A Community Needs Assessment of Lower Manhattan Following the World Trade Center Attack

Community HealthWorks
NYC Department of Health
40 Worth Street
New York, NY 10013

December 2001

THE CITY OF NEW YORK
DEPARTMENT OF HEALTH
OFFICE OF THE COMMISSIONER

125 WORTH STREET
NEW YORK, NY 10013

NEAL L. COHEN, M.D.
COMMISSIONER
TEL (212) 788-5261
FAX (212) 964-0472

December 26, 2001

Dear Residents of Lower Manhattan,

I am pleased to present this report on the results of a recent survey of residents in lower Manhattan whose homes were affected by the World Trade Center disaster. The survey was conducted in late October by the New York City Department of Health, in collaboration with the US Centers for Disease Control and Prevention. The survey's primary purpose was to identify current unmet needs regarding the physical and mental health of residents in the immediate area surrounding the World Trade Center.

The residents of lower Manhattan suffered some of the most profound impacts from the events of September 11th. Many people were displaced from their homes, lost utilities and other essential services, and faced daunting clean-up tasks. People living in the vicinity of Ground Zero were also among the most heavily exposed to the smoke and dust from the site, and some continue to feel its physical effects. In addition, many are experiencing symptoms indicative of Post-Traumatic Stress Disorder.

The Department of Health is using the results of this survey to address ongoing concerns about air quality, the need for information or assistance regarding proper household cleaning procedures, and the need for supportive counseling services. Additionally, communication and outreach activities in the community continue in order to stay informed about the evolving needs of the residents of lower Manhattan.

Please know that the Department of Health is committed to hearing the concerns of those affected by the World Trade Center disaster and to responding to those concerns in a timely and effective manner.

Sincerely,

Neal L. Cohen, M.D.
Commissioner

NLC/rk

EXECUTIVE SUMMARY

In the aftermath of the September 11 attack on the World Trade Center (WTC), the New York City Department of Health (NYCDOH) in collaboration with the Centers for Disease Control and Prevention (CDC), conducted an assessment to identify current unmet needs regarding the physical and mental health of residents living in the immediate area surrounding the WTC. The project was designed to gather information to help us determine how to best respond to the needs of the community.

A door-to-door survey of a representative sample of residents living in Battery Park City, Southbridge Towers and Independence Plaza took place at the end of October 2001. A total of 414 interviews were completed. In addition, focus groups were conducted with other area residents of lower Manhattan. The findings from the needs assessment identified a number of issues and potential areas for intervention.

KEY FINDINGS:

- About 50% of those surveyed continue to experience physical symptoms likely to be related to the attack on the WTC, such as nose, throat and eye irritations. These symptoms are consistent with what one would expect from the on-going exposure to smoke released from the fires burning at the WTC site.
- Many residents of lower Manhattan have on-going concerns about the air quality and its potential effect on health.
- Many residents need further information and assistance regarding proper household cleaning procedures for the dust and debris from the WTC site.
- Almost 40% of those interviewed reported symptoms suggestive of Post Traumatic Stress Disorder (PTSD), indicating a potential for thousands of people in lower Manhattan who could benefit from supportive counseling.
- Less than a third of those interviewed have received any supportive counseling, and of those at high risk for PTSD, about 40% have received supportive counseling.
- Many residents do not have access to or are not aware of the availability of mental health services.

RESPONSE:

Based on the findings from this assessment, the NYCDOH has developed a response to include the following elements:

- OUTREACH: The NYCDOH is conducting intensive outreach to neighborhoods in lower Manhattan to provide information and improve communication between residents and the City government.
- AIR QUALITY: The NYCDOH is providing ongoing information and recommendations to the community regarding the health effects of exposure to the dust, debris and smoke from the WTC site, including proper cleaning methods and ways to improve indoor air quality.
- MENTAL HEALTH: The NYC Department of Mental Health's Project Liberty is providing outreach, crisis counseling and public education services to persons affected by the WTC disaster.

