inhibited access to a variety of services. Immediately following the attack on New York, a more open and accessible system of social services was instituted. But this early promise of greater access to health and social welfare services, irrespective of income, was soon lost.

While the immediate response revealed the surprising strength of the existing public health and social welfare infrastructure in New York City, the attack also revealed important weaknesses in that infrastructure that will have to be addressed in the future. Much of the success in organizing a response had less to do with the formal organization of emergency planning or conscious preparation than with the existence of an ongoing infrastructure of services, laboratories, and personnel. What has come to light in this unprecedented experience is that we need to expand our understanding of the limitations of our current individualized mental health system and integrate that system more broadly into our public health infrastructure.

If we have learned anything, it is that the failure to acknowledge uncertainty in communications is a big mistake. Our misuse of the public's trust and goodwill through the assertion of obviously counterintuitive pronouncements by public officials or public health spokespeople ultimately backfires, leading to a loss of authority by those making the pronouncements.

This was an attack on the nation, not just New York City. When national threats are present, clear lines of federal and other authority need to be defined. Local authority need not be usurped, but decisive leaders who control resources and make decisions with good personal and situational intelligence are needed in times of crisis.

One of the fundamental findings of this study is that the very definition of emergency response must continue to expand the purview of public health so that professionals in the field understand the breadth of social and medical activities that determine a population's health and well-being. The events of the past year have spurred this redefinition, forcing government officials, indeed all of us, to rethink what health is, what agencies are responsible for a population's health, and what the public's role is in defining a healthful or unhealthful environment.

Introduction

September 11, 2001, affected virtually all aspects of American life, from foreign policy and domestic security to philanthropy, social services, and health policy. Social welfare, public health, health care, and environmental issues, generally seen as separate spheres, are increasingly understood as interrelated components of a traumatized nation's and city's mental and social well-being and emergency preparedness, and the opportunities to integrate these concerns are immense. The experience of September 11 has highlighted the interrelationships among biological, sanitary, medical, social, and economic factors that together affect the well-being of populations. Perhaps more directly than at any time in the recent past, September 11 has illustrated that a population's health "encompasses a broader array of determinants of health than the field of public health has previously addressed" and has made all the more critical the "emerging theory and practice of population health," one that incorporates "the traditional concerns of public health" with "such issues as the effects on health status of . . . relative income and social status, racial and

gender disparities, and educational achievement."[1]

This report, the first of three, is based upon interviews with relevant officials and actors in the public health, social services, political, and educational communities, whose views do not necessarily reflect the opinions of the organizations with which they are affiliated. Here, we step back from the crisis and examine the immediate reaction to the disaster by local public health, environmental, and social welfare personnel and the political agendas that began to shape the response in the weeks and months following the attack. In future reports we look at the impact on state and federal population health policies and how they were implemented. While not promising a comprehensive survey of all the various public and private functions that affect population health, we will focus on certain issues that seem particularly salient because of the historical lessons they may present:

- New York's extensive public health and social welfare infrastructure played a critical role in the relatively smooth response to the immediate crisis in the days and weeks following the attack on the World Trade Center (WTC) on September 11.
- The drive for a return to normalcy in social and political life came into conflict with principles of openness, resulting in increasing distrust among large segments of health, social welfare, and political leaders.
- The initial response of the public health and social welfare communities was to abandon decades-long—indeed, century long—practices that had often inhibited access to a variety of services. Immediately following the attack, a more open and accessible system of social services was instituted. However, this early promise of greater access to health and social welfare services, irrespective of income, was soon lost.

The report is organized both chronologically and thematically.

- First, we review the immediate response of New York City's Department of Health to the attack on the World Trade Center and the subsequent outbreak of anthrax.
- Second, we analyze the difficulty of establishing responsible policies regarding the city's and nation's need to return to normalcy in the face of enormous scientific uncertainty about the potential health hazards of dust, debris, and toxic materials in the neighborhoods and schools near the World Trade Center site.
- Third, we address the special immediate threats the disaster posed to the population's health. Of particular importance were the social service and mental health sectors, which were largely organized through voluntary agencies. In this section we discuss the immediate and longer-term responses of these agencies and the problems encountered in their adjustment to long term population health needs.
- In sum, the study begins with the narrowest conceptions of health as defined by the activities of the New York Department of Health and broadens to include the agencies and issues that affect population health policy.

This report examines the tensions that shaped reactions to the attack on the World Trade Center and responses to the subsequent anthrax outbreaks. While the immediate response showed the surprising strength of the existing public health and social welfare infrastructure in New York City, the attack also revealed important weaknesses in that infrastructure that will have to be addressed in the future. At times the decentralized system of social and public health services was a strength in responding to disasters that were both unpredictable and varied. At times the need for a greater degree of centralization of services and control was apparent. At times the political and public health leadership were effective in communicating what was known and not known about the dangers to the public's health and welfare, while at other times a confusing array of messages, emanating from a variety of political leaders with differing agendas, led to distrust by the broader public.

The history we relate in the following pages must be understood as being deeply imbedded in ongoing political and social struggles around political power, race, neighborhood redevelopment, immigration, and the responsibilities of New York City's largely voluntary social service system. Despite the near-unanimous portrayal of a nation united in the weeks after September 11, in reality, from virtually the first minutes following the attack the depiction of the events was shaped by continuing social divisions between rich and poor, black, Hispanic, and white, and even Republicans and Democrats. For example, in the weeks following September 11, Joseph Bruno, the New York State Senate majority leader, compared the responses to September 11 in the two communities most directly affected: New York and Washington. In New York, Bruno argued, an efficient and well-ordered emergency response system effectively mobilized a vast array of

resources that, through the leadership of Republicans Governor George Pataki and Mayor Rudolph Giuliani, effectively calmed the public and answered the immediate needs of a traumatized community. As Bruno put it, "The leadership they provided moments after the disaster came after years of putting together an excellent response plan." In Washington, D.C., however, Bruno maintained, the lack of effective local political leadership and an emergency plan led to a confused, disjointed set of decisions that were ineffective in calming the public or providing needed services. "Local leaders [can] look to Washington, D.C., and New York City for dramatic examples of one city that wasn't prepared to respond to terrorist attacks and another that was."[2] Certainly, Bruno gave major credit for the success of New York's response effort to the Republican leadership of the city and state, contrasting it with the Democratic local leadership in Washington, D.C., and effectively ignoring the fact that local government in Washington is largely in receivership to the federal government, and that the attack was in Virginia, while Washington itself was untouched.

Here we turn a skeptical eye on the underlying politics that have driven the city's reaction to September 11. We take for granted that the response of the city's political leadership was built around existing social tensions, as well as on an infrastructure that was put in place during the course of the twentieth century, especially during the administration of Fiorello La Guardia in the midst of the crises of the Great Depression and the decades after World War II, when New York experimented with a wide variety of public health and social welfare programs.[3] In contrast to Bruno's depiction of events, one that personalizes our "successful" response, we argue that implicit national priorities distorted our reactions to health and welfare policies in the period following the attacks. The effectiveness and ineffectiveness of the emergency response rested only in part on the political leadership of the city and state, the planning for emergencies through the State Emergency Management Office (SEMO), or even the Federal Emergency Management Agency (FEMA), although all played a role.

The Emergency Response in the Hours after the Attack

Although the city initially took the lead in the emergency response, certain state and federal agencies were involved in coordinating aid and resources from around the state and nation. Since 1996, New York State has had in place an Emergency Management Office charged with responding to a variety of natural disasters that have crippled different areas around the state. Ice storms in the Adirondacks, hurricanes in the Hudson Valley, drought relief in the apple-growing districts in the center of the state, and other emergencies due to weather catastrophes have been the primary focus since the mid-1990s. In 2000, the anticipated computer meltdown that never occurred, "Y2K," broadened the mandate of the office beyond natural disasters. But while the World Trade Center (WTC) had been targeted and seriously damaged in 1993, the office was unprepared for the dimensions of the attack that occurred on September 11, 2001. In the space of only a few moments, a social as well as physical disaster overwhelmed the agencies that were normally expected to coordinate disaster relief.

The State Emergency Management Office (SEMO) helped coordinate the immediate response. SEMO called upon 31 emergency experts from 18 states associated with the Emergency Management Assistance Compact (EMAC)—a mutual aid agreement among states[4] that was initially organized to address natural disasters such as hurricanes, wildfires, toxic waste spills, as well as acts of terrorism—to help coordinate logistics and donations. (New York was not formally part of EMAC before September 11 but joined it through state legislative action in the days after the attack.)[5] Five other states also sent specialists in disaster relief. Through SEMO, 5,000 National Guard troops, 500 state troopers and K-9 units, 100 Bureau of Criminal Investigation personnel, and 2,500 crisis counselors were dispatched to the city. Also, the State Department of Health provided 400 workers to the New York City Department of Health to assist in expediting the issuance of death certificates for families of victims, to monitor air quality, and to coordinate volunteer personnel. In addition, the New York State Insurance Department, Empire State Development Corporation, Department of Transportation, and Department of Labor all provided a host of services.

The Federal Emergency Response

For some in the New York City Department of Health, the real "white knights," as Kelly McKinney, the department's Associate Commissioner of Regulatory and Environmental Health Services, put it, were the federal emergency response experts who appeared in the hours following the attack. Local health officials were appreciative of experts like Ron Burger, Senior Emergency Response Coordinator with the Centers for Disease Control and Prevention (CDC), who had experienced hurricanes, floods, earthquakes, fires, and

other natural disasters and who seemed unfazed by the events of September 11. Burger was among a small group of CDC and Health and Human Services experts that arrived in New York City on the afternoon of September 11. McKinney describes him as "sort of geeky in a loveable way. . . . He's got his CDC polo shirt with the pen around the neck and the emergency response I.D. card and the boots and stuff. . . . He's done this so many times. He probably sleeps in that." At meetings of the mayor's emergency response team, McKinney said, Burger didn't come in and tell everyone what to do but would sit there and listen: "He's a fly on the wall, and every once in a while he'd say something . . . and he'll sort of nudge you a little bit [and soon] he'll say something and then the light bulb would go on. All of a sudden, you'd say, 'Oh, I see.'"[6]

The lines of authority were frequently confused and unclear as federal, state, and local officials tried to give or take orders from their counterparts at different levels of government. McKinney remembers that at one meeting there were representatives from the Coast Guard and the Environmental Protection Agency (EPA), both of whom were giving guidance to city officials. "They knew this stuff had to be done. . . . They had to get the city to request it." "'You've got to request it. You're the city,'" McKinney recalls their saying. "They were looking for someone to request it. Anybody that was walking by, they grabbed them: 'Can you just request . . . this. Can you request?' People would be like, 'Get away from me.'" These early moments of chaos were overcome, but small and large conflicts over who had authority at any given moment was an ongoing issue in the weeks and months ahead.[7]

The Immediate Hospital Response

In the minutes and hours following the attack on the World Trade Center an astounding array of emergency vehicles—from fire trucks and police vans to ambulances from hospitals all over the city—gathered along the West Side Highway above Canal Street awaiting word about when to drive downtown to the disaster site to provide relief and pick up injured victims. Lining the highway for blocks were ambulances from virtually all the hospitals in Manhattan, Mt. Sinai, NYU, New York-Presbyterian, and Bellevue among them. The ambulances sat and sat as it became apparent that few of them were needed for what they had expected would be massive casualties; the terrorist attack had left many victims, but few survivors.

Like their ambulance services, the hospitals throughout the New York region had readied themselves for an onslaught of what they imagined to be thousands of patients who had survived the attack: They emptied their wards and rooms of all but their most seriously sick patients and mobilized their staffs to await the ambulances they expected would soon arrive at emergency room entrances. Hours and hours went by as doctors, nurses, orderlies, and technicians flooded to the institutions in anticipation. Yet, like the ambulance services, they found that they were not needed.

In the days to follow, administrators complained that the institutions had absorbed enormous costs as the emptied beds and closed services had deprived them of revenue. Who, they asked, should bear the costs of an emergency mobilization spurred by a sense of patriotism and civic duty? The city's hospitals had, through the Greater New York Hospital Association, made an enormous effort in the late 1990s to make sure they were prepared for the potential chaos that could ensue if the city's computers all crashed as a result of "Y2K." Susan Waltman, General Counsel, and Doris Varlese, Assistant General Counsel, of the Greater New York Hospital Association, agreed "that the extensive preparation and drilling done for Y2K were vital to the preparedness of New York area hospitals on 9/11."[8] "Though at the time some criticized the amount of money and attention spent to deal with a Y2K disaster that never materialized, 9/11 proved that the efforts were not wasted," despite the fact that the hospitals were not inundated with casualties.[9] Varlese recalls that she was with the mayor at Ground Zero shortly after the first plane hit and was at the fire station where emergency headquarters was set up. "Though they did not have the technology and equipment that would have been available to them in the regular emergency headquarters," she noted, "things functioned effectively and efficiently because everyone had been so well trained."[10]

The episode reveals the enormous resources available in New York, and that the institutions themselves were able to implement emergency protocols quickly and efficiently, despite the chaos of the moment and the lack of clarity as to the true extent or nature of the disaster. Even so, noted Richard Gottfried, New York State Assemblymember from Manhattan and Chair of the Assembly Committee on Health, despite the fact that the state had a disaster preparedness plan on the books, the Greater New York Hospital Association, among many others, testified at the Assembly Health Committee hearing that it "had no interaction with the disaster preparedness council that was supposed to implement the plan." Indeed, the disaster plan had not been updated since the early 1990s, and for all practical purposes "did not function" during the crisis.[11]

The Role of Voluntary Agencies

The day-to-day efforts to meet the needs of the city fell to voluntary agencies and departments of the city government, and many were struck by the order and coordination that marked these chaotic days and weeks. Richard Jackson, Director of the CDC's Center for Environmental Disease, reflected: "Never in my whole career had I ever experienced a sense of superb management and seamless coordination around a series of important issues. It could not have functioned more effectively. . . . I hate to say this, but New York was absolutely the best place in the country for this to happen, only because the networks of personnel, knowing who your peers were, knowing how the system would work, confidence in them, seamless communications whether electronic or otherwise, really had been pretty much set up."12

The New York City Department of Health

In the hours after the first plane hit, the department's various officials and staff were drawn into some of the most basic tasks of caring for people in crisis. Because of its location just a few blocks away from the World Trade Center, and because its staff was literally arriving at work at the moment of the attack, the Department of Health was well placed to mobilize an early response effort.

