OVERVIEW

The Center for Catastrophe Preparedness and Response (CCPR) at New York University (NYU) was founded in 2002 as a university-wide, cross-disciplinary center to study and improve preparedness and response capabilities to catastrophic events including terrorism, natural disasters, and public health emergencies. Drawing on the resources of NYU’s fourteen schools, CCPR facilitates research projects that address issues ranging from first responder capacity during crises, to public health response, to legal issues relating to security, to private sector crisis management and business continuity.

CCPR currently manages twenty-two research projects including over sixty faculty and staff. The Center is a national resource with added focus on the unique issues related to emergency preparedness and response in the urban environment.

A FIVE-PART MISSION

CCPR seeks to:

- **Increase the nation’s knowledge base** on issues of emergency preparedness and response for large-scale catastrophic events
- **Conduct both basic and applied research** addressing many of the complex issues that comprise preparedness and response through policy recommendations, development of novel technologies, and academic publications
- **Provide a forum** for public and private sector officials and researchers to engage in dialogue and debate and exchange best practices
- **Serve as a model academic center** that maximizes the contributions of a research university to a critical national need
- **Offer strategic, administrative, and financial support** for academic-based research and training and educational opportunities for faculty and students

CCPR is committed to working as a partner with federal, state and local officials to improve and support preparedness and response capacities. The Center’s partners include: the **Department of Homeland Security** (DHS), the **American Red Cross** (ARC), the City of New York’s first responder community including the **New York City Police Department** (NYPD), the **Fire Department of New York** (FDNY), the **New York City Office of Emergency Management** (NYCOEM) and the **Department of Health and Mental Hygiene** (DoHMH).
THE CCPR COMMUNITY

LEADERSHIP

Robert Berne, Ph.D.
Principal Investigator
Senior V.P. for Health

Brad Penuel
Director

David Berman
Associate Director

Ian Portelli
LaSER Project Manager

Ryan Hagen
Research Associate

FACULTY

Howard Besser, Ph.D.
Tisch School of the Arts - Moving Image Archiving & Preservation

Esther Chachkes, D.S.W.
School of Medicine and School of Social Work - Trauma Studies

David Dent, M.S.
Department of Journalism - Oral Histories

Mary Driscoll, Ph.D.
School of Education - Public Administration

Bernard P. Dryer, M.D.
School of Medicine - Pediatrics

Noah Feldman, D.Phil
School of Law - Islamic Constitutional Thought

George Foltin, M.D.
School of Medicine - Pediatrics, Emergency Medicine

Terry Fulmer, Ph.D.
College of Nursing - Organizational Response Capacity

David Glotzer, D.D.S.
School of Dentistry - Cariology and Operative Dentistry

Lewis Goldfrank, M.D.
School of Medicine - Emergency Medicine

Peggy Grauwiler, C.S.W.
School of Social Work - Trauma Studies

Karen Greenberg, Ph.D.
School of Law - Legal Aspects of Terror and Counterterrorism

Judith Helfand
Tisch School of the Arts - Documentary Filmmaker

Stephen Holmes, Ph.D.
School of Law - Constitutional Law

Eric Klinenberg, Ph.D.
Faculty of Arts and Science - Sociology and Urban Studies

Robert Leibson Hawkins, Ph.D.
School of Social Work - Social Policy

Paul C. Light, Ph.D.
Wagner School of Public Service - Organizational Preparedness

Christian Lucky, J.D.
School of Law - Legal issues of Evacuation

Frances J. Milliken, M.B.A., Ph.D.
Stern School of Business - Management

Linda Mills, Ph.D.
School of Social Work and School of Law - Trauma Studies

Joshua Mincer, M.D., Ph.D.
Courant Institute of Mathematical Sciences - Computational Biology / Biophysics

Bud Mishra, Ph.D.
Courant Institute of Mathematical Sciences - Computational Biology

Mitchell Moss, Ph.D.
Wagner School of Public Service - Urban Policy and Planning

Giuseppe Narzisi
Courant Institute of Mathematical Sciences - Bioinformatics

Lewis Nelson, M.D.
School of Medicine - Emergency Medicine

Helen Nissenbaum, Ph.D.
School of Education and School of Law - Culture & Communications

Richard H. Pildes, J.D.
School of Law - Constitutional Law

Walter Psoter, D.D.S., Ph.D.
College of Dentistry - Epidemiology

William Raisch, M.B.A.
International Center for Enterprise Preparedness - Business Incentives for Preparedness

E. Dianne Rekow, D.D.S., Ph.D.
College of Dentistry - Basic Science and Craniofacial Biology

Victor Rodwin, Ph.D.
Wagner School of Public Service - Health Policy and Management

Matt Statler, Ph.D.
International Center for Enterprise Preparedness - Business Incentives for Preparedness

Neil Steigbigel, M.D.
School of Medicine - Bioterrorism and First Responder Training

Silas Smith, M.D.
School of Medicine - Toxicology

Marc M. Triola, M.D.
School of Medicine - Medical Informatics

Allen Zerkin, J.D.
Wagner School of Public Service - Public Administration

Rae Zimmerman, Ph.D.
Wagner School of Public Service - Civil Infrastructure Systems
The Center for Catastrophe Preparedness and Response facilitates research through two-dozen projects that cultivate new technologies, knowledge and policies that confront the challenges of catastrophic preparedness in the 21st century. CCPR is a national resource with added focus on the unique issues related to emergency preparedness and response in the urban environment.

PROJECT TITLE (PRINCIPAL INVESTIGATOR)

Center for Law and Security  (Karen Greenberg, Ph.D.)

Medical and Dental Enhancements Project  (Walter Psoter, D.D.S., Ph.D. / David Glotzer, D.D.S.)

Public Safety Trauma Response  (Linda Mills, Ph.D.)

LaSER*: Modeling and Simulation  (Lewis Goldfrank, M.D. / Bud Mishra, Ph.D.)

LaSER: Legal Issues  (Lewis Nelson, M.D. / Christian Lucky, J.D.)

LaSER: Organization-Based Incident Management  (Terry Fulmer, Ph.D. / George Foltin, M.D.)

LaSER: Organizational Safety Net  (Esther Chachkis, D.S.W.)

LaSER: Risk Communications  (Rae Zimmerman, Ph.D.)

Improving Robustness And Resiliency In Catastrophe Response Networks  (Mitchell Moss, Ph.D.)

Public Infrastructure Support For Protective Emergency Services  (Rae Zimmerman, Ph.D.)

International Center for Enterprise Preparedness  (William Raisch, M.B.A.)

Responding to Epidemic Threats Using Modern Bioinformatics Tools  (Bud Mishra, Ph.D.)


The Project On Organizational And Community Preparedness  (Paul C. Light, Ph.D.)

The Politics of Facial Recognition Systems: Issues and Policy  (Hellen Nissenbaum, Ph.D.)

