Collaboration in complex urban response

New York City's eight million inhabitants have diverse backgrounds and needs. An awareness of the near-infinite possibilities is incorporated into its complex emergency preparedness and disaster planning, say **Ian Portelli** and **Mollie Marr**

The efforts to improve communication and collaboration in a complex urban environment paid off on January 15, 2009, when US Airways Flight 1549 landed in the Hudson River between New York City and New Jersey
FDNY

WRITTEN BY MCKINSEY & Company at the request of the Fire Department of New York City (FDNY) after the September 11 attacks, the McKinsey report analyses the response of various agencies and provides recommendations on improving the preparedness and mitigation of New York City agencies. The significance of communication appears throughout the document.

FDNY personnel responding to Tower 1 determined that radios did not work within the high rise, so incident command instructions could not be relayed to teams in the building. EMS dispatch, overwhelmed by calls, many from off-duty personnel anxious to volunteer, was unable to review and communicate messages from the Towers and individuals on the scene.

One of those messages was from someone in WTC 2 reporting that the floors underneath him had collapsed, minutes before the building went down. This warning ultimately made it to New York Police Dispatchers, but was never communicated to FDNY personnel who were using WTC 2 as their command centre. At that time, no system for sharing information between the New York Police Department (NYPD) and the FDNY had been established or drilled. Similarly, there was no mechanism for accurate communication of what was happening to personnel on the ground from city agencies, or vice versa, leaving personnel on the ground to rely upon news from diverse sources.

Communication with families was impossible because there was no system in place for tracking who was working that day.

Immediately upon receiving word of the attacks, private EMS companies, off-duty ambulances, and neighbouring EMS agencies inundated EMS dispatchers with requests to be deployed. EMS dispatchers juggled hundreds of calls from volunteers, as well as 911 calls from individuals trapped in the towers, and from ambulances on the scene.

There was no plan in place for deploying and organising volunteers. Medical personnel went directly to EMS staging areas to offer assistance, but EMS personnel had no procedure for credential verification during a disaster.

At Bellevue Hospital Centre, hundreds of volunteers crowded the lobby and hallways – sometimes impeding operations – waiting for instructions. Lines of individuals waiting to donate blood stretched from hospitals into the streets for days. Downtown, citizens lined up to assist, only to be turned away; the sheer number of volunteers, trained and untrained, showing up at hospitals and disaster areas created an additional liability. There was no one on site prepared to co-ordinate volunteers, although such a position is now included in current disaster and emergency planning documents.

Former Secretary of Homeland Security, Michael Chertoff once said: "You can't eliminate risk, so you manage the risk." Communication and collaboration are the core principles for how New York City (NYC) works to manage risk and prepare for the next response.

Following 9/11, NYC received support from the Federal Emergency Management Agency (FEMA), the US Army Corps of Engineers, the US Military, the American Red Cross, and later the Department of Homeland Security, which

it integrated with support from city agencies, including the Office of Emergency Management (OEM), the FDNY and EMS services, the NYPD, the Department of Health and Mental Hygiene (DOHMH), and the Office of the Mayor.

This collaboration became a blueprint for NYC's complex response to emergencies and continues to evolve. In 2007, Mayor Bloomberg signed into law a bill requiring city agencies to standardise their operating procedures during a disaster. The OEM co-ordinates this programme, called the Continuity of Operations Planning (COOP), which allows city agencies to share relevant information and also includes drills and training programmes.

Subsequently, NYC OEM extended its collaborative efforts beyond city and federal agencies, reaching out to the city's community to help prepare for future emergencies. Following a Bush administration initiative to increase preparedness and volunteerism, NYC created the Community Emergency Response Teams (NYC CERT) as part of the Citizen Corps in 2003 (*CRJ* 3:1; 4:3). Yearly, NYC CERTs train in disaster preparedness and emergency response, creating a corps of educated civilian volunteers to help city agencies during emergencies. The local knowledge of the membership base permits recognition of the unique needs of its inhabitants and the training programme reflects the partnerships formed after 9/11. Experts from the FDNY, NYPD, DOHMH, and the American Red Cross all participate in leading training sessions.