ACKNOWLEDGEMENTS

Community HealthWorks would like to thank the following individuals, groups, offices and departments for their assistance in making this project happen: lower Manhattan tenant associations; community leaders; Community Board 1; the National Center for Environmental Health, Centers for Disease Control and Prevention; the NYC Department of Health (Policy and Planning, Community Relations, Integrated Surveillance, Environmental Risk Assessment and Communication); the NYC Department of City Planning and the NYC Department of Mental Health, Mental Retardation and Alcohol Services.

Most importantly, we could not have completed this assessment without the support of the residents of lower Manhattan and the management and staff from their buildings. We thank them for letting us into their homes and sharing their concerns with us.

INTRODUCTION:

In the aftermath of the September 11 attack on the World Trade Center (WTC), the bureau of Community HealthWorks, New York City Department of Health (NYCDOH), in collaboration with the National Center for Environmental Health, Centers for Disease Control and Prevention (CDC), designed and conducted an assessment of health related needs in lower Manhattan. The primary purpose of this community needs assessment project was to identify current unmet needs regarding the physical and mental health of residents living in the immediate area surrounding the WTC. The project was designed to gather information to help us determine how to best respond to the needs of the community.

This report summarizes the key findings from this project and outlines a number of recommended next steps to respond to these findings.

METHODS:

The NYCDOH worked with the CDC and the NYC Department of City Planning to identify the residential areas in lower Manhattan most directly affected by the WTC attack. Lower Manhattan was roughly defined as the area south of Reade Street, more specifically identified by census tracts grouped into 5 areas, with a total residential population of approximately 25,000. Three of the five areas were selected to conduct a door-to-door survey: Battery Park City (population of approximately 8,000), Southbridge Towers (population of approximately 2,000) and Independence Plaza (population of approximately 2,300) (see MAP 1). These three areas were well-defined, compact neighborhoods comprising almost 50% of the current residential population of lower Manhattan. A representative random sample of apartments was selected in each of these areas. The two remaining neighborhoods in lower Manhattan (the areas just north of the WTC up to Reade Street and south of the WTC down to Battery Place, and roughly the Financial District, east of the WTC) were determined to be less amenable to door-to-door surveying, given the more sporadic dispersal of household units. As an alternative, these two areas were assessed through a series of focus groups, which will be summarized in a subsequent report.

A survey questionnaire was developed through the collaboration of the NYCDOH, the NYC Department of Mental Health, Mental Retardation and Alcohol Services (NYCDMH) and the CDC. The questionnaire was designed to obtain information concerning 1) household characteristics, 2) exposure to the WTC attack, 3) service availability, 4) physical and mental health status, and 5) unmet needs. The instrument included a validated 17-item screening for symptoms of Post Traumatic Stress Disorder (PTSD) (Blanchard EB, et al., Psychometric properties of the PTSD checklist. Behav Res Ther 1996;34:669-73).