Urban Issues Research  (Eric Klinenberg, Ph.D.)

KATRINA RESEARCH

Documentary Film - Extended Stay  (Judith Helfand)

Cultural Integration and Social Capital Development after Katrina  (Robert Hawkins, Ph.D.)

The Effects of Power on Sense-Making and Communication  (Frances Milliken, M.B.A., Ph.D.)

Astrodome Interviews  (David Dent, M.S.)

American Diaspora  (Mary Driscoll, Ph.D.)

Disaster Planning: Moving Image and Sound Collection  (Howard Besser, Ph.D.)

* Large Scale Emergency Readiness Project
C produces interesting emergent behavior which is often consistent with the literature on emergency medicine of previous events. Available resources, i.e., different hospital maps, provides particular insight into the dynamics that can emerge in this complex system. Work reported here focuses on the incorporation of specific subpopulations of person agents, reflecting the existence of individuals with specific defining characteristics and needs, and their interactions with the available resources. Performance of these subpopulations is compared in both point-source attack and distributed disaster scenarios for disasters of different magnitudes. The effect of varying topologies of available resources, i.e., different hospital maps, provides particular insight into the dynamics that can emerge in this complex system. PLAN C produces interesting emergent behavior which is often consistent with the literature on emergency medicine of previous events.

Doing Well By Doing Good? Mobilizing Corporate Resources to Disasters
August 2007, Annual Meeting of the Academy of Management. By Peter Burgi, Ph.D., Matt Statler, Ph.D. and Bill Raisch, M.B.A.

The mobilization of corporate resources to disasters is a phenomenon that has become increasingly prevalent in recent years, spurred by a sequence of major events (including 9/11, the Asian tsunami, hurricanes Katrina and Rita, etc.). Basic questions concerning how and why corporations provide resources to disasters have not yet been addressed by organizational researchers. This paper contributes to theory development in this area by drawing on a distinction (Margolis & Walsh, 2003) between corporate social performance and corporate financial performance. Framed by this distinction, the paper presents a phenomenological analysis of basic qualitative research data gathered via interviews with senior public- and private-sector leaders during the last half of 2006. The paper closes with a series of critical reflections and suggestions for future research.

Disasters and the Surge Environment

With the recent actual, and the anticipated possible, disastrous events in this country, it is an absolute duty of responsible agencies on all levels to prepare and improve the medical response system. Past experience has shown that one critical area of preparedness that needs to be addressed is the available number of trained individuals in the public health workforce that can and will respond. This paper proposes that the dental profession, with proper additional training and integration into an organized healthcare system, can be one additional source of this much needed manpower.

New York City’s Small and Medium Sized Businesses Are Not Prepared for Emergencies. Why?
October 4, 2006 - Released in partnership with the American Red Cross and the International Center for Enterprise Preparedness

This report summarizes the findings of a New York City–wide survey that both assesses the state of preparedness of New York’s small and medium sized businesses and identifies key reasons why they do and do not prepare for emergencies. Small and medium sized businesses surveyed cited risk to employees and business operations (69-percent), legal liability (51-percent), reputation (49-percent), and insurance requirements (37-percent) as major motivators to prepare. Through analyzing these results, this report identifies a path forward to improving preparedness before and resiliency after emergencies among small and medium sized enterprises. This path includes the development and promotion of incentives to encourage businesses to better prepare for emergencies large and small.

MEDIA COVERAGE

“Storm Spurs Talk of Climate Shift” The New York Sun, April 16, 2007

“Are Our Malls Safe From Terror?: Security Experts Question Shopping Center Security” Newsday, February 14, 2007

“Preparing for Disaster” The New York Times, Letter to the Editor; December 5, 2006


“Storms Had Little Impact on Readiness, Study Finds” Washington Post, November 18, 2006

“Hydrogen Cyanide Attack in Subways Said to be Virtually Unpreventable” New York Sun, June 20, 2006

“Report: EMS Lacks Terrorism Training, Equipment” USA Today, March 11, 2005

“Fire Departments Increasingly Turning to Courts to Stave Off Cutbacks” Associated Press, September 10, 2004

“Preparing Americans for Disaster” Christian Science Monitor, Opinion; December 12, 2005

“Katrina’s Lesson in Readiness” Washington Post, Opinion; September 1, 2005

“N.Y.U War Games; Academics Cram For A Disaster” New York Observer, August 1, 2005
PROGRAM ON LAW AND SECURITY

PRINCIPAL INVESTIGATOR: KAREN GREENBERG, PH.D.

PROJECT START: APRIL 2003

SUMMARY

Founded in 2003, the Center on Law and Security (CLS) is an independent, nonpartisan, global center of expertise and research designed to promoting an informed understanding of the major legal, security, and policy issues that define the post-September 11 environment. Towards that end, the Center is committed to bringing together policymakers, practitioners, scholars, journalists, and other professionals who might not otherwise meet to address major issues and gaps in policy discourse.

The Center is a forum for international dialogue on complex legal issues around law and security at a time where dialogue seems more difficult than ever. CLS values the relationships it has cultivated with participants from the private, non-profit, and government sectors, including officials from the Department of Justice, State Department, and Department of Defense.

CLS, in conjunction with the NYU School of Law and with the counsel of the Law School’s faculty co-directors and board of advisors—along with the most knowledgeable professionals in their respective fields: Daniel Benjamin, Roger Cressey, Viet Dinh, Joshua Dratel, Jean-Louis Bruguère, Baltasar Garzón,—provides intellectual and practical guidance for the Center’s programming and publications.

KEY ACTIVITIES

The Center generates local, national, and international awareness of the legal dimension of security issues through its various activities:

- Conferences on: Presidential Power, which featured esteemed panelists such as John Dean, Viet Dinh, Tony Lewis, Richard Posner, and Jeffrey Toobin; the Annual Conference on Prosecuting Terrorism, which brought together the top international experts on law and security such as Baltasar Garzón, Jean-Louis Bruguère, Armando Spataro, and Peter Clarke, among others
- The Open Forum Series that in fall 2006 focused on political, radicalized Islam, with events on al-Qaeda, Hezbollah, and the Muslim Brotherhood
- The Distinguished Speaker Series, which has featured such esteemed guests as Ted Sorensen, Gary Hart, Bernard Haykel, Scott Horton, Joshua Dratel, and Craig Unger, among others
- The Center’s various publications, namely, the Terrorist Trial Report Card, which, in addition to the second U.S. edition, will have a European edition and Middle Eastern edition, published in 2007; The NYU Review of Law and Security, The Bulletin on Law and Security, and a new publication, For the Record

Through the work of its fellows such as Distinguished Fellow Michael Sheehan, and Research Fellows Peter Bergen, Sidney Blumenthal, Dana Priest, Tara McKelvey, and Lawrence Wright, and through its many publications, CLS has increased its profile in the press, with regular features and op-eds in the nation’s most prominent news outlets, including: The New York Times, The Washington Post, Newsweek, CNN, NPR, NBC, and PBS, most recently in an episode of Frontline, in which the Center’s landmark publication, the Terrorist Trial Report Card, figured as the reference document to analyze the government’s success at prosecuting the domestic terrorism threat.