Providing Immediate Help

In the hours after the attack, Department of Health personnel provided emergency services to injured people who were streaming uptown escaping from Ground Zero. Susan Blank, Assistant Commissioner of the department's Sexually Transmitted Disease Control Program, remembers people coming into 125 Worth Street "truly covered in ash. Before, some people had like, yes, ash, but these people were caked in ash, their nostrils really covered in ash. People were singed, mucous membranes, people who were freaked. There were firefighters who came in here, there were police officers who came in here, there were citizens who came in here."13 Although the Department of Health headquarters on Worth Street, near City Hall, "was not ever envisioned as a clinical site,"14 and was not equipped to deliver any direct services, the staff rose to the occasion and converted the lobby of the building into a triage center where people were treated for dust inhalation, irritation to eyes, as well as scrapes, heart palpitations, and broken bones. Staff was called in from a variety of clinics around the city to serve as an emergency medical corp. Lucindy Williams, the Clinic Manager for STD clinics in Fort Greene and Williamsburg, Brooklyn, and Staten Island, recalls that she and other physicians from her clinic in Fort Greene immediately left Brooklyn with "a policeman and a police car escort[ing] us across the bridge to Manhattan."15 "We were here," remembered Isaac Weisfuse, the Department of Health's Deputy Commissioner for Disease Control, "and in the meantime they started bringing in causalities. That's something we actually never really prepared ourselves to deal with, because at the Health Department we have STD clinics and tuberculosis clinics, but we're not really a casualty" center. "Thankfully, they didn't bring anybody with more than broken bones."16 In fact, there is no reason why the Department of Health *should* have been prepared to deal with casualties, since it is the city's Emergency Medical Services and trauma systems that would provide such services.

But, while the department tried to adjust to the immediate demands placed upon it for medical care, its major focus was, in fact, on very traditional public health issues. Benjamin Mojica, Deputy Commissioner of Health and Director of the Division of Health, recalls coming out of the subway, on his way to jury duty, to see people staring at the tower that had just been hit by the first plane. He quickly altered his plan for the day and went to his office just across the street in the Foley Square complex of government buildings. He called in his emergency response team and organized a meeting in the conference room on the third floor at 125 Worth Street.17 The meeting mobilized virtually every unit of the department. Their plans included monitoring air quality, coordinating with other agencies to see to the safety of search and rescue workers, providing surveillance for illness and injuries at New York City hospitals, monitoring water quality around Ground Zero, inspecting food establishments below Canal Street, overseeing the distribution of food for rescue workers, and surveying the impact of the blast on rodent activity.

Traditional Public Health Services

There were 200 restaurants and other food outlets in the immediate area around the WTC, as Mojica pointed out, "with spoiling food, in addition to the stench. . . . there's going to be a potential for rodents to invade the area and help themselves of this big supply of food that was left behind." Working with other city agencies to mobilize inspectors, exterminators, and clean-up crews to "abate conditions conducive to rodent harborage," the Department of Health set about to enter restaurants that had been abandoned by owners and where decaying food was creating a tremendous insect and rodent problem. Mojica notes that he didn't "know how many tons of food we threw out . . . but it took us almost three weeks to" clear the restaurants,

food shops, and supermarkets of huge quantities of decaying matter.[18]

Restaurant inspectors were called downtown in the emergency, and therefore north of Canal Street there were no restaurant inspections or rodent control activities for nearly a month. No births were registered for about two weeks in New York City. Further, because the department was so focused on the possibility of bioterrorism, its sole investigatory activity was to monitor infectious diseases that appeared in hospitals. No "regular, routine" surveillance occurred of non-terrorist-related diseases or conditions.[19]

In addition, the Department of Health established systems to monitor emergency departments to assess acute injuries, oversaw hospital staffing and equipment needs, watched for unusual disease patterns that could indicate a bioterrorist event, issued medical advisories to the public and medical community, and "facilitated development and coordination of environmental sampling."[20] Even in the hours immediately following the attack, the department began to conduct "swipings" in the area around the site to test for bioterrorism and chemical agents.

In contrast to much of the rhetoric about the impact of September 11 on redirecting the priorities of public health, what the experience highlighted was how essential traditional public health functions of record keeping, disease monitoring, pest control, water safety, sewerage treatment, and disposal and sanitation were in dealing with the emergency.

Environmental Health at Ground Zero

The Department of Health took charge of providing respiratory equipment to the workers who began to sift through the rubble in the days immediately following the attack. It thus had the responsibility of fitting the masks and respirators to the faces of thousands of people on the different shifts. Andrew Goodman, the department's Associate Commissioner of Community Health Works, recalls that there was an "enormous effort by a team of people at the Health Department to organize the procurement and then the distribution of 20,000-30,000 respirators." "We were down at Ground Zero trying to figure out respirators, and we would have masks from one company and filters from another and it took actually a few days before we had a system set up where we could get masks out to everybody . . . probably thousands of firefighters, police and other rescue workers."[21] Isaac Weisfuse recalls that he "couldn't believe how many masks and other things we were getting in. . . . It didn't dawn on me until a day or two later that there were thousands of new people showing up every day, who weren't fit tested . . . and I think threw [the masks] away at the end of the day, thinking they didn't have to keep them . . . but we went through a ton of masks."[22]

Susan Blank recalls the difficulties in deciding what materials could or could not be used at the disaster site. Although donations were pouring in, each item of equipment or even bottled water, for example, had to be evaluated as to its source and safety. "There were discussions about, can we accept donated supplies? Maybe they're laced with some agent of bioterrorism. . . . So we can't accept these types of donations; we have to turn them back. Yeah, but the workers are out there working but they're unprotected. If you look at the early news pictures, they weren't wearing masks."[23] Two other major concerns in the first days following the attack were the need to get potable water to the disaster site, and to address the danger from "potential cross-contamination of the water from sewage and other effluents" due to the dramatic drop in water pressure caused by the large number of hoses and fire hydrants the Fire Department had opened.[24]

Andrew Goodman argues that "the infrastructure [wa]s not as strong as it could be, certainly in terms of our capability to do surveillance at the level that we truly like and really also utilizing technology that is currently available."[25] For some the problem could be traced to long-term trends in public health, with the growing attention to chronic disease problems and the decline of epidemic diseases over the course of the past half-century. Some Department of Health officials complained that the increasing resources flowing into the hospital system and the growing prestige of medicine and medical technology (following the development of antibiotics, polio vaccine, and transplantation, among many other biomedical techniques) had drained the public health field of means and prestige. With the fiscal crisis of the 1970s, the department watched as its budget shrunk in terms of real dollars, creating a major crisis that forced it to close clinics, limit the number of inspectors, reduce infectious disease surveillance, and reduce its central office workforce.

The advent of the AIDS epidemic in the 1980s and 1990s, the shorter-term crisis around tuberculosis in the late 1980s, and the special attention to West Nile virus in the past years, however, had helped draw the city's attention to the vital role the Department of Health played in its life and reinforced the importance of supporting the department's traditional functions.[26] By the time of the attack, however, while major improvements had occurred, some parts of the department still were weak; specifically, its laboratories, once

seen as the jewel in its crown, had fallen on hard times.[27]

The Department of Health not only had to react to the emergency itself, but had to be "anticipatory" of coming problems associated with the relationship between ongoing public health needs and the clean-up activities. Isaac Weisfuse recalls that "it was West Nile season, and there were all these hoses and water." He and other department personnel worried, "Are all the firemen going to get West Nile?"[28] Since literally millions of gallons of water were being poured on the smoldering fires that continued to burn for months after the attack, the site itself became a perfect breeding ground. Hence, the department began to identify standing pools of water and to administer insecticides to ward off what might have been a massive problem.

The Anthrax Episode

While the attack on the World Trade Center highlighted the essential functions of the Department of Health and exposed the limitations that affected its ability to fulfill its enormous mandate, the anthrax episode further tested its ability to respond to the city's needs. On September 25, an assistant to Tom Brokaw, the NBC news anchor, opened a letter filled with white powder and handled a second letter that contained some kind of sandy substance. Her supervisors called the FBI because they were aware of the case of two Florida men who had been diagnosed with anthrax and who also worked in a news outlet. Three days later the employee developed symptoms—a "strange sore on her chest"—and her doctor, evidently suspecting anthrax, prescribed the antibiotic Cipro. The NBC employee also visited a dermatologist. One of the physicians contacted the New York City Department of Health to test the powder, determining that it was negative for anthrax. But the biopsy of the sore was sent to the CDC, which identified anthrax. There was an initial lack of coordination between the city and federal agencies, and "coordinating the efforts of the various law enforcements and public health officials [proved] tricky."[29]

The experience they had gained from running STD and TB clinics allowed city officials to quickly organize a method, however stretched to the limits, for the distribution of Cipro and other necessary services associated with identifying victims as well as sources of infection.[30]

While the NBC event brought attention to the abilities and limitations of the city's public health infrastructure, the discovery that postal workers had been exposed to anthrax brought the same recognition to the nation as a whole. Neither the CDC nor the Defense Department or other agencies could cope with the escalating demands for testing suspicious powders or securing suspected contaminated sites. In particular, the city's own laboratory was literally inundated and was made inoperable by the lack of trained staff able to handle the huge number of samples flooding it. Despite the fact that only four cases of anthrax were identified, "New York City's ability to test for anthrax [was] stretched to its limit. . . ." The "testing of thousands of human and environmental samples" completely taxed the city's abilities, and the lack of training or experience on the part of the staff as well as the police and others who brought in samples made proper handling of the material difficult and sometimes impossible.[31] At one point the department's laboratories at East 26th Street were themselves contaminated by anthrax and became functional again only when the army brought in its own mobile emergency laboratory, which they established in the lobby. The story basically goes that the lab was contaminated and had to be shut down. The laboratory staff was overtaxed, working 24 hours a day and doing an extraordinary job. As a result they became the scapegoat because they were holding specimens too long and not returning them quickly enough. "We were really overwhelmed by the response from the community," Ben Mojica recalls, "and the number of specimens we received in the laboratory. There were thousands of them."[32]

It was only the intervention of the Defense Department and its establishment of a mobile laboratory following requests from the mayor to Secretary of Defense Donald Rumsfeld that brought a semblance of order at the labs. But even then, tensions emerged regarding the possible "militarization" of public health activities. With the anthrax episode and the sense of immediacy and emergency in response to bioterrorism, there was an uneasy merging of military and public health cultures. Public health generally has been a methodical, sometimes slow, science of investigation. But new demands, especially for speed, were made that created an uneasy alliance.

Further, the experience with the postal workers in the Midtown Manhattan mail handling facility exposed the weaknesses of a decentralized public health system. There were no clear national guidelines for who should be tested for anthrax, who should be given Cipro as a preventative, what should be done after anthrax spores were identified in a facility. "The individual incidents where anthrax has actually been found have been handled differently by health and law enforcement officials on each scene, leading to confusion and anger in some areas."[33]

While the infrastructure itself was at times immobilized by the demands placed upon it, it is remarkable that the city's population reacted relatively calmly to the events that were being reported daily over local and national television and other news media. In some measure this can be attributed to Mayor Rudolph Giuliani's handling of the anthrax episode. The mayor held daily press conferences that provided relatively full and accurate information about the scope of the anthrax problem. In his daily briefings, he provided a detailed account of what was being done to deal with the threat and avoided speculation while providing a degree of reassurance to a nervous population. In essence, he "appealed to people's most rational selves" and counted on the population to reach reasonable conclusions about the real scope of the threat and on the integrity of public officials to act responsibly and appropriately to the situation.34

During the initial days following the attack, federal officials were lauded for their efficiency and organization. But during the anthrax crisis, the story was very different. As the *New York Times* put it, "in their initial handling of the anthrax crisis, [Federal] government leaders did almost everything wrong." Designating U.S. Secretary of Health and Human Services Tommy Thompson, who had little credibility on health matters (rather than the surgeon general of the Public Health Service), as the spokesperson on anthrax, "health and law enforcement authorities made confident statements that later proved false, tried simultaneously to inform and reassure, and limited the flow of information to the public." The *Times* cited one of Thompson's "most egregious lapses," in which he said that the initial anthrax victim might have contracted the disease by drinking water from a stream while camping in North Carolina.35 The communication to the public was improved when Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases (NIAID), began taking charge of the process.

In sum, the experience with the September 11 attack and anthrax highlighted some of greatest strengths of the public health infrastructure: "9/11 revealed the strengths in individual people" and the much-maligned civil servants who maintain the system, remembers Steven Rubin, Deputy Director for Sexually Transmitted Diseases, one of the programs of the City's Department of Health directly involved in responding to bioterrorism. "So many people in this agency responded so quickly and put in so many dedicated hours." The events "revealed the real strengths of the public health infrastructure. . . in that most people came in the next day, the day after, and just showed their commitment to doing the job," he observes.36 But the situation also illuminated some of the department's most glaring weaknesses: There is a real need to train doctors, nurses, police, and firefighters in bioterrorism emergency response; to expand laboratory capacities for possible surges in demand; to improve methods for communicating information to emergency personnel; and to maintaining a supply of beds and other facilities for use in a possible emergency.