NYC CERT has already been instrumental in providing immediate support during emergencies. It responded on March 15, 2008, when a midtown crane collapsed killing four and injuring others (*CRJ* 4:3). Teams helped evacuate residents in nearby buildings, set-up a temporary shelter, and provided assistance at the scene to the FDNY and NYPD. In December 2008, NYC CERT participated with NYU Langone Medical Centre in a surge capacity exercise, bridging city and community response efforts and strengthening partnerships between the city and the medical community.

The NYC Medical Reserve Corps (MRC), created by the Department of Health and Mental Hygiene, organises medical volunteers within their communities for deployment in response to an emergency. Volunteers include physicians, dentists, physician assistants, nurses, midwives, social workers, psychologists, paramedics, medical assistants and health professional students. Current licensing information for medical personnel is maintained by MRC staff as part of their normal operations, eliminating the problem of confirming licensing status of medical volunteers during an emergency. As part of its monthly meetings, the MRC invites lecturers from major universities and city agencies to educate its members on relevant disaster or all-hazards topics, ranging from radiation exposure to post-traumatic stress disorder.

This partnership between the city and the local universities extends beyond monthly lectures to shared research and development on disaster planning and preparedness. At New York University the Centre for Catastrophe Preparedness and Response (CCPR) works to improve preparedness and response capabilities to catastrophic events.

Research projects

Drawing on the resources of NYU's 14 schools, CCPR facilitates research projects that address issues ranging from first responder capacity during crises, public health response and legal issues relating to security, to private sector crisis management and business continuity. Among many of the ongoing efforts, are the Large Scale Emergency Readiness Project (*CRJ* 4:4) and the Public Safety Trauma Response (PSTR). The latter is evaluating the two peer support programmes currently available to NYPD officers to address work-related stress and trauma in anticipation of, and following, a terrorist attack or other catastrophic event. Results of this evaluation will provide first responder agencies with information on peer support programmes and how a programme can be implemented in a wide range of agencies, regardless of size or location.

The efforts to improve communication and collaboration in a complex urban environment have paid off. On January 15, 2009, US Airways Flight 1549 landed in the Hudson River (*CRJ* 5:2). The first EMS ambulance arrived at the scene within one minute and 12 seconds, with 36 units following. FDNY, NYPD Harbour Unit, US Coast Guard, NJ EMS, and Port Authority co-ordinated their response, sharing information with city agencies and with each other. Within minutes, the Mayor was able to announce that the crash was not terrorist related. Meanwhile, the OEM and the DOHMH co-ordinated with hospitals in New York and New Jersey, initiating hospital-level disaster procedures. Passengers rescued from the plane were taken to hospitals stocked with warm blankets, pre-warmed IV fluid and Bair Huggers for patients with hypothermia, after being assessed in a triage and treatment area organised by EMS. The implemented response followed previously rehearsed procedures.

NYC hospitals are facing a sharp increase in patients presenting to the emergency department for screening and evaluation in response to the H1N1 pandemic flu alert. DOHMH has been in constant communication with hospitals, monitoring confirmed cases of influenza and providing instructions to clinicians and citizens about managing illness and fears. Hospitals are providing education to the worried well about hand hygiene, health etiquette and health promotion. DOHMH provides updates to citizens on daily basis via its website and has developed guidance for schools and workplaces.

Further improvements are required. Hospitals receiving patients from a disaster require a way to communicate their need for supplies, decontamination proceedings, and surge and discharge capacities back and forth to the OEM in real time. Decisions about where to take patients at the scene should be informed by the exact needs of the patients and the appropriate specialities of nearby hospitals. As information becomes available, it should be accessible immediately to incident command and decision-makers. Volunteers and emergency personnel should receive clear and concise instructions by text, instead of over-taxing phone lines during a disaster. There should be a mechanism for feedback from the ground to be communicated back to the decision-makers. The next phase of emergency preparedness needs to embrace the available technologies to improve collaboration and communication.

NYC is a large urban centre, boasting over eight million people, with diverse backgrounds and needs. An awareness of the near-infinite possibilities is incorporated into the complex system of emergency preparedness and disaster planning for the city and its citizens on a daily basis.

■ *This series will discuss how disaster planning incorporates research institutions, teaching hospitals and the academic community; how the needs of vulnerable populations are incorporated into urban disaster planning, and how the city and businesses prepare for the economic challenges of a disaster or emergency.* CRJ

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