CLS has built the only comprehensive database regarding the post-September 11 prosecutions of terror suspects in existence. Following on the success of The Torture Papers, the Center will continue to use its convening power to examine the domestic legal issues surrounding questions of national security.

Programs in 2007 will expand with events on the U.S. military, a roundtable series on the Middle East and its neighbors, with particular focus on the former Soviet states and Central Asia and implications for American strategic interests and policy; an Open Forum Series on Reporters from the Front, which will give reporters a chance to discuss their experiences reporting from the frontlines of the world’s most complex battlegrounds; a day-long conference on Iran and the challenges and opportunities facing U.S. policymakers; a working group on the pre-September 11 terrorism prosecutions; and the Annual Conference on Prosecuting Terrorism.
ENHANCING MEDICAL AND PUBLIC HEALTH CAPABILITIES DURING TIMES OF CRISIS

Principal Investigators: David Glotzer, DDS; Walter Psoter, DDS, Ph.D.

Project Start: January 2004

Summary
This project considers how, in the event of a large-scale disaster, the dental profession can be engaged to enhance first response and emergency public health capabilities. This question is predicated on the recognition that in the event of a large-scale disaster such as Hurricane Katrina or an untold terrorist event, human causalities and injuries as well as damage to critical infrastructure could overwhelm and even diminish first response and public health systems capacities. In such a scenario, it is imperative that qualified alternative groups of health professionals capable of augmenting the traditional ranks of first responders (e.g. fire and EMS) and emergency public health professionals (e.g. emergency room doctors and staffs) be engaged. The dental profession is one such example of a qualified medical profession that can aid the medical community in the event of a strained or diminished health system following a disaster.

While dentists have been included in plans of the Medical Reserve Corps and it is possible dentists could be included in ad hoc response scenarios, there has been little formal training or integration of the dental profession into disaster planning that would suggest a meaningful engagement. The is project has conducted studies that show there is interest and capability in the dental profession for a place within disaster preparedness, and the recent development of curriculum and certificate programs at the university level—including at New York University—demonstrate an emerging commitment of students and educators to formalize responder credentials for the dental community.

The key elements of this project include:
• Developing curriculum that can be effectively and rapidly applied to existing academic regimens that can educate the dental student, the hospital dentist, and those already out in practice.
• To evaluate how to best utilize private practices
• Applying informatics technology to enhance the skill and knowledge of dental professionals to both expand the manpower pool of responders as well as the manpower associated with expanded support functions
• Sustaining the skill and knowledge of dental responders with up-to-date and accessible information on new techniques, plans, and protocols

Key activities
• A dedicated website (http://chip.med.nyu.edu) that hosts disaster medicine courses, interactive online education modules, sites specially geared to the dental profession and content for handheld devices
  o Over 725 registered users from around the country
  o Continual content updates including curricula
  o Site also now supporting other CCPR/DOJ funded projects
• Creation of dental professionals with expanded training
  o 12 faculty and 6 students trained in disaster medicine courses
  o 40 dental faculty completed the AMA’s Core Disaster Life Support (CDLS) course
  o Over 660 dental students 10 dental faculty have received POD training and drill exercise at NYUCD with the NYC Department of Health and the CDLS certificate.
  o A nine minute training film was produced of the POD activity.
  o Continuing training of 300+ students in coming year.
  o Syllabus provided (http://chip.med.nyu.edu/course/view.php?id=36)
The Center for Catastrophe Preparedness & Response

- Additional faculty to undergo training in coming year
- Publication and dissemination of curricula and approach underway in highly regarded publications

- Two-week course in outbreak investigations based on the Epidemiologic Intelligence Service (EIS) training for project faculty.
  - Course successfully administered to Dental and School of Medicine faculty
  - Course adopted by NYC Department of Health for internal training
  - Currently working with NYC DOH to integrate Dental/Nursing faculty training

- Proposal to HRSA: Creating a national disaster med course for dentists
  - Training grant proposals submitted in 2004 and 2005 to HRSA
  - Dental school curriculum for bioterrorism training now a regular curriculum course at NYUCD

- Summary report on the expansion of the role of dentists and enhancement of the surge environment.
  - Available at http://chip.med.nyu.edu/mod/resource/view.php?id=255

Publications include:

- Psoter WJ, Triola MM, Morse DE, Rekow EDE. Enhancing Medical and Public Health Capabilities During Times of Crisis, NYSDJ 2003, 69: 25-27

An edited volume of the collected publications is available.
PUBLIC SAFETY TRAUMA RESPONSE

PRINCIPAL INVESTIGATOR: LINDA MILLS, J.D., MSW, PH.D.
PROJECT START: APRIL 2004

SUMMARY
The Public Safety Trauma Response (PSTR) project is evaluating the two peer support programs currently available to New York City Police officers to address work related stress and trauma in anticipation of and following a terrorist attack or other catastrophic event that would engage the NYPD. The results of the evaluation will provide first responder agencies with information on peer support programs and how a program can be implemented in a wide range of agencies regardless of size or location.

Elements of this project include:
• Evaluating two peer support programs currently offered to New York City Police Department officers—one internal to NYPD, the Early Intervention Unit (EIU), and one external, Police Organization Providing Peer Assistance (POPPA)
• Assessing existing support programs for public safety employees and their families
• Consulting with a comprehensive group of local, national, and international peer support programs and experts through phone contact, site visits and meetings
• Developing web-based resources and educational materials to help public safety workers cope with the stress and trauma associated with a terrorist attack or other catastrophic event

KEY ACTIVITIES
• Distributed a survey to New York City police officers regarding their knowledge and views of existing peer support programs available to them; posted the survey on NYPD’s Intranet and New York’s Finest Internet sites
• Individually interviewed senior program personnel from EIU and POPPA
• Convened focus groups with volunteer peer support officers from POPPA
• Conducted individual interviews with EIU peer counselors
• Conducted individual interviews with NYPD officers who have or have not used EIU and/or POPPA
• Conducted site visits and consultations with peer support programs in Oklahoma City, Ireland, and Israel
• Launched a dedicated website (www.nyu.cvr/pstr) that provides web-based resources and educational materials to help public safety workers cope with the stress and trauma associated with a terrorist attack or other catastrophic event
• Provided technical assistance to the New Orleans Police Department following Hurricane Katrina in the development of a strategic plan and needs assessment—these efforts addressed fundraising, training, and long-term implementation goals and are ongoing