Scientific Uncertainty and Public Health Communication

Over the course of the weeks and months following the World Trade Center attack, lack of communication led to severe ruptures in public trust as ambiguous, often contradictory information was relayed and misconveyed to residents near the WTC site, undocumented workers responsible for cleaning nearby buildings, and parents of children who attended neighborhood elementary, intermediate and high schools such as P.S. 89, P.S. 150, P.S. 190, P.S. 234, P.S. 875, and I.S. 289, and the High School for Leadership and Public Service. A particularly revealing case that highlights the failure to acknowledge uncertainty and the resulting confusion in messages sent to the public by officials and public health experts concerned Stuyvesant High School, one of the elite public schools in the city and in the nation. Stuyvesant is located five blocks north of the WTC, and most of the students witnessed the planes crash and people jumping and falling from the collapsing buildings.

Stuyvesant High School

David Klasfeld, Deputy Chancellor for Operations at the New York City Board of Education, recalls vividly the confusion and uncertainty that marked the first moments following the attack. Watching the scene from his office at 110 Livingston Street in downtown Brooklyn, and then with Chancellor Harold O. Levy, the administrators at the Board of Education were unsure what to do shortly after the planes hit. A meeting with the chancellor raised questions that had never before been addressed. Should the board send all 1.1 million children home from school? No, because that would undoubtedly create mass confusion and panic among hundreds of thousands of parents at work and unable to get to their children, who would be wandering the streets alone. Should it order the schools around the WTC site to evacuate? To send the children in a particular direction? To stay in place?

"I don't believe that we were immediately in contact with [the principals]," Klasfeld remembered. "The actions of the principals and the teachers in those schools was extraordinary. [R]emember, this is September 11th. . . . It's the third day of school, the fourth day of school. Some of these people are teaching for the first time. It's their third day of work, their fourth day of work. Many of them are young. The board is not one of these places that encourages people to think their own thoughts about what to do. The evacuation plan for those schools was to go north. That was the plan. Instead, they had the sense to go south. North was where danger was." From the board's perspective, far away from the scene, the central administration was completely helpless, and even at the scene itself principals were at a loss. "You didn't know what to do. Even at Stuyvesant, where it was filled with police, and they were the ones giving the orders, generally speaking, you're in a building, and the building itself is safe, so you would think, ordinarily, that that is a safe place to go. It was only when the trade center buildings started to collapse that people were trying to figure out the evacuation."[37]

Despite the disorder and the central plans that said that all children in Lower Manhattan should "go north" in case of disaster, individual principals and teachers took initiative. The High School for Leadership and Public Service, on Trinity Place just below the trade towers, moved its children to Battery Park, safe from the falling buildings. "The [most] amazing story to me," Klasfeld related, "is the woman who is the principal of Leadership [High School], a woman named Ada Rosario Dolch, whose sister died in one of the buildings. She [Dolch] certainly knew that [her sister] was working there. She takes her kids south, puts them on whatever ferry is there—ferry to New Jersey, ferry to Staten Island—gets them off the island. [She] sends teachers with them. There were kids overnight in New Jersey. Cannot get in touch with the chancellor's office, and walks. The only thing on her mind was to tell the chancellor that her kids were OK. She and her secretary and one other walk from Lower Manhattan across the Brooklyn Bridge to 110 Livingston Street, so she can report to the chancellor that she got her kids out."[38]

The staff of the city's schools were on their own, and in the weeks ahead the board would find that its personnel were in some cases truly heroic. Security personnel, custodians, and other staff played crucial roles in maintaining the schools following their abandonment. "Our custodians, our much-maligned custodians, stayed on the sites of their schools. A number of them, particularly the custodian at Stuyvesant, did a fabulous job. He immediately turned off all of the air systems, so that debris was not sucked into the school at Stuyvesant. . . . One of the issues [that the custodians were concerned about] was nothing that I would ever think about. . . . If it rained, it would be a big problem with the roofs of these buildings. You had all of the ash and stuff. If it rained, then it hardened. So we had our custodians on roofs cleaning off debris, so that that wouldn't happen. So we had our own people at the schools responsible for protecting them."[39]

Immediately after the disaster, and after the children were evacuated, Stuyvesant was taken over by emergency personnel and made unavailable for school use. Classes for the students resumed less than a week later at Brooklyn Technical High School in split sessions and shortened periods. Initially, many parents mobilized to press for an early return to Stuyvesant's very modern and technologically advanced building, arguing that it was important for the children to resume their normal routines. The parents, among whom numbered some of the city's most sophisticated professionals, including lawyers and doctors, recognized from the start that there were potential health hazards and hired their own experts to evaluate the safety of the school, which the city had scheduled for reopening on October 9, just a month after the attack. The city also was intent on returning the students to the schools in the area.

The city began testing for asbestos, lead, and other toxins and determined that the air quality within the building was safe. It hired two 80-person crews to vacuum the air ducts, replace the carpets, hose down the ten-story building, and clean all surfaces. In addition, it installed air-monitoring devices to sample the air quality on a regular basis.[40]

The Board of Education and Stuyvesant Parents

David Klasfeld recalls the heated emotions that engulfed the Board of Education and "wary Stuyvesant parents [who] have enlisted their own experts to determine if the school is safe." Parents began to worry as reports of asbestos-laden dust samples in P.S. 150, a few blocks away, and dust samples taken by the EPA right outside Stuyvesant on September 19, found above-normal levels of asbestos. The city, and particularly Mayor Giuliani, argued that the tests, with the exception of a few idiosyncratic results, showed that "the air quality [was] safe and acceptable." Parents, however, began to argue that the individual samples were not outliers, but reflected a reality to anyone who visited the area and smelled the air: Whatever the readings were, the smell of the air alone was an indication that there was danger for the children.[41]

When the students returned to Stuyvesant on Tuesday, October 9, there was a mixture of fear and excitement.[42] Soon, however, students looking out a north window saw huge barges, less than a hundred yards away, carrying debris from the WTC site to the Fresh Kills landfill on Staten Island. Dump trucks carrying WTC debris traveled right past the school continuously, and large plumes of dust covered the bridge that connected Stuyvesant to Chambers Street. As one parent put it, walking to school was like "walking through a construction site." Children likened it to a war zone.[43] At the Parents Association meeting in November, angry parents were assured by Board of Education officials that all was safe, that virtually all tests for lead and asbestos, the two substances regularly monitored, were well below acceptable standards for safety.

But the children themselves began passing around rumors that they were all being poisoned, and some students began to stay home from class.[44] In the ensuing days and weeks, parents noticed that their children were developing bronchitis, asthma, rashes, coughs, and tremendous anxiety. Children came home with watering eyes and coughs.[45] "I've had bronchitis for the past two weeks. . . . Everyone's coughing," one student observed. Some students wore paper masks to school, and the *New York Daily News* reported that an informal poll it conducted revealed that nearly half of its sample respondents had "some kind of health complaint."[46]

While parents and some in the popular press began to conclude that Stuyvesant and the surrounding schools were unsafe, the Board of Education and its experts argued that none of the tests it had conducted revealed a problem, and that the children at Stuyvesant and other local schools were therefore safe from any danger. "All the tests showed that the [Stuyvesant] building is safe," commented Jacqueline Moline of Mt. Sinai School of Medicine.[47] The only problem that could be documented was slightly elevated levels of carbon dioxide.[48]

The distance between the parents and the Board of Education grew in the days and weeks following the reopening of the Stuyvesant High School. In large measure the board depended upon expert opinion and air monitoring as the basis for declaring the school safe, while parents depended upon their own senses and on those of their children, many of whom were experiencing a variety of symptoms, to question the safety of the environment in and around the school.

Arguments between the parents of Stuyvesant High School students and the Board of Education continued throughout the winter and spring. And as new studies appeared, far from reassuring parents, they only served to fuel the distrust. By May a CDC study documented that "more than half the employees at Stuyvesant High School suffered respiratory problems after returning to their school on the edge of ground zero in October." Teachers in the school told of their own anxieties, what they had "put our bodies through." And many complained of depression and high levels of anxiety, in addition to physical illness. Twenty-three percent of the staff showed signs of possible post-traumatic stress disorder.[49]

By now, the old leaders of the Parents Association have been replaced by new ones who are more comfortable with the results of the tests, but a new group of parents has formed another organization, picketing outside the school and calling for more and better tests. The board's reassurances of safety were seriously undermined when one new test for asbestos showed extremely high readings in the auditorium, where students, faculty, and parents regularly meet.[50] As the new school year began in September 2002, the conflict showed no sign of abating.

The Attempt to Return to Normalcy

The struggle over Stuyvesant came to symbolize a larger struggle over the authority for judging the long-term health impact of the September 11 attack. On the one hand, a variety of pressures from the city, state, and federal bureaucracy to return Lower Manhattan to a more normal state collided with the public's continuing sense of anxiety as well as everyday experience with the local environment. David Klasfeld recalls the implicit and explicit pressure to return Lower Manhattan to normal that came from various sources, but most explicitly from the mayor's office. "There was enormous effort on behalf of the mayor, the governor, the president, to return to normalcy as quickly as possible, so that it was moved from 14th Street to Canal Street, the parts of the city that were open, and then Canal Street, further down. Again, schools, as part of the infrastructure of the city, are important and seen as an important component of normalcy. So there was this push to sort of reopen those schools that we could, as soon as we could."[51]

Expert opinion in this case served neither to resolve the scientific issues nor to allay the fears of those who worked, lived, or went to school in the area. In fact, one victim of the struggle between the Board of

Education and the parents was the authority of science itself. In the months after the initial school crisis a much broader debate about environmental health and the dangers posed by contaminants arose that fundamentally challenged the ways danger and risk were understood. Initially, the catastrophe at Ground Zero evoked an immediate response by officials from the EPA on down that sought to reassure populations who lived, worked, and went to school in the area that the air and environment was safe. Depending largely on tools, instruments, and ideas developed to measure danger in industrial environments and among workers in the nation's factories, mines, and mills, experts and officials used air-sampling measures, threshold limit values, technical measurements of the size of asbestos particles, and measures of the amount of lead below, at, or above threshold limits.

But unfolding challenges from people whose children came home with coughs, whose eyes watered and lungs burned, created a distance between the experts, officials, and population in general that slowly eroded public trust in official pronouncements, ultimately forcing the officials and scientists to reevaluate their tools, instruments, and assumptions about the applicability of their science to this completely new and unexpected experience. Barbara Aaron, director of many 9/11 projects at the Department of Epidemiology at Columbia University's Mailman School of Public Health, notes the profound schism that undermined public trust in official pronouncements and in government itself. Indeed, she calls the actions of the city "a terrible political mistake and betrayal." She continued, "Even if you think of it in the most clinical terms, it was such a mistake. Probably morally, it's terrible to pretend to know what you don't know, and say things are OK when they're not. To send children back to school in a toxic environment. But I think that politically, how dumb do you think [people] are? I don't believe that there were terrible poisons everywhere. But I do believe that crushed gypsum and concrete and dust in the air made people really, really sick and contaminated their lungs. . . . The fact that it wasn't acknowledged was really terrible."[52]

The Neighborhood around the WTC

The aftermath of September 11 created a wide range of dangers, both for the workers cleaning up the site as well as for residents and merchants in the neighborhood around the WTC. For the Department of Health and specifically Kelly McKinney, the Associate Commissioner of Regulatory and Environmental Health Services, the immediate concerns revolved around the possibility that the attack may have released radioactive materials (from the airplanes as well as the buildings) into the air. The department sent "two of our inspectors down there with radiation-detection equipment so that they could see whether there had been a release of radiation," from the planes, from dentists' and doctors' offices in the area, as well as X-ray machines.[53]

In the weeks after the attack, McKinney's unit was focused on providing proper respiratory equipment for the workers involved in rescue and recovery efforts at the site, but the data he was accumulating indicated to him that the workforce was in greater danger from accidents and injuries on the job than from the air. Even so, McKinney recalls, "We wanted them to be in respirators, and we pushed for respirators. . . . We knew there was a lot of stuff in the air. I would never say that the air quality was good down there, because it wasn't." But his science led him to believe that the air quality was not the immediate danger. "We had [a] big problem. Because the data looked good, we wanted to communicate the risks but we didn't really want to communicate the data per se, because the data was so good a lot of savvy workers would say, 'Look, if the data is that good, why do I have to wear a respirator?'"[54] A confused policy arose. On the one hand the department thought it prudent for workers to use respirators, but on the other hand, the substances they were testing for did not exceed accepted safety levels. (Over the next year, it became clear that even if workers did not breathe in toxins at dangerous levels, they were still subject to health risks and problems from other substances in the air they breathed at the trade center site.)

In the immediate aftermath of September 11 and for about two months thereafter, environmental and health officials in the New York City Department of Health and the federal EPA and Occupational Safety and Health Administration (OSHA) sought to reassure residents in downtown Manhattan that "there were no indications of serious long-term health risks."[55] The city's Department of Health stated that "the general public's risk for any short- or long-term adverse health [effects is] extremely low," and EPA Administrator Christine Todd Whitman declared, "There's no need for the general public to be concerned."[56]

Both agencies had developed "an intricate network of tests, standards, and procedures that they said were intended to ensure the safety of those working at the site as well as those living and working in Lower Manhattan."[57] Jessica Leighton, Assistant Commissioner for Environmental Risk Assessment in New York's Department of Health, was reported by the *New York Times* to have said that "while tests had recorded occasional spikes in the levels of various contaminants, including asbestos, at some locations at or near the

site, long-term health risks are associated with consistent exposure over a 30-year period."[58] But these reassurances were jarring and sometimes unconvincing, even to the professionals in nearby city offices.