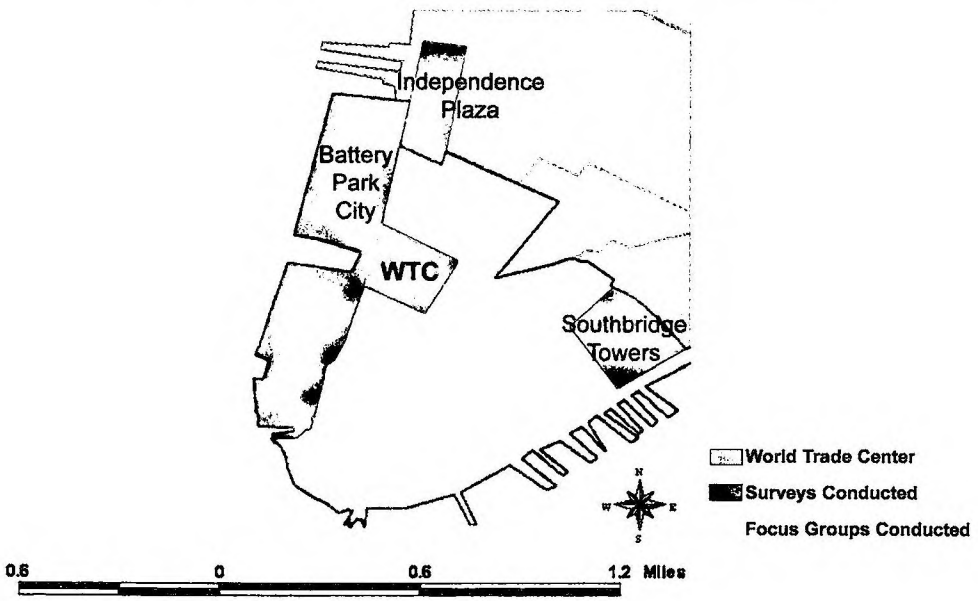
Survey teams, composed of CDC and NYCDOH staff members, visited selected apartment units multiple times over a two- to three-day period until a resident was contacted or the unit was determined to be either unavailable or unoccupied. The survey was administered to one randomly selected adult household member present at

the time of interview. Participation was voluntary and anonymous. All participants were also provided with packets containing information regarding relevant topics (e.g., air quality, proper cleaning methods, psychological symptoms), and available services. If a resident was not home, the teams left a pre-printed card that provided information about scheduling a return visit or telephone interview. Four percent of our interviews were conducted by phone.

A total of 414 interviews were completed overall: 145 in Battery Park City, conducted between October 25 and October 27, 2001; 157 at Southbridge Towers on October 29 and 30; and 112 at Independence Plaza on October 31 and November 1. Calculations done in advance determined that 100 successfully completed interviews per area would provide a minimum precision of plus or minus 10% for prevalence estimates. Precision increased as the sample exceeded 100 interviews.

In advance of implementing the survey, the Community HealthWorks staff contacted and met with tenant organizations, building managers and staff, and community groups, to enlist their assistance and participation in this project. In addition, flyers were distributed prior to our approaching each building, so that residents would be expecting our visits. In general, the residents were well informed of our project and enthusiastically welcomed the opportunity to speak with us.

MAP 1: Areas Selected for Door-to-Door Survey



RESULTS:

The following results represent key findings from the surveys conducted in Battery Park City, Southbridge Towers and Independence Plaza. For the most part, these represent individuals who have re-occupied their homes or never evacuated following the WTC attack. Findings are presented by neighborhood as well as for the sample as a whole.

Sample Characteristics: The characteristics of the sample population are summarized in Table 1. A large proportion of the sample of residents in lower Manhattan evacuated their homes (61%) following the attack on the WTC. Residents in Battery Park City were much more likely to evacuate (96%) than the other areas, due to their close proximity to the WTC site. By the end of October, many of the Battery Park City residents had still not returned to their homes. In both Southbridge and Independence Plaza, fewer households were evacuated, and most of those residents who did evacuate were able to return within two weeks. The sample of adults interviewed for this project ranged in age from 18 to 92. There were some differences between the three neighborhoods. For example, Battery Park City respondents were younger and more likely to be employed at the time of the WTC attack. In contrast, almost 40% of the Southbridge respondents were over 65 years of age, and less than half were employed at the time of the WTC attack.