To date, preliminary findings include:
• NYPD officers agree that peer support programs are important to their job functioning
• NYPD officers agree that in the first year after September 11 there was greater acceptance for seeking help for job-related issues but point out that attitudes including mistrust, stigmatization and shame are associated with help seeking and have returned
• Implementation of a peer support program for first responders in New Orleans in the aftermath of hurricanes Katrina and Rita is impeded by the competing need to rebuild the city while simultaneously addressing the emotional impact of the event on individual officers and their families
• Additional quantitative and qualitative data are currently being analyzed and findings are being prepared

Notable products include:
• A literature review on disaster mental health and peer support
• Web-based resources and educational materials for public safety workers
• Process evaluation based on work done with the New Orleans Police Department

Forthcoming works include:
• A roundtable of peer support experts and practitioners from England, Ireland, Israel, Mississippi, Oklahoma City, New Orleans, New York City, and Los Angeles at New York University to facilitate a transatlantic dialogue around disaster mental health and the role of peer support for first responder agencies
• Development and implementation of national guidelines for public safety peer models based on an extensive review of the literature and evaluation findings
• Final project report outlining history, accomplishments, barriers, evolution results, and recommendations
LASER: COMPUTATIONAL MODELING OF A LARGE-SCALE CASUALTY EVENT

Principal Investigator: Lewis Goldfrank, M.D. and Bud Mishra, Ph.D.
Project Start: January 2005

Summary

This study is a sub-project of the Large Scale Emergency Readiness Project (LaSER). LaSER is designed to integrate theories, processes and technologies from fundamental preparedness disciplines to improve planning and response of medical and public health approaches in the event of a mass casualty event. LaSER is a multi-component project and involves scientists from the mathematical and computational, public health and medical, legal, business, and sociological fields.

The computer simulation and modeling component (sub-project) looks into the opportunity to consider a large-scale casualty event, its impact, and the broad range of responses to inform both policy and practice. To model these multiple-catastrophes the multi-disciplinary team has developed a computer simulation platform named PLAN C (Planning with Large Agent-Networks against Catastrophes). PLAN C provides a powerful computational reasoning and analysis platform allowing simulation beyond table-top exercises to help policy makers consider a wide range of parameters, many different objective functions, and effects of several concomitant catastrophes. While, present models exist to address specific components of casualty events, responses, and outcomes, the Center is not aware of any model that attempts to simulate a large, complex environment, is scalable to cover the eventuality of 1,000,000 casualties, and provides statistical outcome data at medical, emergency responder and community levels as PLAN C is capable of.

In addition, PLAN C features several integral features:
- A large number of expandable computational actors/agents comprising different classes e.g. Person, Hospital, On-Site Responder, Ambulance, and Catastrophe.
- Flexible model parameters to describe the computational agents’ behavior and interaction functions, time course of an event, and environmental factors which enable the user to modify adaptively/adequately to diverse multi-hazard scenarios.
- Several communication and secondary response/exposure channels for communicable disease, risk communication and information exchange among similar and different computational agents.
- Modeling individuals as selfish and bounded rational beings, with personality traits emulating panic or contrarian behavior
- Integration of topographic urban infrastructure constraints via publicly available Geographic Information Systems data
- Computer software for parallel and distributed concurrent computing on large-scale clusters of workstations, using integration between ProActive and RePast, two public-domain softwares

Key activities

PLAN C has modeled and analyzed a 1998 Brazilian food-poisoning scenario where a biological agent caused over 8,000 casualties and 16 fatalities. The model captures the dynamics of the interaction between people and hospitals in the presence of different communication channels, in different initial scenarios and under different triage policies. The results were presented in the paper “Multi-Agent Modeling and Analysis of the Brazilian Food-Poisoning Scenario” (by Mysore V., Gill O., Daruwala R.S., Antoniotti M., Saraswat V. and Mishra B.) at the Agent 2005 Conference on Generative Social Processes, Models and Mechanisms in Chicago.
Beyond models that use actual events (like the Brazilian food poisoning scenario), PLAN C can construct hypothetical complex probability models. Two such models have been created (and others are in progress) using New York City as a backdrop. One considers a Sarin gas attack at the Port Authority Bus Terminal in Manhattan. The result of the interaction of over 1,000 agents is analyzed by repeated simulation and parameter sweeps in the paper “Agent Modeling of a Sarin Attack in Manhattan” (by Mysore V., Narzisi G., Nelson L., Rekow D., Triola M., Shapiro A., Coleman C., Gill O., Daruwala R. S. and Mishra B) published and presented at the First International Workshop on Agent Technology for Disaster Management (ATDM) in Hakodate, Japan. A second scenario simulates a smallpox outbreak in Manhattan and enables a simulation of divergent disease progression, cross contamination and secondary exposure in sub-populations based on vaccination status.

PlanC’s development by LaSER’s multidisciplinary team ensures that the application to the study of a disaster or disease outbreak is reality-based. Medical, public health, legal, mathematical, computational, and other experts model inputs ranging from EMS triage to risk communication in a way that is consistent with real practice and data. As mentioned, PlanC’s optimization tool allows for probing a variety of emergency plans and determining optimal allocation of resources. LaSER’s expert team considers the ethical and legal dimensions of these plans, allowing for study, using PlanC, of difficult questions that arise in the setting of limited resources in a disaster or pandemic. For example, the implication of varying guidelines governing ventilator allocation can be studied. PlanC is scalable, in the sense that it can be applied not only in NYC but also in smaller environments. Furthermore, a particular city’s street map and public transportation system can easily be integrated into PlanC via publicly available GIS data. Simulations can therefore be run for other locales and comparisons drawn.

This tool is also build to optimize multiple objective functions such as number of casualties, population unhealthiness, fairness, economic impact, legal consequences, and so forth. By considering these objective functions, it will enable PLAN C to automatically generate Pareto-optimal set of response plans. The preliminary results of these theoretic and experimental approaches are presented and analyzed in the paper Multi-Objective Evolutionary Optimization of Agent Based Models: an application to emergency response planning. The paper was presented at the IASTED International Conference on Computational Intelligence (CI 2006), November 20-22, 2006 San Francisco, California, USA & in Complexities, Catastrophes and Cities: Unraveling Emergency Dynamics (by Narzisi G., Mysore V., Nelson L., Rekow D., Triola M., Halcomb L., Portelli I., and Mishra B). International Conference on Complex Systems (ICCS 2006), Boston, MA, USA June 25-30, 2006.

Future investigations will include:
- Other scenarios such as pandemic flu, radiological exposure and dirty bombs.
- Integrating and analyzing additional parameters for collaborating disciplines such as economic, legal, and socio-cultural
- Optimizing different and often conflicting criteria involved in response plans through a multi-objective evolutionary algorithm
- Developing a mechanism for characterization of agent behavior from a set of desired goals and run-time modifications
- Factorial analysis – exploring the relationships and effects of individual factors (parameters) of interest while interrogating the system and running sensitivity tests using data available regarding the behavior of the agent
LASER: LEGAL DIMENSIONS OF LARGE SCALE RESPONSE

Principal Investigator: Lewis Goldfrank, Ph.D. and Christian Lucky, J.D.