In fact, the story was much more complex. Confusion about the meaning of scientific data was compounded by complete bureaucratic bungling, according to Congressman Jerrold Nadler, who represented the district around the World Trade Center. Nadler speaks emotionally about what he calls the "illegal actions" of the EPA in refusing to implement the National Contingency Plan (NCP) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as "Superfund," which would have put the EPA in charge of indoor as well as outdoor clean-up. Nadler argues that the release of chemicals "should have triggered the NCP, which should have given the EPA immense powers. The EPA can enter any premise with no warning in order to inspect and decontaminate." Instead, the EPA (and the State Department of Environmental Protection) referred people who lived in the area to the New York City Department of Health for advice about the appropriateness of moving back to their apartments and how to clean them. The Department of Health, in turn, foisted responsibility for the decision to move back onto apartment dwellers themselves. Further, according to Nadler, the department advised residents to clean their homes with "a damp cloth," advice Nadler condemned as "reckless and illegal."[59]

At the end of October and beginning of November, as residents began to return to their homes to inspect damage, and as the schools reopened and Wall Street businesses and the stock exchange sought to return to normal, public perception of the situation began to seriously conflict with official pronouncements. On October 26, 2001, Juan Gonzalez of the *Daily News* began a series of articles that challenged the arguments largely propounded by city, state, and federal officials and disseminated by the *New York Times*. In an article titled "A Toxic Nightmare at Disaster Site," Gonzalez, using EPA documents, charged that "dioxins, PCBs, benzene, lead, and chromium are among the toxic substances detected in the air and soil around the WTC site by Environmental Protection Agency equipment—sometimes at levels far exceeding federal standards." Well into October, benzene levels were between 16 and 58 times higher than OSHA's permissible limit.[60]

Local political representatives, including Representative Jerrold Nadler and New York City Councilmember Kathryn Freed, began to draw attention to local residents' concerns and held hearings about the environmental impact of September 11. At issue was the growing distance between the scientific measurements that had become the bedrock for political pronouncements of safety and residents' personal experience with the coughs, colds, and smells that accompanied the clean-up. One community board member summarized the issue: "Just because [the measurement of a given contaminant] doesn't reach a certain level is really irrelevant when people are sick."[61]

By early November, the private doubts of residents began to emerge as very public issues. New York City Councilmember Stanley Michaels, Chairman of the council's Committee on Environmental Protection, held hearings that, he said, "raised more questions than it answered." In a theme that became pervasive in the months to come, he said that "the various tests and standards . . . may be fine for things that have happened in the past, but we don't know if it applies here because the situation is so unique." He recognized the need to give residents and workers confidence that there was no need for panic, yet he qualified his statements by arguing that such reassurances could be given only "if the confidence is due. But the jury's still out on that."[62]

By late November, the *Daily News* reported that "government agencies monitoring the air quality near Ground Zero had lost much of their credibility with the public, Environmental [Protection] Agency officials and public health experts said yesterday." The *Daily News* reported that "the argument that the air is safe is not registering with the public—particularly those who have felt irritation from smoke and dust near Ground Zero." George Thurston, an environmental scientist from New York University's School of Medicine, worried that use of the measurements was undermining the credibility of the science itself, while Philip Landrigan of Mt. Sinai School of Medicine was concerned that the political uses to which the data he and others were collecting was being misused: "Risk communication is more than spin. If you think it's spin, then you've lost the battle already."

Increasingly, the scientific community tried to distance itself from the political establishment by attempting to introduce a level of subtlety and sophistication into the argument. Thurston summarized the distinction between what the scientific evidence said or didn't say: "I think it is premature to tell people it is safe, but we can tell people we don't see a danger." Madelyn Wills, Chairwoman of Community Board 1, put this scientific distinction into plain language that expressed the experience of community residents: "The air may not be toxic, but the air is not safe. There is a distinction here," she argued, because, for example, there had been

so much more asthma experienced by residents of Lower Manhattan.[63]

While the initial claims by government officials centered on the lack of danger from exposure at Ground Zero, the argument shifted in November and December. By that time, officials began to distinguish between the short-term and long-term health effects of breathing the air and absorbing toxins. The immediate effects of exposure were increased congestion, tearing eyes, and headaches. But officials began to assure residents that these effects were temporary and the long-term impact negligible. Only those with existing respiratory problems or asthma need worry about any serious damage. Short-term exposures were no problem.[64] The scientific community was doing what it could to document what environmental and occupational physicians had long known were possible dangers and were, by and large, coming up with findings that were at worst troubling and at best mildly reassuring. Only a few air samples showed elevated levels of known toxins such as asbestos and lead, leading officials to pronounce the environment around the WTC site acceptable.

The Need for New Means of Evaluating Environmental Hazards

Some scientists began to argue that a new framework for understanding the health effects of this disaster was needed. First, Stephen Levin, Medical Director of the Mt. Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine, argued that the older techniques for evaluating danger might be inadequate for the new situation. Second, he argued that the residents' complaints could not be easily dismissed just because the tests did not indicate danger. Coughs, nosebleeds, and respiratory ailments were being triggered by the dust and debris in the air. "This wasn't about breathing dust," said Levin, referring to the size of the particles in the air. "It was breathing chunks of material." Standards had been developed for specific chemicals, but rarely, if ever, did any exist for measuring the impact of the variety and interactions of chemical materials released in the burning and collapse of a 100-story building. One industrial hygienist complained that scientists were "not looking at the incredible number of plasticizers, fire retardants, fillers. You have 210 floors of carpets, wallboard, furniture and computers burning. We have no idea what this will do."[65]

Thirty thousand gallons of transformer fluids containing PCBs, 180,000 gallons of fuel, hundreds of thousands of fluorescent bulbs containing small amounts of mercury, and millions of pounds of other toxins added a level of uncertainty that the scientific apparatus for measuring lead and asbestos could not even begin to evaluate.[66] One reporter for the *Guardian* (London) depicted the situation as "the equivalent of a major explosion in a giant chemical works" with "thousands of tons of pulverized asbestos and heavy metals . . . leaving an estimated 2m[illion] cubic meters of dust covering [16 acres]."[67] A major problem was the inadequacy of the tools of science traditionally used to gauge danger. Threshold limits for dangerous substances were based on historical data for industrial workers having exposures of eight hours a day. "The permissible levels for asbestos, for example," says Ekaterina Malievskaia of Queens College's Center for the Biology of Natural Systems, "are based on linear extrapolation from effects resulting from heavy occupational exposure in the past. These risk estimates are highly uncertain." Even estimates of danger for industrial workers were generally understood as guidelines rather than hard-and-fast standards. "There are essentially no conclusive prospective human studies on the safe levels of [environmental] exposure," she continues.[68]

Unions, tenant groups, contractors, and New York political leaders hired civilian scientists and physicians—many of whom had served in the past as consultants to the EPA—who found much higher levels. "Taking hundreds of samples, many inside apartments, offices, and condos, these experts used the newest electron microscope technology and fiber-counting protocols" and found levels of asbestos comparable to those at the Superfund site of Libby, Montana. One EPA scientist said, "It is unfathomable to believe that EPA can stand behind antiquated science when the report on Libby, issued by the same agency, irrefutably documents the validity of the new methods."[69] While the Department of Health told residents that "asbestos-related lung disease results only from intense asbestos exposure experienced over a period of many years, primarily as a consequence of occupational exposures," EPA and CDC experts acknowledged a different reality. Their research had shown that "a 'single burst, heavy dose' of asbestos could be enough to cause lethal disease."[70]

Steven Markowitz of Queens College's Center for the Biology of Natural Systems lamented that "what's most striking to me [is] that I can't begin to answer [basic] questions. For all the thousands of air-quality samples, here we are eight months out and there's such limited health data." This was in large part because many substances created in the WTC disaster, as the *New York Times* reported, "had never been seen in nature or in the laboratory. Metals and glass from windows and computers and girders were turned into mist

by the intense heat and pressure of the collapse, and those mist particles then bonded with larger pieces of concrete, creating billions of tiny hybrid fragments, each coated with a sheath created from the elements of destruction. Asbestos was pulverized into pieces so tiny that ordinary tests devised to track the fibers missed them."[71]

By early February 2002, according to the *New York Times*, about three-quarters of the 20,000-odd people who lived within half a mile of the site had returned to their homes.[72] Yet local and federal agencies had done little testing of the air quality within the apartments, and even those tests had not yet been made available to the residents or the public.[73] At congressional hearings held by Jerrold Nadler in February, the agencies found themselves under intense pressure and scrutiny as their assurances of safety and efficiency were rejected. The day following the hearings, the State Department of Environmental Protection (DEP) sent out notices to landlords to "clean up the public areas of their buildings." But they did not require landlords to clean up apartments or ventilation systems. Also, the state allowed landlords to "self-certify" their own work.[74] At a subsequent hearing, Nadler reports, the DEP head argued that "the insides of the buildings had been cleaned" and, according to Nadler, "the entire room, 400 people, erupted in laughter."[75]

"There was no government database, no handy list of indoor air monitors to pull down from a website" that would tell returning residents whether or not their apartments were safe. The Natural Resources Defense Council (NRDC) reported that "because no one government agency was in charge of the overall environmental impact . . . issues of residential indoor air quality fell between the cracks, and because of the emphasis on long-term risks, the impact on susceptible populations was not emphasized enough." The clean-up inside the buildings was left "to building owners and managers—some of whom might have had an interest in minimizing the risk, or have limited resources to clean what they find."[76]

What was largely neglected in the months following the event was the inspection and decontamination of office buildings and apartments in the area. Finally, in May 2002 the EPA accepted responsibility for inspecting homes below Canal Street, but by then even this was deemed inadequate by Nadler's office and residents in the area and others outside it. Trust had dissolved, as Nadler explains, and suspicions about the limited scope of the EPA's efforts abounded. Nadler himself attacked the EPA for ignoring residents above Canal Street and for testing and remediating conditions only when asbestos, not other materials, were discovered.[77] "The agencies have [sought to leave] the impression in the public's mind that it's safer than it really is," Joel Kupferman, Director of the New York Environmental Law and Justice Project claimed. "This whole thing about returning to normalcy has gone too far."[78]

Protecting Undocumented Workers

Great care was taken to protect to the degree possible the workers cleaning up Ground Zero, but those hired to clean up private residences and other office buildings in the area were given less consideration. Right after September 11, there was a determined effort to reopen the Stock Exchange as part of the broader policy to return Lower Manhattan to "normal" and to stabilize the city's and the nation's financial sector.

Health issues often came in conflict with this larger agenda, as remembered by Ekaterina Malievskaia, a physician who worked at the scene in the months following the attack. She recalls the drive to "open up Wall Street," and that "one of the [cleaning companies] told me that in the beginning . . . they employed up to 1,800 day laborers for cleaning purposes. It's just one corporation. And there were about 30 major cleaning companies involved in efforts to clean up [the buildings] around Ground Zero." She describes how the companies recruited their workforce: "They got all these illegal immigrants on every corner [of the city] and they threw them into the buildings and gave them rags and sometimes paper masks and that's it. They cleaned for 12, 14 hours a day without any protection, without knowing what they were exposed to. And Wall Street got opened on time. So it worked out in a sense."[79]

Not only were the workers hired haphazardly and thrust into dangerous jobs, but companies actually went out of their way to deny workers adequate protection. Malievskaia relates that some of the workers had earlier received licenses to remove asbestos, since it is one of the few avenues to relatively high paying jobs for undocumented laborers. Asbestos removal, she related, "is a dirty job that Americans don't want to do, and [trade schools] don't ask whether you're legal or illegal." When these trained workers, who had their own respirators, were cleaning buildings near Ground Zero, "they were asked not to wear these respirators by the employers so they wouldn't scare the rest of their co-workers off." Those who sought to use their own respirators "were not given filters. And if they had a couple of filters [of their own] and kept on reusing them, it [made] things even worse because" the used filters would become a repository for dangerous materials

that the worker ultimately breathed in.[80]

By December 2001, the dangers to the day laborers hired by private companies to clean apartments and offices were becoming a public issue. The New York Committee for Occupational Safety and Health (NYCOSH) joined with the Latin American Workers' Project and the Center for the Biology of Natural Systems at Queens College to identify and study the hundreds of undocumented workers hired to clean buildings. The groups approached the New York Community Trust and the September 11th Fund for money to evaluate the health effects of the clean-up effort on nonunion and largely undocumented workers. "It was an incredible turnaround . . . about three weeks" between submission and funding for such a screening project. Malievskaia recalls the initially informal and often haphazard methods by which World Trade Center clean-up workers were identified. "In the beginning [the workers] heard the announcement on the radio. But what got the program going was the word of mouth. They told their neighbors, workers. It's the nature of their job that they shape up on the corners, and while they're standing in line waiting for jobs they have nothing to talk about other than just describe the program . . . and it was, you know, a great demand." They had originally hoped to "serve 150 to 200 people," she recalls, but they ended up seeing more than 400 workers.[81]

By May, the Queens College Center had uncovered nearly universal respiratory and systemic health problems, including difficulty breathing, nasal congestion, coughs, headaches, difficulty sleeping, and numbness, among other symptoms.[82] Steven Markowitz, the head of the project, said, "These workers were looking down at Ground Zero, seeing people wearing respirators, and they're working indoors in a confined space, and they don't have them."[83] Finally, as previously noted, in May 2002 the EPA agreed to take over responsibility for cleaning apartments and other buildings in the area.[84] Despite attention to this issue, arguments about the possible health effects of exposure to various contaminants from the WTC site on workers, students, and local residents continue.