TABLE 1: Sample Characteristics

	Battery Park City (n=145)	Southbridge Towers (n=157)	Independence Plaza (n=112)	Total (n=414)
Population Estimate	8,000	2,000	2,300	12,300
% of households evacuated	95.9%	44.0%	60.7%	66.7%
Mean duration of evacuation (days)	21	9	9	14
Mean # residents per occupied household	1.9	2.0	1.9	1.8
Age of respondents				
Mean	40.9	58.0	52.7	50.6
Median	39.0	61.5	50.0	49.0
Range	21 – 82	18 – 92	20 – 88	18 – 92
18 – 44 years	64.3%	28.4%	28.2%	40.8%
45 – 65 years	32.2%	32.3%	49.1%	36.9%
>65 years	3.5%	39.4%	22.7%	22.3%
Gender of respondents % Female	51.7%	65.8%	58.0%	58.9%
% respondents employed at time of attacks	78.6%	42.3%	62.2%	60.4%

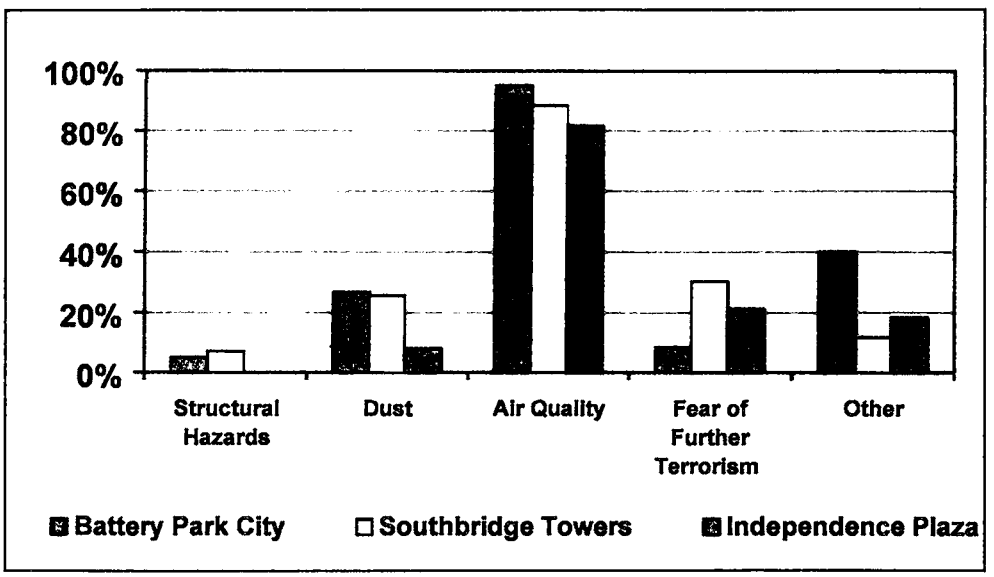
Condition of Homes: Although many households lost utility services following the attack, at the time of our survey, almost all households had functional utility services, including water, electricity, and gas. Phone service was still not returned in some households (19%). Residents of Southbridge were more likely to report they were still without phone service (30% currently without service).

More than half of the respondents indicated that they felt their home was safe to live in (56% in Battery Park City, 68% in Southbridge, and 58% in Independence Plaza). Of those who indicated it was not safe, air quality and surface dust were the primary

reasons given for the safety concern (CHART 1). When asked if they planned to stay in their homes, 7% of the sample reported they did not plan to stay. Residents of Battery Park City were more likely to report they did not intend to stay (15%). Many residents of Southbridge and Independence Plaza, which are both predominantly middle-income Mitchell-Lama housing complexes, reported they had limited options to move to other areas. Those residents who indicated they were not planning on staying were more likely to report feeling unsafe in their homes.