Project Start: November 2004

SUMMARY

This study is a sub-project of the Large Scale Emergency Readiness Project (LaSER). LaSER’s aim is to improve the capabilities of federal, state, and local governments, as well as private organizations, to prepare for and respond to a large mass casualty incident.

The goal of this sub-project is to identify substantive issues, beyond those usually considered in public health emergencies that impact, favorably or unfavorably, on the response to large-scale casualty scenarios in metropolitan areas of the United States. LaSER’s project personnel include physicians, attorneys, and physician-attorneys. Throughout this multidisciplinary team LaSER is developing a broad analyses of legal issues pertinent to large-scale emergency readiness, and proposals to remove barriers to efficient and effective response that are posed by conflicts or gaps in law and regulation across jurisdictions. The project’s interest is in determining the laws that exist to help or hinder a large-scale emergency response, the authority to use or suspend such laws, and the interaction of public health, medical and emergency management laws at different levels of government as well as case law.

After developing an exhaustive list of potential legal issues that impact upon public health and medical response during an emergency, the research team began with identification and analysis of laws pertaining to triage and emergency management; mass evacuation, prophylaxis and quarantine; special populations, confidentiality; malpractice and liability; use of buildings; financial issues; federal disaster law; discrimination against those exposed; and power to declare emergency. The research was intended to focus in great detail on a few of these topics, in an effort to make a novel and real contribution to the understanding of these issues.

KEY ACTIVITIES

- **“Public Health Requires Legal Role in Evacuation”** – Submitted to the Journal of Urban Health – Bulletin of the New York Academy of Science (April 07). This paper discusses the pertinent historical facts, the medical and public health concerns during an evacuation, and the legal basis for ordering and managing an evacuation. It delineates concerns and problems in the legal, emergency management, and public health systems in the implementation of evacuations, identifies critical issues and suggests remedies. The paper advocates for the design and administration of emergency large-scale evacuation plans that protect public health and promote effective medical response.

- **Legal Memo: “Public Health Requires Legal Role in Evacuation”** – On the same lines of the previous article this Legal Memo was submitted to 2 legal Journals concurrently (April 07). Here the research team continues to outline the current Federal, state and local framework for preparing and implementing large scale evacuations. In particular, the memo focuses on: (1) the absence of an affirmative duty under the Federal constitution on Federal, state and local government to effectively prepare for universal evacuations; (2) the failure of Federal, state and local statutes and regulations to require planners to anticipate the public health aspects of universal evacuations; and (3) the lack of Federal requirements – either constitutional or statutory – to provide for the needs of venerable populations in universal evacuations.

- **“Legal Obstacles to Health Care for Children Who Are Separated from their Parents During a Disaster”** – In early November 06 this article was submitted concurrently to 2 Pediatrics/Medical Journals – Journal of Pediatric Emergency Medicine and the Journal of Pediatrics. Here the research team switches its attention to pediatric health in large scale disasters. This paper identifies obstacles in the current legal regime (statutes in combination with case law) that present obstacles to medical personnel providing emergency care to children who are separated from a parent or guardian. These include limitations on exceptions to parental consent rules which would
prevent health providers in large scale disasters from treating medical conditions of children whose parents are not available to provide consent if such conditions are not imminently life threatening. These limitations prevent treatment of chronic conditions that may grow substantially worse if left untreated, treatment to prevent the onset of illness and treatment to alleviate pain. Additionally, the existence of clinics in schools may remove them from the application of the Good Samaritan rule thereby discouraging emergency care by volunteer medical professionals.

- **Legal Memo “Legal Obstacles to Health Care for Children Who Are Separated from their Parents During a Disaster”** – On the same lines of the previous article this Legal Memo will be submitted to 2 legal Journals concurrently (Late November 06)

- **Legal Memo “Legal Obstacles re assessing & cataloguing Vulnerable Populations During a Disaster”** – Legal Memo in progress, will be concluded Late November 06

- **Disability article (not yet entitled)** – Currently a working draft – Federal statutes ostensibly require that emergency services provided by government agencies, by any entity that receives Federal money and by any place of public accommodation adequately provide for the disabled. The proposed article would: 1) provide a brief overview of the applicable Federal statutes and the standards that they set forth; 2) outline how the Federal statues have been interpreted and enforced by courts, the Department of Justice, emergency managers and commentators during the recent push for emergency preparedness; 3) explain where it appears are the major shortcomings at the present time in accommodating the disabled in emergency plans with specific reference to emergency medical preparedness; and 4) encourage that statutes that grants rights to the disabled also be used as guidelines for providing services to vulnerable populations who technically are not protected by legislation that protects the disabled (the poor, culturally isolated, aged).

Future plans for the remainder of the project period include papers on:
- Development of current papers & memos in process
- Conclude and submit for review, and publication to journals
- Focus on the integrative approach throughout the whole LaSER Project
- Focus on legal issues re biological agents and pandemic flu
LASER: ORGANIZATION-BASED INCIDENT MANAGEMENT AND COMMUNITY RESPONSE

Principal Investigator: TERRY FULMER, PH.D.
Project Start: November 2004

SUMMARY

This study is a sub-project of the Large Scale Emergency Readiness (LaSER) Project. LaSER’s aim is to improve the capabilities of federal, state, and local governments, as well as private organizations, to prepare for and respond to a large mass casualty incident.

The goal of this sub-project study is to develop a preliminary plan for Organization-Based Incident Management (OBIM) and Community Response, including internal structure and process as well as external relationships using the entire New York University and its surrounding communities as the “laboratory” model. Since catastrophic events are an ongoing part of life and impact society both locally and globally. Recruitment, development, and retention of volunteers who offer their knowledge and skills in the event of a disaster are essential to create a functional workforce during catastrophes. These opportunities also address the inherent need for individuals to feel necessary and useful in times of crisis. 9/11, Katrina and Rita have demonstrated the limits of immediate government response and the need for citizens to be able to “fend for themselves,” at least for some period of time. By promoting and developing a increased presence of skilled volunteers an organization will have a strong workforce who will step forward as acts of terrorism and natural disasters occur. It is clear that people tend to include their neighbors and communities in their definition of self and will try to act as an organized community when faced with adversity.

Universities are a particularly important setting for voluntary action, given that they are based in communities, and have access to resources and capabilities to bring to bear on an emergency situation. Therefore this study aims to discern how individuals at a large private organization might participate and respond in the case of a large scale disaster. Specifically, a pilot study was undertaken to develop an instrument for a comprehensive university assessment to evaluate the potential for a volunteer workforce. The research team sought to elicit the knowledge and attitudes of university faculty, staff and students with respect to their willingness to serve as volunteers, the conditions under which they would serve potential roles as they might serve in the mitigation of medical and psychosocial consequences of disasters, their perceived competencies in mitigation and response to such disasters.