Social Services

The Immediate Relief Effort

If the experience of September 11 challenged assumptions about risk and how to measure it, the aftermath of the attack presented a tremendous test for the voluntary social service agencies that have traditionally claimed responsibility for caring and providing for the city's dependent and poor. The crisis brought to the fore the historical disorganization of public and private services as well as services provided by thousands of large and small agencies, churches, community groups, foundations, and individuals, all of which poured time and money into the relief and recovery effort. This vast charitable enterprise, which won wide praise for its inclusiveness and breadth of services, was also notable because it implicitly challenged the existing social service model for establishing strict criteria in deciding who should or should not receive services.

Our analysis of social services is divided into two broad categories: the short-term responses to the crisis, and the impact of September 11 on the ongoing organization of services. In the short term, September 11 highlighted the extraordinary ability of the social service sector to mobilize and distribute resources to the immediate victims of the attack and to populations throughout the city whose lives were altered or disrupted. In the long term, certain assumptions that have dominated the delivery of social and mental health services were seriously challenged.

One of the major weaknesses in the emergency response that was revealed in the wake of September 11 was how to provide services to the thousands of frail and disabled people who lived below Canal Street and even in the rest of Manhattan. In the immediate aftermath of the tragedy, many workers who provided services to the homebound in the downtown area could not get to their clients. "A lot of the home care workers who go into people's homes," recalls Igal Jellinek, Executive Director of the Council of Senior Centers and Services of New York City, "don't live in the Ground Zero area. So there was a blockade, you couldn't get through. There was no system of photo identification, of how to get in and out."[85] Congressman Jerrold Nadler recalled that "there were 700 senior citizens trapped in Southbridge Houses, just below the Brooklyn Bridge. They couldn't get food in or their prescriptions in. . . . In fact, all the pharmacies were closed, so they had to arrange for a runner and get one of the pharmacies open. Then they had to get the governor to waive the public health provision that says the pharmacy can't fill a prescription" without verbal or written instructions from a physician. Patients themselves were the authority when coming to the pharmacy. Nadler helped set up the Ground Zero Elected Officials Task Force, which assisted in fulfilling these needs for local residents. This helped lessen the already overburdened communication system.[86]

Elsewhere in Manhattan, the Meals-on-Wheels program was crippled "because the trucks that brought in the food were stuck out in Queens, with the bridges and tunnels shut down."[87] The social service agencies had to scramble to find alternatives. Food for the Stanley Isaacs Senior Center on the Upper East Side was normally brought in from Queens, but this was now impossible. "What they did is they went to some of the fanciest restaurants on the East Side, who really came through for them and prepared the meals and helped them deliver" the food to the elderly residents.[88]

As Jellinek explained, this was not just a nutritional issue, but quickly became "an emotional one as well, as isolation, fear, and panic set in, all with terrible consequences for the homebound person." Thus, while closing down the bridges and tunnels may have been important for safety reasons, "it sent senior services providers without local emergency backup scrambling to cover the necessities that we took for granted before the attack of 9/11." One aspect of that scrambling meant that seniors had to come to senior centers and other "congregate facilities" because of their need "to be in touch with someone—anyone—to stave off the terror of isolation amid a disaster of such earthshaking proportion."[89]

In summary, Jellinek found that the experience of September 11 had taught the social service community that there was a need to (1) get "services to the homebound and the disabled"; (2) ensure that "seniors have adequate food, water, and shelter"; (3) ensure that there is "adequate transportation" of people, services, medications, and food; (4) guarantee that there is "360-degree communications with staff, seniors, their families, and emergency organizations"; and (5) take care to address "the mental health issues that arise for everyone."[90]

Interestingly, at times the roles of clients and staff were reversed, as some of the seniors had lived through disasters and wars and were able to put the events of September 11 into a larger perspective. Jellinek recalls that "some of the seniors were coping very well" with the emotional anguish that affected most New Yorkers. Jellinek "called one center in Jamaica, Queens, and [found that] the seniors were comforting the staff."[91]

Private Aid and Public Needs

Because September 11 occasioned such an immense relief effort, it highlighted major problems in how to handle the outpouring of giving that ensued. The instant response to September 11 was a flood of assistance by individual agencies that provided money, shelter, food, and social services to the families immediately affected by the disaster.[92] Most of that money went to the American Red Cross, but it also was directed to the Twin Towers Fund (for families of rescuers who died), the Uniformed Firefighters Association's Widows and Children's Fund, the New York Times 9/11 Neediest Fund, and dozens of smaller social service agencies. The effort on behalf of the smaller social service agencies was soon coordinated by the September 11th Fund, an organization started by the New York Community Trust and United Way of New York City. As of March 1, 2002, the fund had made 181 grants to dozens of social service agencies totaling $205 million.[93]

Because so many organizations were collecting huge sums of money, politicians and the media were concerned that all the funds might not be used to directly aid the victims of September 11. The largest relief organization, American Red Cross, came in for the severest criticism when it announced, and later retracted, a policy "not to immediately distribute all of the hundreds of millions of dollars it raised as part of its September 11th response."[94] The Red Cross had accumulated $543 million but set aside $264 million for its reserve. Further, the Red Cross had decided to provide $154 million as direct assistance, but to spend $150 million on other programs, such as improvements in the blood supply system. Coming at a time when smaller agencies throughout the city were beginning to complain that their fund-raising was drying up because all the charitable giving was going to September 11 relief, the acknowledgment that moneys were being socked away for future use was perceived as a gross injustice.

New York State Attorney General Elliot Spitzer called the Red Cross's decision to put aside more than half of the moneys gathered for support of programs not directly linked to September 11 "totally unacceptable" and said that it "breaks one's heart to know the funds are there but yet they are not traveling."[95] A week after Spitzer made his attack, the Red Cross reversed course, announcing it would spend the entire $543 million fund on the victims themselves and "apologized to the public for its earlier decision to reserve some of the money for other uses."[96]

But the Red Cross had acted out of a perceived need that was present in the broader social service community to plan for the long term as well as respond to immediate needs. In fact the experience of

Oklahoma City, where the Alfred P. Murrah Federal Building had been destroyed a few years before, had led social service personnel to do just that. Igal Jellinek describes one discussion at a board meeting of the National Association of Nutrition and Aging Services Programs that occurred a few weeks after the attack, in which one member from Oklahoma "kept telling us, 'Don't spend all your money up front' because there's long-range ramifications and there's all sorts of issues that are going to come up. In Oklahoma a lot of money was spent early and therefore there wasn't the money" for the long-term mental health and social service needs that began to emerge.[97]

The outpouring of money and effort, haphazard as it might have been, was effective in addressing the immediate needs of the majority of families of those killed at the World Trade Center. But as the Red Cross imbroglio demonstrated, it soon became clear that there were different definitions of what constituted "assistance." On the one hand, there were those who saw it as the provision of cash and cash substitutes for rent, food, clothing, and other necessities to the families of victims. Others saw the issue much more broadly, arguing that money should be set aside for long-term mental health services and for the development of the public health infrastructure.

By December 2001 it was becoming apparent that the various agencies' lack of coordination and their inability to decide on priorities was hurting the long-term relief effort. Although at least nominally, the various charities and social service agencies in the city are coordinated through the efforts of Jewish, Protestant, and Catholic umbrella organizations as well as the United Way, a new organization was formed, not to collect and distribute relief moneys but to plan and coordinate future activities. In December, the 9/11 United Services Group (USG), with Robert J. Hurst of Goldman Sachs as the CEO, was formed to oversee "the social service agencies that [were] assisting people affected by September 11."[98] In addition to the religious federations, other organizations such as Safe Horizon, the Salvation Army, American Red Cross, Asian American Federation, Hispanic Federation, Black Agency Executives, United Neighborhood Houses, Mental Health Association, and Human Services Council formed the backbone of the USG. Initially started with a seed grant from the September 11th Fund, the new organization's mission was to work with "social service agencies [to help] them to be more effective in serving people [and] to cooperate better than they otherwise might have."[99]

Attempts to Coordinate Services

Elliot Spitzer brought together a number of the major charities and asked them to establish a database to track the moneys that were coming in and going out. By September 28, just two and a half weeks after the attack, Spitzer criticized Bernadine Healy, President of the American Red Cross, for having said that her agency "would not share information with other agencies on people it had helped, out of concern for their privacy," and sought the Red Cross's "help with [the] proposed database."[100] The lack of coordination among the agencies and the incipient suspicion that resistance to sharing data was a ruse to avoid oversight cascaded in the coming weeks until, at the end of October, the Red Cross reversed its policy to keep its information private, opening up its records to the attorney general. The *New York Times* applauded the efforts to "create a database of charitable organizations as well as a companion database of victims."[101]

On December 15 it was announced that a shared database would be created with the aid of IBM and other large New York firms, and that the 9/11 USG would run the database and coordinate services to victims.[102] The USG established a service coordinator network and worked on a way to share information and integrate training for new staff and improved technology. The goals of the USG included attempts to centralize the application for aid procedures for clients who previously were forced to travel from agency to agency to match their needs with that agency's goals. Immediately after September 11, "each agency operated fairly independently, and while it was great that a lot of services and assistance was given, it wasn't given as efficiently or certainly as would be ideal for the kinds of clients and the stress that the people were under in those days."[103]

Private Philanthropy and Long-Term Assistance

The crisis highlighted not only the lack of coordination among the various agencies but also the inadequacy of private philanthropy to cope with long-term effects of such a massive disaster. The 9/11 USG found "that both the impressive short-term efforts that the agencies had and were making to assist people and the need to respond to longer-term needs for employment assistance, mental health, and other problems were essential."[104] The agencies recognized that "even the generous $1.5 billion plus in charitable contributions made in response to September 11 represents only a small fraction of the federal government's pledge of tens of billions of dollars in disaster relief. Moreover, the government earmarked hundreds of billions of

additional dollars for defense expenditures, internal security measures, and potential economic stimulus provisions to help individuals directly and indirectly affected by the terrorist attacks."[105]

Even so, government money has been insufficient to make up for the vast economic losses. Jack Krauskopf, Chief Program Officer of 9/11 USG, recognized that there were "a lot of needs that aren't being met . . . particularly the economic needs. . . . The number of people that are unemployed or underemployed is well beyond the resources to serve them. And part of that is because there hasn't been much of a government response to economic needs as there should be." The voluntary agencies provided cash assistance and direct services in the months following September 11. But "that had to come to an end at some point . . . and the gap has not been picked up by unemployment insurance and FEMA assistance and some of the other forms of government aid that should be there."[106]

The vast amounts of moneys that were pouring in and the nature of the September 11 tragedy forced a public discussion of who should receive the cash and services that were being provided: the families of victims alone, or the broader community of New Yorkers, rich and poor alike, who had been traumatized by the event—workers at the scene; members of the hastily gathered clean-up crews; children in the schools closest to the WTC; traumatized witnesses to the explosions; communities in which the victims lived; communities directly and indirectly affected by the economic impact of the closings of small businesses and services; or undocumented workers whose family members sought aid.[107] As one newspaper observed from afar, the issues that emerged were far-reaching: "Should charities focus primarily on helping direct victims of the attack even if some are wealthy already and likely to get large payments later from government and private sources? Or should they focus on the neediest people, even if they weren't affected directly by the attacks? Should charities set aside some of the money for future attacks, or should they just assume that Americans will respond as generously if terrorists strike again?"[108]

Even divides based on geography that distinguished immediate victims from others began to be challenged as it became clear that the needs of Manhattan's Chinese community, just a few blocks to the north and east of the WTC site, were neglected. "Families who live in Battery Park City, where the median household income is $125,000, are eligible for grants of $14,500." But "in Chinatown, where streets were also blocked and garment factories shut after Sept. 11, household income is only a third of that in Tribeca. Yet families there are eligible for grants that reach a maximum of $7,750. The many Chinese families and others in a smaller zone north of Canal Street are eligible for a maximum grant of $1,750."[109]

The attempt to provide relief and support for WTC victims was complicated by the devastating impact the attack had on Lower Manhattan's, and, indeed, all of New York City's, economy. In early 2002 the new mayor, Michael Bloomberg, announced that his proposed budget for the fiscal year 2003 had to fill a potential $4–5 billion deficit. But as Bloomberg pointed out, the economy had been weakening before September 11, and the destruction in Lower Manhattan only added to what was already a grim fiscal outlook. The loss of employment in New York City in the months after September 11 was three times the national average, increasing by 2.3 percent compared to the national average of 0.8 percent between October and December 2001. The WTC disaster was projected to cost the city about $21 billion through June 30, 2002, and approximately 115,000 jobs.[110] According to the *New York Times*, the city lost "nearly 80,000 mainly low-income jobs in the month of October alone."[111] Of the 35,500 workers in the 25 hardest-hit occupations following September 11, 18,000 were in jobs that paid less than $10 an hour, and another 10,000 people earned less than $15 an hour, including restaurant workers, janitors and cleaners, maids and housekeepers, sewing-machine operators, salesclerks, counter attendants and bartenders, cashiers, and other service workers.[112] Ironically, the biggest loss of jobs and income was felt in Brooklyn, Queens, and the Bronx, far away from the disaster site itself.

Long-Term Problems Exacerbated by September 11

The effect of September 11 was made even more severe by the 1996 Welfare Reform Act, which required a five-year time limit on welfare payments, a limit that expired in October 2001. The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), passed by Congress in 1996 and reversing a 60-year-old welfare program that had provided funding, however inadequate, to families with dependent children, effectively limited the time that individuals could remain on welfare rolls. The five-year "once-in-a-lifetime" limit on welfare eligibility made application procedures more difficult and more onerous for thousands of city residents. By the year 2000 the city's welfare rolls had been reduced by 50 percent, and $1.5 billion had accumulated in the state's coffers as a result of this reduction.