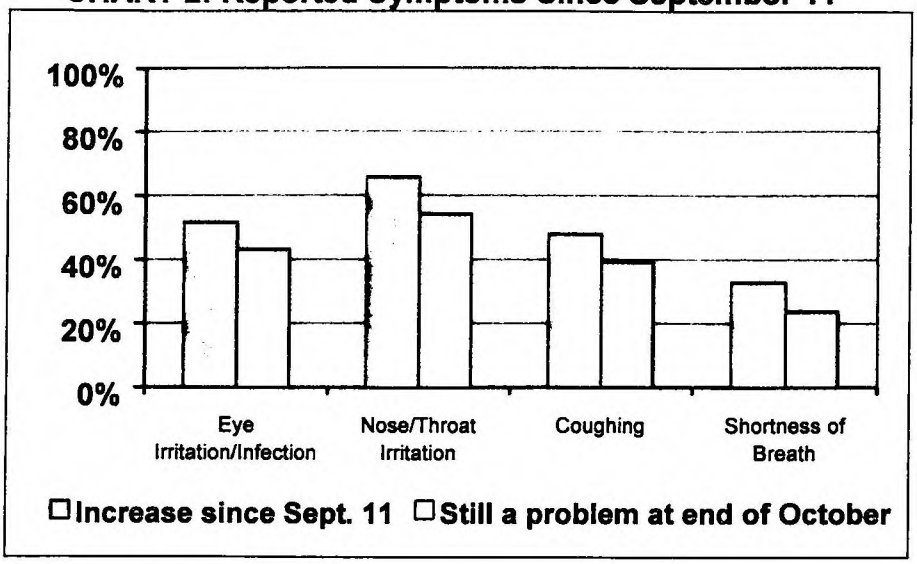
Dust and debris from the WTC were ubiquitous in lower Manhattan following the attack. Given the fears regarding safety associated with the debris, it is important to note that only 40% of residents reported their apartments had been cleaned according to the recommended methods of wet mopping hard surface floors and using HEPA vacuums on carpeting. Of those who did not report cleaning properly, 53% said they had received information regarding recommended clean up procedures. Overall, 59% reported receiving information about cleaning procedures. In addition, in households that were not cleaned according to these recommendations, many interviewees reported needing financial assistance and/or physical assistance with cleanup efforts.

CHART 1: Concerns For Home Safety



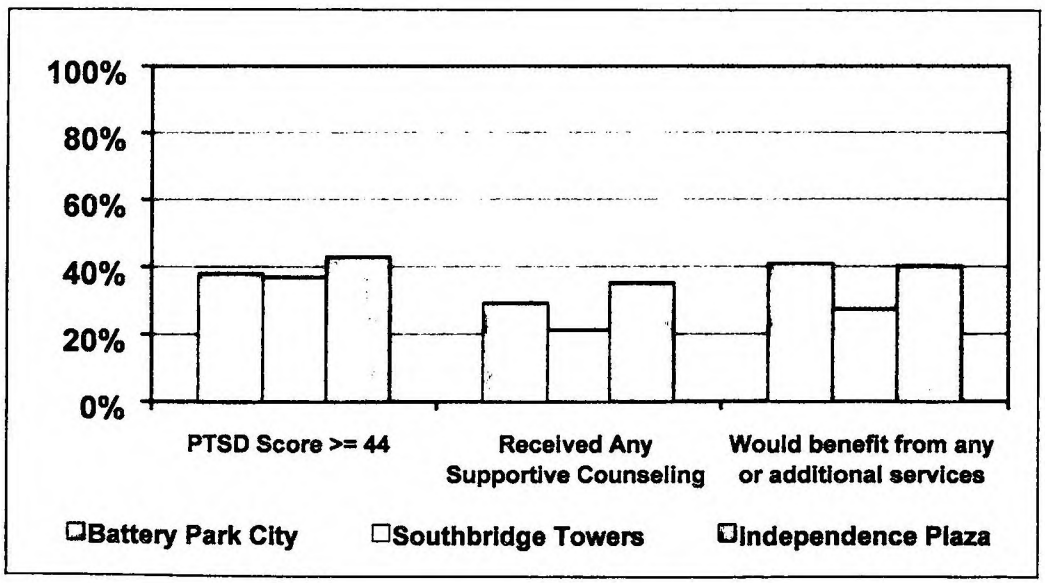
Physical Symptoms Following September 11th: Residents of lower Manhattan reported a number of symptoms that have either developed or increased since September 11. Nose/throat irritations and eye irritation/infections were the most frequently reported symptoms (CHART 2). Nose and throat irritation continued to be a problem in approximately half of the population at the time of the survey (end of October). Other reported symptoms include coughing, shortness of breath, wheezing, skin rashes and headaches. These symptoms are consistent with what one would expect from the on-going exposure to the smoke released from the fires burning at the WTC site.