KEY ACTIVITIES

Throughout 2005 & 2006, NYU LaSER faculty convened in order to generate an assessment instrument for the collection of data from faculty, staff and students (non-essential personnel) that would indicate the university community volunteers’ perceived willingness to assume responsibilities during a disaster. The research team sought to 1) gain information on knowledge and attitudes of university personnel with respect to their self-reported potential to perform roles in mitigation of medical and psychosocial consequences of disasters; and 2) document the respondents’ perceived roles, interest and competencies in the mitigation of response to disaster. Using a 2 phase random sample survey, 337 (5.7%) unique respondents out of a sample of n=6000 replied to the survey. These data indicate that volunteers in a private organization are willing to assist in disasters and have skills they can bring to bear of disaster mitigation. Much is to be learned related to the deployment of volunteers during disaster. These finding suggest that volunteers can and will help and that disaster preparedness drills are a logical next step for university based volunteers. This was documented in the article by Fulmer, Portelli, Foltin, Zimmerman, Chachkes & Goldfrank entitled Organization Based Incident Management: The Role of Volunteers on the University Campus during Disasters, currently submitted to the Journal of Urban Health.

These study results show that volunteers in a private organization, albeit a small proportion (of respondents), are willing to assist in disasters and have skills they can bring to bear of disaster mitigation. A limitation of the study is that the data reflect a non-representative sample, however, in this case, this is understandable given that
the study was searching for people who self-selected as volunteers. It was noted how future studies need to address this issue. This data serves as a basis from which other private organizations can move forward with enrolling volunteers and planning for disasters. Much is to be learned related to the deployment of volunteers during disaster. These findings suggest that volunteers can and will help and that disaster preparedness drills are a logical next step for these anticipated volunteers. These data suggest a group of over 300 people is willing to be trained and/or participate in emergency situations and this number can be considered as numerically important, especially with pre-planning before deployment. NYU respondents generally believe strongly in volunteering during disasters. They have a strong interest in contributing and being trained to participate, but have little expertise in this area, had not previously been trained. As expected, the majority had a general fear of catastrophic situations and especially contagious illness. Respondents generally had more confidence in traditional emergency responders such as police, fire and health officials than University personnel. However, they indicated they would rely on their peers at NYU for emotional support, which a number of respondents identified as being an important factor for them to carry out effective roles as volunteers. Disasters are inevitable and preparedness is essential and university communities can be a perfect example of private organizations that can serve important meaningful and relevant roles as volunteers in disaster preparedness and response.

**Future Activities include:**

- Work with NYU to construct an organizational prototype Incident Command/Management Structure, and define within the traditional ICS domains (operations, communication, etc) the roles of various categories of volunteers by listing of domains, competencies and training needs that will be developed for each category of volunteer.
- Build assessment tool for Inventories and workforce
- Train interested survey respondents
- Develop Incident Management Structure and preliminary plan
- Convene interface advisory group & identify interface issues
- Conclude work on 2 more academic papers:
  - Concept academic volunteerism workforce manuscript; and
  - Final Paper including work re Organizational Structure
LASER: ORGANIZATIONAL SAFETY NET

Principal Investigator: Ester Chackes, MSW
Project Start: November 2004

Summary

This study is a sub-project of the Large Scale Emergency Readiness (LaSER) Project. LaSER’s aim is to improve the capabilities of federal, state, and local governments, as well as private organizations, to prepare for and respond to a large mass casualty incident.

The goal of this study is to develop a model for “organizational safety net” and a toolkit to help large organizations continue functioning during a large-scale emergency. It is anticipated that during an emergency, employees will be anxious about their personal and family needs, and may wish to leave their workplace and/or stay home until conditions are stabilized. Organizations asking employees to remain in their jobs need to provide a workplace of safety and comfort that also addresses employee concerns about family well-being in order for employees to perform optimally and not feel the need to leave the workplace.

This issue gained considerable prominence after the September 11th World Trade Center disaster and in the aftermath of Hurricane Katrina. Many employers, including small businesses, large corporations, hospitals and universities recognized that they must institute appropriate personnel policies and procedures that address the safety and support of the work environment in order for employees to feel that their personal and family needs are being taken care of. Organizations are run by people and the ability of a workforce to sustain itself under the conditions of threat and crisis can only be fostered in a climate of safety and caring. This model would provide an environment of safety and support to employees in order to assure that essential employees will come to work and will remain at work during a disaster and which can be integrated into the overall organizational Incident Command Structure developed by the organization. The model will provide tools that address employees’ psychological and practical needs, enable employees to communicate with their families during a catastrophic event and suggest actions that would enhance an organizational culture of preparedness and support.

Key Activities

• In 2005, research team members met with the leadership of functional units of New York University, encompassing both the Washington Square campus and the Medical Center. During these interviews the leaders were specifically asked to delineate the functions of their units and to identify the personnel and other requirements needed to allow productive functioning of their units during times of crisis.

• In 2006, the project obtained approval from the School of Medicine IRB, to solicit a convenience sample of NYU employees and conduct focus groups to assess their perception of their personal and functional unit needs during times of crisis. Three focus groups were held as part of a larger project aimed at developing a safety net model that will help large organizations such as hospitals to continue functioning during a disaster. The focus groups collected data on the practical and emotional support employees would need to continue to work in the event a disaster was to occur. A total of 30 employees from New York University participated in one of the three focus groups held on May 8, 9, and 11, 2006. Participants were recruited by a letter of invitation from Robert Berne, VP for Health at NYU. Participation was voluntary.

The focus group participants represented diverse departments including Human Resources, Health Services, Athletics, and Security. Participants also represented different levels within the organization, from line worker to management. Many participants spoke from their experiences of having been through disasters while at work, ranging in magnitude from 9/11 to a blackout. Each focus group was about two hours in length, and all three were structured similarly. All three groups heard the same introductions about the purpose of the focus group within the overall project; what is meant by a disaster for the purpose of this study; the nature of focus groups; and the roles of the facilitator and recorder. Participants were promised confidentiality and
The Center for Catastrophe Preparedness & Response

anonymity of responses. Participants were asked what NYU would need to do to make it possible for essential employees to get to work and stay at work during a disaster of any kind; responses led to an inventory of safety elements that were listed on a flip chart. Next, each group voted on each item as essential, nice but less important, or not needed; while each individual voted independently, participants could see how others were voting which might have biased responses. Next, participants were shown a list of safety elements developed by the researchers through a literature search, and asked whether they wanted to modify their inventory. Finally, members were asked to write any additional items they may have thought about or preferred not to say; no one used this option. Specific objectives included:

- Analyze needs of faculty, staff, administrators and students
- Design toolkit of services and communication modes from which organizations can build an appropriate safety net for employees
- Prepare a final paper on the model with recommendations for testing and evaluation