One analysis of the impact of welfare reform on nonprofit agencies in the city argues that such agencies are

being forced to shift much of "their time and resources away from social services" to new objectives caused by the abdication of responsibility by the state and city. Mimi Abramovitz, Professor of Social Work and Social Welfare Policy at Hunter College School of Social Work, concludes, "As New York City's Human Resources Administration has reduced the amount and quality of information and guidance provided to welfare recipients, nonprofit agency staff have had to put aside core service responsibilities in order to help clients understand the new entitlements process." Workers at more than three-quarters of the agencies reported that substantial amounts of their time was devoted to phone and personal conversations with public agency representatives as they advocate for their clients. Workers at food pantries and homeless shelters throughout the city found that their resources were stretched to the limit. "Emergency food providers alone turned away more that 48,000 [people] during 2000. Meanwhile, workers at other agencies are engaged in a continual and often discouraging search for new resources to help an expanding cohort of clients deal with hunger, illness, and homelessness."[113]

Even before September 11, agencies complained that their "workers are running uphill trying to fix the problems created by welfare reform."[114] Welfare experts anticipated that large numbers of clients would be pushed off public assistance, and that inevitably a certain proportion of them would find their way to the voluntary services provided by various agencies associated with the United Way, United Jewish Appeal, Federation of Protestant Welfare Agencies, and Catholic Social Services.[115] Because the October deadline coincided with the national recession and the more severe local downturn, local charities expected their caseloads to increase dramatically, since the low-level service jobs the Welfare Reform Act anticipated would be available to ex-welfare clients were the very jobs vanishing in the city, jobs that were especially affected after the WTC attack.[116]

Even prior to September 11 several philanthropies were already concerned about their ability to soften the economic downturn's impact, because the fall of the stock market meant that "the value of their assets had dropped significantly." Further, many philanthropies depended upon corporations as major sources of support, and, with the recession eating into corporate profits, many were "reducing the dollars they could devote to supporting charitable nonprofits."[117]

Igal Jellinek of the Council of Senior Centers and Services notes the complex forces that were shaking services for seniors both before and after September 11. The problems for the city's Department for the Aging (DFTA) were longstanding. In 1980, 77 percent of its budget, which was much smaller than it is today, was provided by the federal government. Today, Washington provides 17 percent of that department's budget and New York State provides 6 percent. "The rest is kicked in by the city, and if the city doesn't have money, this is a system that is at risk."[118]

Ironically, the relationship between the social service agencies and the city was plagued by inconsistent support, both financial and administrative, from the city's DFTA. During the Giuliani administration, those in the social service world recognized that the mayor himself appeared to support services for seniors. "But," as Jellinek puts it, "while the mayor was very supportive of seniors, this support lost some momentum as it worked its way down through the ranks. In other words, money was available, but the voices of seniors and those working with them were not always heard. Today, with the downturn of the economy, budget cuts mean that tough decisions have to be made, and the elderly are not always seen as a priority."[119]

The crisis of the social welfare community was not just a problem of income, but of housing, food, and health-related services as well. Most low-income workers had no savings and were unable, once out of work, to pay the rent in an increasingly restricted housing market for the poor. The gentrification of the city as a whole over the previous decade had severely restricted the availability of housing in the outer boroughs where many of these workers lived. The welfare community had to plan for eviction prevention services, financial planning assistance, community mental health services, and services for the thousands of documented and undocumented immigrants not eligible for city aid. This assumes major importance in light of the fact that 40 percent of New York's population is foreign born, and this percentage is expected to increase in the coming years. Even before September 11 the smaller agencies were at particular risk as the recession took hold and began to affect the ability of residents in poor communities to volunteer services at local food pantries and shelters. Further, "food banks have experienced significant drops in corporate food contributions since midsummer [2001], when the first impacts of an economic slowdown were being felt—and at the same time they are experiencing a rapid increase in demand for food supplies."[120]

The impact of the WTC disaster on smaller social service agencies, coming in the midst of a broader crisis caused by the recession and welfare reform, was, therefore, severe. Unlike the larger agencies, which had significant cash reserves as well as a broader cohort of donors to call upon, smaller agencies, from soup

kitchens to neighborhood clinics, had few resources and found it difficult to survive, much less expand services, in the wake of the attack. The larger agencies found that their income from various sources remained virtually unaffected but that their priorities often changed. Twenty-five percent of agencies surveyed in one study refocused their efforts on a larger number of outreach programs dedicated to religious tolerance as well as mental health services and projects addressing the threat of bioterrorism.[121]

The WTC Disaster and the Outer Boroughs

In the outer boroughs particularly, the outpouring of donations for social services and social welfare was barely felt. At St. Ann's Church in the Mott Haven section of the Bronx, for example, Mother Martha Overall saw her church's food pantry overwhelmed by an increase of 30 to 40 percent in October and November 2001. But "outside help was shrinking." She noted, "the charitable donations [following September 11] went Downtown instead of Uptown."[122] As noted in an editorial in the *New York Times*, "Food for Survival, the city's largest supplier of emergency food, estimated that more than a million New Yorkers were relying on soup kitchens, food pantries, and shelters to avoid going hungry." While it is difficult to estimate the true extent of the dependence on these charity services, the New York Coalition Against Hunger also reported a dramatic upsurge in demand.[123]

The city's short-term response to the crisis, providing emergency shelter and support for the families of WTC disaster victims, was generally considered to be remarkable and efficient. But one food service provider asked, "Why can't that happen in other times in dealing with poverty?"[124] "There [was] tremendous concern, verging on panic, among nonprofits not directly related to emergency relief efforts. Most operate with few reserves and uncertain cash-flows. They face an economy that was deteriorating before the attacks and is declining rapidly since; a huge drop in the portfolio values of individuals and foundations, reducing their ability to give; cuts in city and state funding as governments struggle to keep budgets balanced; and the possibility that donors will feel 'tapped out' by giving to disaster relief."[125]

The impact of September 11 on the city's charities has been felt in a number of concrete and more abstract ways. The pressures placed on the various agencies led to significant upheavals in the administrative structure of the system as well as a growing intellectual debate about the basis for providing services to individuals and groups. Throughout American history philanthropies and the government have distinguished the "worthy" from the "unworthy." Ultimately, even the largest social welfare programs as embodied in the Social Security Act of 1935 distinguished between the elderly, who were entitled to Social Security benefits (Old Age Assistance), and poor single mothers and their children, who had to prove need and worthiness to gain assistance. These moral distinctions were carried forward into the Medicare and Medicaid legislation of 1965.

But in the wake of September 11, the voluntary sector has begun a vibrant and potentially important discussion of how one distinguishes between individuals and among groups. In a thoughtful paper, Eugene Steuerle, writing for the Urban Institute, laid out the practical issues the World Trade Center disaster raised for large and small voluntary organizations alike. Were benefits to be given out on the basis of equal justice, or horizontal equity? Should resources be given to the most needy, or to all of those affected, irrespective of income? Did charitable agencies have the right to decide who was most deserving? The coming months will determine whether the answers that evolve over the course of time will affect the administration of the city's social health and welfare. But it is certainly possible that the response to the immediate crisis will change basic assumptions that have for over a century determined who among the dependent—whether poor or rich, working or unemployed—receives care.[126]

Mental Health

As with the social service sector, in the immediate aftermath of the World Trade Center tragedy, the city's enormous resources provided an amazing array of mental health services to people, irrespective of traditional financial or moral judgments. But the experience with mental health highlights longer-term weaknesses that appear more difficult to overcome, and that may have much more profound implications for public policy.

Barbara Aaron, of Columbia University's Mailman School of Public Health, became immediately involved in attempts to estimate the dimensions of the mental health problems the city's population would face in the coming weeks, months, and years. She recalls the overwhelming dimensions of the problems that began to emerge as she visited workers at the WTC site. Several months after the attack she went down into the "pit," now seven stories below ground. "It was a little bit wet in spots but it was mostly dry . . . and I saw these

football-field-size areas, and there would be a row of men that I realized were firefighters." They were sitting in chairs "sort of slumped, in rows, on either side of this long field, if you will, and a front-haul loader would come and scoop up a big pile of dirt and debris from this huge mountain and would back up between the two rows of men and sift it down, creating an incredible amount of dust in the air. And these guys would sort of heave themselves to their feet, and with rakes and picks and shovels they would just pick through it. And after about ten minutes they would stop and they would sort of slump down in their seats and a bulldozer would come and push it away. And the process would repeat itself endlessly all day." Aaron talked about the physical effects of being in the pit for just a few hours: "My eyes were infected for two weeks after that one day, and I [developed] a really terrible cough. . . . So this [was one of] the cleanest, probably most pristine moments down there, and it was awful. It was loud, it was unpleasant, it smelled bad."127

However distressing the physical environment, the emotional impact on the people who worked there was in some ways even more difficult. In Aaron's description "it was a grim place, and it was just like the people there were serving some kind of sentence or some kind of penance . . . and this wasn't like a big traumatic moment. But it was very, very grim." She went to a morning meeting at the trailer on site to describe the services project Columbia was engaged in and found that the workers were pretty receptive. "They don't say that much, they stare and they nod, and some of them, you know, you see emotion in their faces, and then afterward, they all expressed regret to the guy I was with that they hadn't said more. But they were afraid to say it in front of each other. But people come up and put their arm around you—firefighters come up and say, 'We're OK, but the workers, the workers don't have the support we have. And they do everything we did.' This was a classic response—I'm fine, but that guy. . . ."128

The Growing Debate about the Need for Long-Term Services

Once again, the provision of short-term services by a variety of agencies, institutions, and professional groups was truly remarkable. But early on, mental health professionals recognized that a substantial proportion of the population directly and indirectly affected by the attack would need ongoing and long-term care. In August 2002 it was announced that, unlike procedures in the social service world, of which mental health services are part, the mechanism for funding mental health services would be changed substantively to move away from a "needs" assessment and toward greater inclusiveness. In fact, there are hints that the crisis may have a series of unintended consequences for broader health policies at the state and federal levels. Most intriguing is an article by Matthew Wynia and Lawrence Gostin that appeared in the May 2002 *Science* magazine in which they link the need for a national health insurance system to security and anti-terrorism.129

In the days and weeks following September 11 the various health agencies, hospitals, and medical and public health schools established a network of mental health services to counsel those directly affected. "Within 24 hours of the World Trade Center collapse, DMH [Department of Mental Health] informed the media that its mental health counseling and referral information line—LIFENET—was up and running in English, Spanish, and Asian languages," announced the public relations office of New York City's DMH. Staff from the city was sent to the mayor's Family Assistance Center at Pier 94 and the morgue.130

Throughout the city, different agencies established counseling centers, opening their doors to anyone who came in. Health professionals flooded Lower Manhattan, sometimes to the consternation of those at Ground Zero, many of whom told volunteer therapists to go elsewhere. One therapist describes how, in the days following the event and with little sense of how best to help, she went to tables established near the site to organize volunteer professionals and demanded that she be allowed to "help," even though the people there table were obviously swamped with offers of aid from scores of other therapists demanding that they be allowed to help as well.131

Within two weeks of the event, the New York City DMH had established its own network of services at Pier 94, Ground Zero, the Emergency Operations Center at Pier 92, mental health hotlines, and 230 community-based mental health agencies throughout the city. The department estimated that it was running 988 programs aimed at providing emergency mental health services to deal with the "feelings of grief, confusion, and anger" in the weeks after the disaster.132 The Greater New York Hospital Association's member hospitals, including NYU Downtown Hospital, St. Vincent's, Cabrini, Beth Israel, Mt. Sinai, New York-Presbyterian, St. Luke's-Roosevelt, and others near and farther away from the site, along with the city's public institutions, established a wide variety of outpatient emergency services.