CHART 2: Reported Symptoms Since September 11th



Supportive Counseling and Self-Reported Psychological Symptoms Since September 11: Since September 11, 28% of the sample received supportive counseling of any type. Approximately 1/3 of the individuals surveyed thought they would benefit from any or additional supportive counseling. When projected to the number of people residing in these neighborhoods (12,300), this result indicates that there are about 4,000 individuals who say they would benefit from counseling. Of those who indicate that they would benefit, 1/3 report not having adequate access to such services, translating to about 1,500 individuals. Slight differences were found between neighborhoods, as illustrated in CHART 3. The residents of Southbridge Towers were least likely to have received any supportive counseling since September 11, 2001.

CHART 3: Self-Reported Psychological Symptoms and Need for Supportive Counseling



A total score of 44 or above on a validated 17-item screening for symptoms of PTSD is suggestive of PTSD and may indicate a need for further mental health evaluation [Blanchard et al, 1996]. Almost 40% of the respondents who were administered the screening had a score of 44 or greater (approximately 5,000 individuals, when projected). Those with a high score were more likely to have received counseling (39%) and more likely to say they would benefit from further counseling (52%), compared to those with a score below 44. Approximately 44% of the individuals who had a high score and said they would benefit from further counseling, also reported they lacked adequate access to such counseling. It should also be noted, that among those who scored high on the PTSD screening, almost half thought they would not benefit from any or additional supportive counseling. This finding suggests that there are people suffering from symptoms of PTSD who may not recognize their need for counseling. Education regarding the benefits and availability of supportive counseling may be indicated for this group.

TABLE 2: Supportive Counseling by PTSD Score

	Total (n=414)	PTSD Score	
		<44 (n=253)	≥ 44 (n=161)
% received supportive counseling	27.6% (113/410)	20.3% (51/251)	39.0% (62/159)
% would benefit from any or additional supportive counseling	35.8% (147/411)	25.6% (64/250)	51.6% (83/161)
% would benefit from additional counseling, and lacked adequate access to such counseling	34.5% (51/148)	22.2% (14/63)	43.5% (37/85)

Note: Sample size differs across cells due to some missing responses and a skip pattern.

Access to Health Services: With respect to access to health-related services, only 7% of the interviewees reported that they lacked adequate access to needed medical care. In addition, 14% of respondents noted they had problems filling prescriptions. Problems with phone lines, limited transportation and/or street closings were barriers identified by some of these interviewees.

Information Needed by Residents: All respondents said they needed more information regarding a range of topics, to help them respond and recover from the WTC attack. The topics of most interest to this population related to air quality, its safety and its effect on the physical health of both adults and children (70% said they wanted more information about air quality). There is a need for more information regarding the potential risks from exposure to the dust and debris that continues to be emitted from the WTC site. Related to this topic, 35% of the respondents reported that they needed more information regarding cleaning. Specifically, people need information about how to safely and properly clean their 1) individual apartments, 2) air conditioners, 3) terraces and 4) building exteriors. Information is also needed regarding how to obtain and

perhaps get reimbursed for air purifiers and HEPA vacuums. Some residents were also interested in finding out more about their rights as tenants, and what they should reasonably expect from the building management in terms of cleaning. In addition to the air quality related issues, people wanted information regarding mental health (24%), their children's adjustment (12%) and financial information (28%). Many respondents also said they needed more information about their eligibility for assistance from FEMA and other relief agencies and resources.