Publications Include:

- Executive summary & data analysis from the focus groups (completed)
- Concept & Methodology Paper (in progress)
- White paper (in progress)

Future plans for the remainder of the project period are:

- Identify Communication needs of faculty, staff, and administrators and students
  - Write white paper for publication
- Design a Model Organizational Safety Net
  - Design database plan for employee personal safety plans
  - Design Human Resources Center Plan, to establish and maintain database
  - Design Call Center Plan
  - Prepare a guide for NYU employees on personal preparedness and the NYU Safety Net
  - Toolkit (including report, lit review and recommendations / guidelines
  - Prepare a white paper for public distribution on the Model Safety Net, issues requiring further research, and a detailed plan for testing, evaluation and implementation.
LASER: RISK COMMUNICATION

Principal Investigator: Rae Zimmerman, Ph.D.
Project Start: November 2004

Summary

This study is a sub-project of the Large Scale Emergency Readiness (LaSER) Project. LaSER’s aim is to improve the capabilities of federal, state, and local governments, as well as private organizations, to prepare for and respond to a large mass casualty incident.

The goal of the risk communication sub-project is to develop and test critical communication strategies and plans for community public health preparedness, response, and mitigation of event consequences before, during and after a large scale, urban terrorist event. Understanding risk communication principles is critical for responsive leadership in times of crisis, and will enable the building of effective capacity to reduce the consequences of terrorism. Under crisis conditions, communication should be planned based upon consideration of message content, the characteristics of message senders and recipients, and the technology being used to convey messages to minimize delay in involving the correct personnel and utilizing the correct responses. The nature of these factors differs for pre-disaster, during disaster and post-disaster conditions. These dimensions will be incorporated into the risk communication task for LaSER. An interdisciplinary approach is adopted drawing on social psychology, communication technology, and risk communication directly applied to health threats associated with disasters.

Key Activities

• Developed a typology for organizing risk communication indicators
• Developed and identified an extensive set of indicators supported by a literature and career view on risk communication and behavior in disasters, covering a broad range of medical, sociological, and risk analysis publications, articles, and cases
• Developed a framework portraying parties involved in disaster communication (government, public, media, specialists, and services/industry/health care), their roles, and mode of interaction as a means of portraying communication networks
• Attended risk communication-related workshops and conferences, including those sponsored by the Greater NY Hospital Association
• Designed preliminary message sets for a terror scenario involving a hypothetical release of Sarin gas in a confined space and for Smallpox and the modeling of human responses to messages based on risk communication indicators and the messenger-recipient role framework (ongoing)
• Designed focus group strategy, including recruitment script, scenarios and scenario scripts, and obtained IRB approval to conduct focus groups to obtain inputs for the risk communication indicators and scenario message sets; implemented two focus groups in August 2006 and documented results.
• Trained graduate students in risk communication methods and techniques, particularly with respect to applications in the area of health emergencies.
• Current products include: a set of risk communication indicators, an extensive literature review as background and support for the indicators, the identification of actual and desired behaviors by various public groups (including emergency responders) including whether or not people stay or leave an area in an attack, the preliminary design of message frameworks for Sarin release and Smallpox release scenarios, and publications, reports and presentations listed below on preliminary findings, a focus group report, a working paper on initial public behavior (whether people stay or leave) in a disaster, and various conference presentations. An additional product consisted of inputs in the form of questions pertaining to communication for the LaSER survey (Organization Based Incident Management: The Role of Volunteers on University Campus during Catastrophic Events).
Publications:


Papers in Progress:

• “Communicating Risk to Reduce Human Loss in Large Scale Disasters” R. Zimmerman, A. Kling, I. Portelli, and G. Foltin
• “Compliance with Health Directives in Emergencies” R. Zimmerman, B. Nagorsky, I. Portelli and G. Foltin (projected submission to peer reviewed journal 5/15/07).

Papers in Development:

• “Comparison of Risk Communication Approaches for Sarin and Smallpox Scenarios”
• “Risk Communication Indicators for Emergency Response”
Submissions anticipated to Risk Analysis, the American Public Health Association, or the Journal of Homeland Security and Emergency Response.

Future plans include:

• Continue to refine, expand and test risk communication indicators, typology, and application to scenarios based on focus group results and seek peer review of indicator findings (such a review would typically go beyond the official project period), targeting model input needs
• Expand literature review to psycho-social literature and add recent cases
• Continue to develop risk communication inputs to LaSER modeling efforts
• Prepare materials for dissemination as monographs and journal articles (based in part on conference presentations), the production of which typically goes beyond the official project period
• Produce handbook as guidance for emergency managers, and seek input from potential users on the content of the handbook (such a review typically goes beyond the official project period)
• Provide analytical support for the communication data portion of the LaSER survey (Organization Based Incident Management: The Role of Volunteers on University Campus during Catastrophic Events)
CITIES, COMMUNICATIONS AND CATASTROPHE: IMPROVING ROBUSTNESS AND RESILIENCY

Principal Investigator: Mitchell Moss, Ph.D.
Project Start: August 2004

SUMMARY

American cities face an increasing number of catastrophic threats over the next 100 years. Terrorist groups are more likely to gain access to weapons of mass destruction that can be employed against urban centers. Unrestricted development in coastal and fault zones amplifies the risk of widespread destruction from hurricanes, earthquakes, and rising sea levels. Finally, an increasingly complex and inter-dependent network of urban infrastructure systems will create highly vulnerable targets where critical components interconnect.

Reliable communications systems are the lifeblood of effective emergency response and disaster management. Current efforts at the federal, state, and local level are making rapid progress in addressing critical issues such as network inter-operability and public alert systems. However, cities face unique challenges in the 21st century which have not been adequately addressed by current research.

This project seeks to improve our understanding of the entire range of challenges and opportunities affecting our cities as they plan for catastrophe communications. Creating robust and resilient cities requires communications infrastructure and practices not just for responding to emergencies, but providing security and economic viability before, during, and after catastrophic events.

Drawing upon experts in urban planning, telecommunications infrastructure, port management, real estate analysis, geographic information systems, and mobile communications, this project’s efforts are organized in four key areas. These investigations of urban catastrophe communications are designed to provide knowledge for policy makers and professionals in major cities across the nation.

KEY ACTIVITIES

• Stafford Act: an Agenda for Reform: Report to be released fall ’07. This project and report highlights the need for comprehensive reform of the federal legislation that governs the nation’s disaster response and offers recommendations for legislative action to better protect metropolitan areas in the face of the rising cost and expanding scope of disasters in the twenty-first century.

• Business Continuity, Telecommunications and Urban Decentralization: Following the collapse of the Twin Towers, the future viability of urban centers was called into question. Today, there is conflicting evidence about the effect of changing insurance requirements insurance, corporate risk management strategies, and business continuity technologies are contributing to urban decentralization. This study will analyze recent trends in corporate leasing activity and the underlying technologies being used to integrate more dispersed organizations.