Counseling, of course, was a major portion of the services at these institutions. St. Vincent's Family Resource Center saw an estimated 6,000 people in the 24 hours following the attack. Several hundred families arrived at Cabrini seeking relatives and friends lost in the attack and were provided counseling as

well. Beth Israel sent staff to Ground Zero to provide grief counseling to workers at the site. Mt. Sinai operated a 24-hour hotline for two weeks, using eight phone lines to offer telephone counseling to community residents "too frightened to leave their homes." New York-Presbyterian Hospital helped a variety of "companies and organizations to provide onsite group counseling and follow-up counseling to their employees." Even though the DMH's LIFENET played an essential role in the weeks immediately following the attack, it was primarily a referral system that could not guarantee the quality or appropriateness of the care.[133]

Despite the outpouring of immediate assistance from a range of individuals, private organizations, and public agencies, it became clear that the short-term response was inadequate for the longer-term impact on the city's population. Neal Cohen, a psychiatrist and New York City's Commissioner of Health at the time, announced just a week after the attack that it was "now time to turn to tackling the longer-term impact of this tragedy." It was necessary to find a way to provide ongoing mental health services at Ground Zero as well as at other sites for workers engaged in clean-up and recovery. Further, some mechanism for coordinating and planning the vast variety of agencies and services in the city was essential. Cohen sought to convene planning meetings with the federal Substance Abuse and Mental Health Services Administration, the New York State Office of Mental Health, the United Way, the Coalition of Voluntary Mental Health Agencies, and the Greater New York Hospital Association, among others. The DMH promised to help train mental health professionals, with a special focus on the effect of the WTC event on children.[134] "Project Liberty," the federal and state emergency program set up to fund emergency services and counseling at workplaces, schools, and homes in the metropolitan region, provided $22.7 million, with $14 million reserved for use in New York City.[135]

But fundamental problems emerged almost immediately as administrators and academics alike focused on ways to provide ongoing services for the city's population. First, it was apparent that even a minimal attempt at providing short-term care was enormous, given the huge population of the area and the lack of definition about what constituted an emergency or acute problem. The issue of providing long-term counseling simply magnified the demands on providers to a degree virtually beyond comprehension. Some estimated that up to 10 percent of the city's population would suffer from symptoms of post-traumatic stress disorder.[136]

Barbara Aaron observed that the people working in the clean-up and recovery effort "were facing trauma of their own in that they were doing recovery of body parts for a very, very long time in a toxic environment. A very grim job, a very dangerous job." Unlike police and firefighters, Aaron relates, the other workers "had no preparation, no service or support network, and they were having big problems. . . . They were disconnecting from their families, because most of these people would protect their spouses and children from the experiences they had. So effectively, they kind of sealed themselves away from their families. They weren't able to provide the support or get the support. So marriages fell apart, children were in trouble, and these people moved into a different reality—they approached their job with mission and zeal." Aaron described the special ties that held these workers together and said that "with the ending of that experience . . . suddenly, without a whole lot of [preparation] it was over. You see the divorces, the suicides, the people who don't have jobs, they're in big trouble."[137]

As late as June 2002, Jack Krauskopf of the USG was concerned that although there was a system "for crisis counseling and short-term mental health assistance," it was "not clear if there is enough support for the long-term counseling and treatment needs that people who have been severely affected emotionally have."[138] Studies estimated that up to 10 percent of New York City's 1.1 million public school students required some sort of immediate or long-term care. Barbara Aaron noted that Christina Hoven, an assistant professor in the Department of Epidemiology at Columbia University's Mailman School of Public Health, "designed this unprecedented, amazing study that the Board of Education conducted on 8,300 schoolchildren across the city looking at a very broad spectrum of disorders as outcomes."[139] Even before the disaster there had been "a huge unmet mental health need in the city's schools."[140]

But a minimal attempt at providing students with counseling was impossible, given the status of school budgets in the first place, and the lack of trained staff capable of working in a school environment. The economic crisis overtaking the city put children's mental health needs in direct conflict with the general cutbacks affecting school personnel even before September 11. Schools that sought to develop art therapy projects for children traumatized by the events following the disaster found that their art programs had been eviscerated and their staff dispersed because of cutbacks.[141]

In general, the extent of the population affected and the needs of that population for both short-term therapy and attention to post-traumatic stress disorder humbled the professional world. One major problem was the

lack of an adequate system of public and private insurance to cover mental health services, which made any planning for long-term psychotherapy virtually meaningless without a huge influx of federal and state moneys.

Further, the system for the delivery of extended-care services was itself under enormous strain. "Mental health services were already stretched to capacity before the WTC disaster," argued Patricia O'Brien, Associate Vice President of the Greater New York Hospital Association. "Patients were already waiting in inpatient settings because appropriate alternative levels of services were not available. . . . The development of outpatient services has been repeatedly thwarted by the state's refusal to approve new services if they will expand Medicaid costs," O'Brien said. Even those with insurance could not expect to be completely covered for psychotherapy. She worried that "treatment for mental illnesses related to the disaster will be limited in some cases by restrictions on mental health insurance benefits."142

In addition, as Ezra Susser, Chair of the Department of Epidemiology at Columbia University's Mailman School of Public Health, relates, "Thinking of it from a systems point of view, what characterized it more than anything else was fragmentation and to some degree inertia. They really weren't able to bring together the different service systems in the city, nor the research facilities. There was a lack of leadership, I would have to say." Susser believes that the New York State Office of Mental Health, "while they were slow to respond, they did respond . . . they did try to introduce some coordination to the process. But they are not the main player here in the city. And the Department of Health was never able to exert leadership on the mental health side."143

By August 2002, the September 11th Fund had established policies for financing mental health services that allowed anyone affected by the September 11 tragedy or their families to receive long-term mental health coverage.

The myriad problems encountered by those trying to coordinate services is exemplified by the roadblocks to gathering basic epidemiological information about the scope and degree of mental health problems affecting workers, schoolchildren, residents of the immediate WTC neighborhood, and of the city as a whole in the weeks and months following September 11. One researcher recalls that the process of conducting research "has been characterized by fragmentation and rivalry. There's no means for communication among the different people doing research. Not even IRBs [institutional review boards] communicate. There must be 300 studies at least going on in the city now in mental health and research and nobody can even list them for you. They often approach the same people. It's just complete chaos." And yet, he acknowledges, "there have been some great studies done."144

The long-term effect of the crisis on the provision of social services is still uncertain, but we have seen somewhat contradictory tendencies: On the one hand, traditional distinctions between the "worthy" and "unworthy" and the "truly needy" and those "not truly in need" that have been at the core of decisions for the distribution of welfare and charity service by government and social service agencies alike for the past two centuries were suspended in the short term. These distinctions reemerged as the immediate crisis passed. On the other hand, the crisis has forced the social service community to confront whether or not such traditional distinctions between groups of needy or dependent people is really the best way to plan for future emergencies.

Conclusions

The emerging focus on bioterrorism in public health has, ironically, reinvigorated the drive to support and strengthen the public health infrastructure in New York City and throughout the nation. Some have argued that only by buttressing the basic functions of health-related agencies will those agencies be able to deal effectively with the special cases of chemical warfare, bioterrorism or even massive destruction like that of the World Trade Center. Andrew Goodman, the New York City Department of Health's Associate Commissioner of Community Health Works, suggests that many of the activities that determine a city's health are rarely in the forefront of people's consciousness: "Every day we drink the water and assume it's safe. What people don't realize is there's an ongoing activity to ensure that that happens." It is only during a moment of crisis like the anthrax episode "that people appreciate the need for ongoing surveillance and ongoing capability around some very basic functions."145

The Need for Protecting the Public Health Infrastructure

Benjamin Mojica, formerly Deputy Commissioner of Health and Director of the Division of Health, sums it up

this way: Emergencies are the kinds of events that "we in public health do not generally think of as something we have to deal with. . . . We have to rethink our mission, and find out exactly where we fit [into] all of these emergencies. We have not really thought of ourselves as responders to anything like this before, because we thought that was the Department of Environmental Protection, that's Environmental Conservation, that's Transportation, that's Law Enforcement. But there's always some public health impact with this kind of disaster. There is post-traumatic stress syndrome. . . . We need to look at these things and see what kinds of ramifications they may have in the health of the public."[146]

Although health department officials have been told that despite assurances in the midst of the crisis that resources would be made available for planning, in fact, there is now a real fear that the city's and state's budget crises will undercut the infrastructure. Despite new moneys available from the federal government, units of the Department of Health have been instructed to trim their budgets, and a hiring freeze is in effect. The administrators of all divisions have been informed that they will be able to replace only one of every two workers.[147] Lucindy Williams, the manager for STD clinics in Staten Island and Williamsburg and Fort Greene, Brooklyn however, has seen a slight reduction in the clinics' budget, but has not seen a substantial impact on their ability to serve their clients.[148] It is not clear whether the new awareness of the breadth of services needed will lead to an expansion in the purview of the Department of Health or other agencies of local government. Nor is it clear whether the local and state fiscal crises will outweigh and undercut support for meeting the needs of local institutions.

The Need for City-State Coordination

Although on the whole there was extensive cooperation between the city and the state in response to the WTC disaster, in the immediate aftermath of the attack there was "intermittent confusion as to which state or local agency was 'in charge' on any given issue."[149] In contemplating changes in the legal structure for future public health emergencies, Wilfredo Lopez, General Counsel of New York City's Department of Health, acknowledged that in New York both the mayor and the governor have the power to declare a state of emergency. He feared that new legislation would strengthen the state's powers at the expense of the city's. Rather, he said, "the fundamental structure of New York's existing law, which mandates to local government a primary role in emergency response, should not be altered." Indeed, he noted that the advantage of the New York law is that the city's health department can respond to health dangers more quickly and efficiently. "The health officer needs to be able to act without waiting for a situation to be recognized as terrorism or to escalate to an emergency."[150]

But more was at issue than a reevaluation of the underlying ideology that has reinforced the undercutting of health-related activities during the past half-century. The emphasis on individualism, local control, and dependence on the private sector has led to a disintegration of the sense of community, which has, in turn, undercut public activities and authority.

The crisis highlighted the varied audiences to which the health agencies were responsible. On the one hand, many of the agencies, including the Department of Health, as well as private social welfare agencies, looked to public officials for direction, and these officials often united around a common program to return the city to a sense of normalcy. On the other hand, the agencies had a responsibility to the public to provide as accurate or honest information as they could. The Department of Health was alternately praised and condemned for trying to reconcile these two obligations in the case of anthrax. But in the case of air monitoring in Lower Manhattan, where information was ambiguous and public perception of the potential hazard was not, the city's health agencies were less successful. Andrew Goodman says that the situation in Lower Manhattan taught the Department of Health "the need that the public has for the public health people to really be there in a very physical, consistent way, to address a lot of concerns."[151] Similarly, the Board of Education too closely identified itself with the larger political and economic objective of returning Lower Manhattan to normal and, in turn, incurred the wrath of parents in the schools around the WTC.

Public Trust and Public Health

At the local level, one important theme that emerges from various discussions of the response to September 11 and the anthrax incidents is the contradictory pressure to return to a sense of normalcy and routine at the same time that officials encouraged us to be ever vigilant and in a heightened state of preparedness. In the arena of public health activities, the dual demands for normalcy and vigilance have played out in strange and sometimes conflicting ways. Most concretely and immediately, as the cases of Stuyvesant High School and Lower Manhattan illustrate, the uncertainties that mark much of our knowledge about environmental threats posed by exposure to a variety of chemicals, minerals, and gases created by the explosion and

collapse of the WTC buildings left policymakers, scientists, and the public in a state of heightened suspicion of one another. At a time when government, business leaders, and the press were urging a return to normal everyday activities, the smells and perceptible dusts the New York City population lived with every day served to undermine popular trust in the statements of experts and government officials.

Perhaps the most important conclusion that can be reached is that much of future policy affecting population health will require an opening up, not a shutting down, of information and communication between health-related authorities and the broader population. While much of the federal government's attention to health has focused on the need for secrecy and the police powers of health authorities, this approach runs counter to achieving effectiveness in both the everyday running of health agencies and the response to specific terrorist acts.

In future months, policymakers and health officials will have to revisit the issue of the breadth of their police powers. In the absence of a consensus about the use of power and authority, the least that can be said is that in a democracy, maintaining public access to trustworthy information is essential. As Susan Blank of the Department of Health pointed out, one of the lessons she learned from recent months is "the importance of communicating with the public regularly . . . the importance of being able to say, 'We don't know. We just don't know. We're going to have to take it step by step.' I think that those are some of the major things that are going to be different."[152]

Social Welfare and Population Health

While the public health department needs to buttress its traditional activities and establish a greater openness, the welfare system has found some of its basic assumptions challenged by recent events. It may ultimately find its leadership moving away from age-old prescriptions and assumptions, particularly regarding the need to distinguish between the "worthy" and "unworthy" as a necessary element in decisions regarding the distribution of resources to clients.

Despite the increasingly stringent requirements of federal welfare policy and the constriction of resources, local social welfare agencies found that the response of the social welfare community to the World Trade Center disaster provided a new and enticing model for delivering resources. Mimi Abramovitz of Hunter College's School of Social Work relates the response that author and *New York Times* reporter Nina Bernstein had during a visit to the Family Assistance Center at Pier 94 in the days immediately after the attack. Bernstein said, "It was as if the welfare state had stumbled into paradise," by which she meant, according to Abramovitz, victims had "every service anyone in that situation needed. No red tape, hardly any questions asked." It showed Abramovitz that "when we want to we can provide a good service delivery system in a way that would really meet those needs" (as America had during World War II and the flu epidemic of 1918).[153]

Of course, the shift in views was for many in the social service arena a temporary emergency necessity. While there was "a greater willingness to help people who are victimized by trauma of this horrible kind," there was, according to Abramovitz, much less of a commitment to "help people who are victimized by daily traumas of poverty, racism and violence." She says, "So it's disturbing to watch the outpouring of generosity —which was 'we can take care of everybody,' and this paradise welfare office, and then underneath it all, afterward, we see the old dichotomies and the old divisions reappearing." In the end, September 11 intensified the problems created by federal welfare reform. Getting "people from welfare to work" depends upon the existence of low-paying jobs, but that category of work was most severely affected by both the recession and the WTC disaster. Abramovitz calls it "a triple whammy. . . . The increased demand from the World Trade Center, the increased demand from the recession, the chaos because of people losing their benefits. . . . That to me is what September 11 . . . was really about. It really intensified all those things together."[154]

Gail Nayowith, Executive Director of the Citizens' Committee for Children, one of city's most venerable child welfare advocacy organizations, is especially insightful with regard to the impact of September 11 on welfare services for children. The rhetoric of creating a cohesive, responsive, and inclusive system of welfare services that emerged in the months following the attack is coming up against the historical reality of a very fragmented and disorganized system of separate agencies, each with their own agendas. Further, the goals of rebuilding the city often come up against the needs for restructuring and rebuilding the social service infrastructure as new clients and new demands are made on it. On the one hand, there is what Nayowith calls the "core thing," the recovery effort and the rebuilding of Lower Manhattan. On the other hand, there is "the school system and the childcare system, child welfare and juvenile justice, and the family court system over here with nothing. It's like, we have to balance our budget but we're going to have to rebuild the city.