A few of the topics raised were specific to a neighborhood. In Battery Park City, where residents are much more cut off geographically, there is a need for information regarding transportation and access issues. In Southbridge, where phone service has continued to be a problem, many respondents asked for information regarding getting reimbursements for their cell phone expenses and finding out how to deal with cell phone companies that have misrepresented their service plans. Residents of Southbridge, which has a relatively older population, were also interested in information regarding senior services. Independence Plaza, which is located adjacent to the pier where dump trucks are transferring debris to barges 24 hours a day, is reporting considerable noise and vibrations that have been affecting sleep patterns and nerves. These residents were particularly interested in getting information about what they could do about this issue.

Limitations: The findings from this project should be viewed in light of two key limitations. First, the sample of residents surveyed represents only select neighborhoods in lower Manhattan and does not reflect those residents who had not re-occupied their homes at the time of the survey. A large proportion of people in Battery Park City had not reoccupied at the time of our survey and were thus not represented in these findings. Focus groups have been scheduled to capture these gaps in the needs assessment. Second, it should be noted that normally, respiratory symptoms are known to increase at this time of year.

CONCLUSIONS:

The Community Needs Assessment conducted in lower Manhattan identified a number of issues and potential areas for intervention. First, residents of lower Manhattan are worried about their health and safety. There is clearly a tremendous concern about the air quality and its potential effects on health. The high proportion of the population experiencing symptoms likely to be related to respiratory irritants contributes to this concern. Second, the majority of households have not been cleaned according to recommendations, possibly increasing the exposure to respiratory irritants. Third, almost 40% of lower Manhattan residents are experiencing symptoms suggestive of PTSD, and less than a third of the population has received supportive counseling. There are likely to be thousands of people living in lower Manhattan who could benefit from mental health services. A sizable proportion of these people may not seek services on their own initiative, or may not have access to or be aware of the mental health services that are available.

RESPONSE:

Based on the findings in this report, the NYCDOH has developed a response to include the following elements:

1. OUTREACH: The NYCDOH is conducting intensive outreach to neighborhoods in lower Manhattan to provide information and improve communication between residents and the City government.

- Disseminate information to the community about findings from the needs assessment project and the progress of the response to the identified needs.
- Increase NYCDOH's presence at community activities and meetings.
- Increase outreach to community organizations, by having NYCDOH representatives meet with key leaders.

2. AIR QUALITY: The NYCDOH is providing ongoing information and recommendations to the community regarding the health effects of exposure to the dust, debris and smoke from the WTC site.

- Produce and distribute additional information regarding air quality and related health problems and recommended cleaning procedures.
- Provide ongoing information related to the air test results and their implications.
- Recommend use of air purifiers, HEPA vacuums and ongoing cleaning to improve indoor air quality and provide information regarding availability of air purifiers and HEPA vacuums.
- Provide guidelines to residents and medical providers regarding ways to manage and treat health effects associated with the WTC site.
- Continue to monitor environmental controls pursuant to the Commissioner's order for dust control, such as wetting down debris from the WTC site and using tarps for dust reduction.
- Ongoing communication with agencies overseeing the cleanup around the WTC site.
- Continue assessing indoor air quality in a sample of residences and communicate information to the tenants of the apartments and buildings.

3. MENTAL HEALTH: The NYCDMH's Project Liberty is providing outreach, crisis counseling and public education services to persons affected by the WTC disaster.

- Broad education campaign targeted at both high-risk populations and the general public.
- Outreach will be based on the expectation that those in need of services may not seek them on their own initiative.
- Individual and group counseling services will be made available to any individual needing assistance in returning to his or her pre-disaster level of functioning.
- Services will take place in the natural environments of those affected.

4. RESOURCES: The NYCDOH will work with relief agencies to help inform residents about their eligibility for resources and services (e.g, FEMA, Red Cross).

If you have questions about this report, or would like to learn more about the NYCDOH's activities in lower Manhattan, contact Community HealthWorks at (212) 341-9811. All other inquiries, please call the NYCDOH call center at 1-877-NYCDOH-7.