Well, how does that work?"[155] According to the United Way of New York City, the money coming in to nonprofits is overwhelmingly (91 percent) earmarked for distribution directly as cash assistance for clients. As a result, agencies were unable to hire new staff and obtain other essential infrastructure needs despite the new demand on the services. Only 1 percent of the money raised went to provide services by community organizations.[156]

Nayowith emphasizes the disjuncture between short-term responses and longer-term needs and the resulting potential crisis for mental health services for children and, more broadly, the mental health system as a whole. "The government responded in a way that was both impressive and alarming," Nayowith argues. "I think from a crisis perspective, [government] really stepped up and brought people together and tried to figure it out." But "to layer a trauma crisis response on top of a pretty creaky infrastructure . . . doesn't really make for a long-term solution that's going to be good for kids and families."[157]

Certainly, one general problem that all agencies and actors had to reconcile about the September 11 attack was the conflicting goals of politicians and bureaucracies intent on calming a terrified population and the obligation to present an honest and forthright description of what was and was not known. Particularly in light of the enormous uncertainty regarding the environmental dangers associated with possible chemical, biological, or radiological attacks, this question demands close attention. One clear lesson from this experience is that maintaining the integrity of the agencies responsible for seeing to the population's health is more important than reassurances that cannot be relied upon or that fly in the face of people's everyday experience.

Lessons for the Future

What lessons are to be drawn from this historical account? Much of the success in coordinating a response had less to do with the formal organization of emergency planning or conscious preparation than with the existence of an ongoing infrastructure of health services, laboratories, and personnel. While many officials from outside the city praised New York's ability to respond, and some personalized its success by pointing to the political leadership, in fact, neither the response nor the leadership could have mobilized nonexistent bureaucracies.

A second major lesson is that we need to expand our understanding of the limitations of our current individualized mental health system and integrate it more broadly into our public health infrastructure. In fact, on July 1, 2002, the city's Department of Health merged with the Department of Mental Health to become the Department of Health and Mental Hygiene (DOHMH). By acknowledging the broad impact of terrorism on the mental health of society, it is becoming clear that all people affected—from schoolchildren in the immediate area of the WTC attack as well as their parents, neighborhood residents, and anyone directly affected by the tragedy—deserve comprehensive mental health care, regardless of their income or private insurance coverage. This is potentially a huge transformation in the conception of a society's responsibilities for those in need. Whether this challenge to our broader assumptions about who is "worthy" and who is "unworthy" of care is extended to or cutback remains to be seen. An ancillary point is that we need much better understanding of the best interventions on a population level.

A third message that comes out loud and clear is that failure to acknowledge uncertainty in communications is a big mistake. Our misuse of the public's trust and goodwill through the assertion of obviously counterintuitive pronouncements by public officials or public health spokespeople ultimately backfires, leading to a loss of authority by those making the pronouncements. Human beings have a well-developed intuition that tells us when the air smells and makes us cough, it is not good for us, even when whether experts or political leaders say that scientific investigations indicate there is no danger.

Finally, the September 11, 2001, attack was on the nation, not just New York City. When national threats are present, clear lines of federal and other authority need to be established. A cacophony of voices does not serve the public well or use resources efficiently. Local authority need not be usurped, but decisive leaders who control resources and make decisions with good personal and situational intelligence are needed in times of crisis. In the anthrax event, where there was clear leadership (e.g., Mayor Giuliani), the system worked reasonably well. When many jurisdictions operated within their narrow preserves, communicating poorly and competing for primacy, the system fell apart.

A fundamental finding of this study is that the very definition of emergency response must continue to expand the purview of public health so that professionals in the field understand the breadth of social and medical activities that determine a population's health and well-being. For much of the past century, public health officials, administrators, and city agencies in general clung to very traditional notions of what

constituted dangers to the public's health: discrete functions regarding sanitation, emergency care, scientific data collection, and surveillance. But this narrow definition of public responsibility has broadened considerably over the past generation. The events of the past year have spurred this redefinition, forcing government officials—indeed, all of us—to rethink what health is, which agencies are responsible for a population's health, and what the public's role is in defining what is considered a healthful or unhealthful environment.

Notes

[1] Fox 2001, p. xix.

[2] Bruno 2001.

[3] In addition to the resources devoted to the existing public health infrastructure, the expansion of New York's array of services included support for the development of HIP and Blue Cross, the expansion of health department clinics, public hospitals, and public housing, the nation's largest public university system, and what was, until the 1980s, often considered a generous welfare system. See, for the post-World War II years, Freeman 2000.

[4] The others are California, Wyoming, Hawaii, and Arkansas. Emergency Management Division 2001.

[5] Richard Gottfried, interview by Valerie Kiesig, July 10, 2002 (hereafter Gottfried interview).

[6] Kelly McKinney, interview by Sheena Morrison, June 12, 2002 (hereafter McKinney interview).

[7] McKinney interview.

[8] Doris Varlese, interview by Valerie Kiesig, July 22, 2002 (hereafter Varlese interview).

[9] Susan Waltman, interview by Valerie Kiesig, July 22, 2002 (hereafter Waltman interview).

[10] Varlese interview.

[11] Gottfried interview.

[12] Richard Jackson, interview by Gerald Markowitz and David Rosner, May 17, 2002.

[13] Susan Blank, interview by Nancy VanDevanter, January 3, 2002 (hereafter Blank interview).

[14] Blank interview.

[15] Lucindy Williams, interview by Sheena Morrison, May 28, 2002 (hereafter Williams interview).

[16] Isaac Weisfuse, interview by David Rosner, January 14, 2002 (hereafter Weisfuse interview).

[17] Benjamin Mojica, interview by David Rosner, January 16, 2002 (hereafter Mojica interview).

[18] Mojica interview.

[19] Mojica interview.

[20] New York City Department of Health, 2001, 2002. Since it was displaced from its headquarters, the department oversaw the re-creation of a system for the collection and protection of vital records, including birth and death certificates.

[21] Andrew Goodman, interview by Nancy VanDevanter, January 2, 2002; Goodman, post-interview comments, November 7, 2002.

[22] Weisfuse interview.

[23] Blank interview.

[24] Mojica interview.

[25] Goodman interview.

[26] McKinney interview.

[27] The entire infrastructure of public health training was threatened as well. In the 1980s, many schools of public health had been threatened with closure, including Harvard's and UCLA's, but since that time, these institutions have recovered and the actual number of schools of public health have increased, not decreased. In New York, it was not until the late 1990s that Columbia's Mailman School of Public Health gained a relatively stable source of income through the donation of a gift that created an endowment.

[28] Weisfuse interview.

[29] Steinhauer and Dwyer 2001.

[30] Samuel Sebiyam, interview by Valerie Kiesig, June 6, 2002 (hereafter Sebiyam interview).

[31] Kershaw 2001.

[32] Mojica interview.

[33] Garrett 2001.

[34] Goode 2001.

[35] Goode 2001; Stolberg 2001.

[36] Steven Rubin, interviewed by Sheena Morrison, June 12, 2002 (hereafter Rubin interview).

[37] David Klasfeld, interview by David Rosner and Gerald Markowitz, June 6, 2002 (herafter Klasfeld interview).

[38] Klasfeld interview.

[39] Klasfeld interview.

[40] Gendar 2001a.

[41] Klasfeld interview; Gendar 2001b.

[42] Molly Rosner and student friends, conversations with David Rosner, October 3-12, 2001 (hereafter M. Rosner conversations).

[43] Williams and Hay 2001.

[44] M. Rosner conversations.

[45] M. Rosner conversations.

[46] Gendar 2001c; David Rosner, conversations with parents, October 2001–February 2002.

[47] Gendar 2001c.

[48] Roth 2001.

[49] Williams 2002.

[50] David Rosner, conversations with parents.

[51] Klasfeld interview.

[52] Barbara Aaron, interviewed by Rochelle Frounfelker, August 15, 2002 (hereafter Aaron interview).

[53] McKinney interview.

[54] McKinney interview.

[55] Cardwell 2001.

[56] Katz 2002.

[57] Cardwell 2001.

[58] Cardwell 2001. See also Robert Adams, Director of Environmental Health and Safety Services for New York's Department of Design and Construction, who was reported by the *New York Times* as having said that "although workers at the [WTC] site were still required to wear respirators and other protective gear, the data suggest that even an unprotected worker would not experience long-term health risks from the levels of poisons that had been protected."

[59] Jerrold Nadler, interviewed by Valerie Kiesig, July 12, 2002 (hereafter Nadler interview).

[60] Gonzalez 2002.

[61] Cardwell 2001.

[62] Cardwell 2001.

[63] Williams 2001.

[64] Gonzalez 2001.

[65] Stranahan 2002.

[66] Katz 2002.

[67] Davidsdottir 2002.

[68] Ekaterina Malievskaia, post-interview comment, November 13, 2002.

[69] Schneider 2002.

[70] Schneider 2002.

[71] Johnson 2002b.

[72] Johnson 2002a.

[73] *Occupational Hazards* 2002.

[74] Nadler interview; see also Jerrold Nadler, "White Paper-Lower Manhattan Air Quality" (mimeograph) April 12, 2002.

[75] Nadler interview

[76] Johnson 2002a.

[77] Nadler interview.

[78] Fagin 2001.

[79] Ekaterina Malievskaia, interview by Rochelle Frounfelker, August 5, 2002 (hereafter Malievskaia interview).

[80] Malievskaia interview.

[81] Malievskaia interview. Newspapers throughout the country were beginning to take notice; see Stranahan 2002.

[82] Malievskaia interview.

[83] Johnson 2002b.

[84] Gendar and Gittrich 2002.

[85] Igal Jellinek, interview by Rochelle Frounfelker, July 18, 2002 (hereafter Jellinek interview).

[86] Nadler interview.

[87] Jellinek 2002.

[88] Jellinek interview.

[89] Jellinek 2002

[90] Jellinek 2002.

[91] Jellinek interview.

[92] Jack Krauskopf, interview by Rochelle Frounfelker, June 7, 2002 (hereafter Krauskopf interview).

[93] September 11th Fund 2002.

[94] Strom 2002a.

[95] Rabin 2001.

[96] Sun 2001. American Red Cross President Bernadine Healy resigned at about this time. To date, approximately $2 billion has been collected, almost half of which was raised by the Red Cross and almost one quarter by the September 11th Fund. Others that have collected over $50 million include the New York Firefighters 9-11 Disaster Relief Fund, the Twin Towers Fund, the Salvation Army, the Uniformed Firefighters Association's Widows' and Children's Fund, New York State World Trade Center Relief Fund, New York Times 9/11 Neediest Fund, and the Robin Hood Relief Fund; this last is the only one of these funds specifically targeted at low-income victims of the disaster. See Strom 2002b.

[97] Jellinek interview.

[98] Krauskopf interview.

[99] Krauskopf interview. By October 7, the estimated amount of donations had increased to over $1 billion. By October 30, estimates grew to $1.2 billion. And as of June 21, it was over $2 billion; Saul 2001a; *New York Times* 2001b; Strom 2002b.

[100] Shatzkin 2001.

[101] *New York Times* 2001a; Saul 2001b.

[102] Saul 2001c.

[103] Krauskopf interview.

[104] Jack Krauskopf, post-interview comment, November 14, 2002.

[105] Steuerle 2002, p. 2.

[106] Krauskopf interview.

[107] Mimi Abramovitz laid out this argument extensively in her interview by Rochelle Frounfelker, June 3, 2002 (hereafter Abramovitz interview).

[108] *As one newspaper observed ". . . if terrorists strike again?*": Auster 2001.

[109] Wyatt 2002.

[110] City of New York 2002; United Way of New York City 2002, p. 40.

[111] *New York Times* 2001c.

[112] Fiscal Policy Institute 2001, Table 3; see also charts on pp. 8 and 9.

[113] Abramovitz interview. See also Abramovitz 2002, p. 10.

[114] Abramovitz 2002, p. 11. Some estimated that 50,000 New Yorkers would be thrown off welfare and onto the job market in the three months following the WTC disaster. See Schachter 2001.

[115] Abramovitz interview.

[116] Abramovitz interview.

[117] Independent Sector 2001, p. 1.

[118] Jellinek interview.

[119] Jellinek interview; post-interview comment, December 2, 2002.

[120] Independent Sector 2001, p. 2.

[121] Douglas Gould & Co. (www.douglasgould.com), quoted in United Way of New York City 2002, p. 40.

[122] Martinez 2002.

[123] *New York Times* 2001c.

[124] Lee 2001.

[125] Townsend 2001, p. 9.

[126] Steuerle 2002; Independent Sector 2001.

[127] Aaron interview.

[128] Aaron interview.

[129] Wynia and Gostin 2002. In future reports we will look at the impact of these ongoing processes and

sometimes unexpected effects of the September 11 tragedy on interstate and national planning for population health.

[130] New York City Department of Mental Health 2001a.

[131] K.C., personal communication with David Rosner, September 23, 2001.

[132] New York City Department of Mental Health 2001b.

[133] O'Brien 2001.

[134] New York City Department of Mental Health 2001a.

[135] Gormley 2001.

[136] Galea et al. 2002.

[137] Aaron interview.

[138] Krauskopf interview.

[139] Aaron interview.

[140] Purnick 2002; Kleinfield 2002.

[141] Goodnough 2001.

[142] O'Brien 2001.

[143] Ezra Susser, interview by Rochelle Frounfelker, August 5, 2002 (hereafter Susser interview).

[144] Susser interview.

[145] Goodman interview.

[146] Mojica interview.

[147] Rubin interview.

[148] Williams interview.

[149] Ballard and Cataldo 2002.

[150] Lopez 2002.

[151] Goodman interview.

[152] Blank interview.

[153] Abramovitz interview.

[154] Abramovitz interview.

[155] Gail Nayowith, interviewed by Rochelle Frounfelker, June 21, 2002 (hereafter Nayowith interview).

[156] See http://www.uwnyc.org/sep11/aboutus.html.

[157] Nayowith interview.

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