• Direct Citizen-Government Communications: Initiatives such as New York City’s Emergency Alert System have greatly improved government’s ability to communicate essential information to the media during an emergency. This area of research will investigate the way city governments can leverage these systems to communicate directly with citizens through the use of Internet and mobile communications technologies.

• The Role of Social Networks in Emergency Response: Social networks play an important role in both formal and informal emergency response and disaster relief. Formal response organizations often fall back on informal social networks to develop trust and ad-hoc inter-organizational communications during emergencies. In the neighborhoods and communities affected by catastrophe, many of the needs of affected persons are met through their own social networks rather than formal responders. This research will investigate the way in which teachers, building superintendents, and other key agents of neighborhood-level social networking can be utilized to improve emergency communications.
THE POLITICS OF FACIAL RECOGNITION SYSTEMS:
ISSUES AND POLICY

Principal Investigator: Helen Nissenbaum, Ph.D.
Project Start: October 2004

Summary

Facial recognition (FR) systems are considered a promising addition to the arsenal of technologies to be deployed in the battle against crime and terrorism. As a tool for scanning large numbers of people, FR systems will greatly improve the ability to identify known criminals and terrorists and even, in certain locations, function as a deterrent. Although there has been steady progress in the science and technology of video surveillance and FR systems, they are still far from perfect. The focus of this research is a particular imperfection in FR systems that may have significant political ramifications.

A study of commercially available FR systems, which evaluates them against a comprehensive range of performance criteria, finds that most recognition algorithms, much like human recognition heuristics, are biased. As such they are better at recognizing minorities within a population and, likewise, show biased results in relation to gender, age and ethnicity. These biases become even more significant if tied to known biased practices such as the targeting of minorities by CCTV operators. Furthermore, it has been shown that although FR systems are very good at performing identification tasks with small populations in controlled settings, their performance tends to degenerate quite rapidly as the population size increases and the conditions within which the systems operate deteriorate; in such conditions, their biases become amplified.

Key Activities

The FR study’s primary product is a report, “Policy and Implementation Issues of Facial Recognition Systems” for distribution to informed policy makers and senior law enforcement officials with regard to the purchase, implementation, and use of facial recognition systems for law enforcement and security purposes. It will provide an overview of “state of the art” as well as implementation and policy challenges. The report is forthcoming.

In producing the report, the study has conducted several hands-on methods for collecting and understanding data. These include:

- Hosting a five-day visit by Lucas Introna from Lancaster University, UK, a collaborator on the project.
- Hosting a talk by Dr. Jonathan Phillips, National Institute of Standards and Technology (NIST). Dr. Phillips heads the Bureau’s efforts to monitor state of the art of Facial Recognition systems through the Facial Recognition Grand Challenge (latest one issued Sept 30, 2005) and Facial Recognition Vendor Tests (new round began Jan 30, 2006).
- Consulting with Alex Vasilescu, a scholar at MIT, whose input has been incorporated into the report
- Working with student research assistants to pursue leads on real world implementations

Following the report (which is written for non-specialists), a more scholarly account will be produced, which connects the scope of research with the philosophy of technology.
URBAN ISSUES RESEARCH

PRINCIPAL INVESTIGATOR: ERIC KLINENBERG, PH.D.
PROJECT START: MAY 2006

SUMMARY

The Urban Security Initiative’s research agenda is focused on two major projects:
1. An analysis of emergency communications systems in an age of digital media and consolidated broadcasting; and
2. An analysis of how citizens are – and are not – developing a “culture of preparedness” in the wake of recent catastrophes such as September 11, Hurricane Katrina, and the Chicago heat wave

Leveraging NYU’s unique characteristic of being one of the nation’s premier research universities and located only two kilometers from Ground Zero, this effort addresses topics such as the history of disaster planning programs, how social factors may enhance existing programs, and the state of crisis communications. Topic areas include:
• The capacities of local and national media to provide reliable emergency communications during urban crises
• The uses of new technologies – such as the Internet, mobile phones, and handheld devices – for communicating before, during, and after disasters
• The problems of emergency communications among and between first-responder entities; local, state, and federal bodies; and civilians in need of urgent assistance
• How social networks such as familial, neighborhood, and community figure into disaster preparation

KEY ACTIVITIES

• Crisis communications – Communications breakdowns have compounded the damage wrought by extreme weather or terrorists in a number of recent catastrophes. On September 11th, for example, communications problems prevented New York City’s emergency personnel from conveying vital information about the state of the towers. During a recent heat wave in Chicago, similar problems resulted in a slow and uncoordinated City response. It took days to call-in back up ambulances and paramedics, for example, and even longer for someone to recognize that the City had failed to implement its own heat emergency plan. These breakdowns certainly exacerbated the mortality and morbidity levels that spiked with the heat. Future research will include case studies of disaster communications during recent U.S.-based catastrophes, and will use these cases to assess the state of crisis communications in large, mid-size, and small cities.

• The Culture of Preparedness – Today emergency managers and political officials are intent on cultivating a “culture of preparedness,” in which citizens develop personal and family plans for responding to crises and learn how to take advantage of extant government programs. Social surveys, including one conducted by NYU’s Center for Catastrophe Preparedness, typically show that a significant proportion of the civilian population has neglected to make even the most basic advance plans for catastrophes, and in New York City many residents do not know which agencies would take charge during a crisis. This research project aims to understand how and why citizens are – and are not – developing a culture of preparedness, and it does so through a series of focus groups and interviews with ordinary citizens.
KATRINA RESEARCH PROJECTS
DOCUMENTARY FILM — EXTENDED STAY

Principal Investigator: Judith Helfland
Project Start: September 2005

SUMMARY

*Extended Stay* is a half-hour film that documents the intense physical, emotional, and spiritual rebirth of two Katrina survivors – Dana Saulny, a mother of three and Alvin Alexander, a classical guitarist – as they fight to start anew in the foreign land of New York City. Separated from their families, without jobs, money, or permanent places to stay, Dana and Alvin face the streets of New York and New Orleans, FEMA’s deadlines and their personnel “ghosts” to make a new home.

Alvin Alexander thought his evacuation from Katrina would be “a short vacation,” having experienced a lifetime of storms and their aftermaths. But returning home, he discovered the flood destroyed his house and all his possessions. With no job and no savings, Alvin drove north to find a new home and a new job to support his dream of recording his music. Distracted by his loss, Alvin labors and stumbles through a labyrinth of FEMA regulations as he tries to regain the focus he needs to rebuild a new life.

Dana Saulny and her children were evicted from their New Orleans apartment during the immediate aftermath of Katrina. Faced with quickly rising rents and the loss of her job as a film production manager, Dana attempts to improve life for her children by searching for work in New York City where she hoped her experience would help her find a new job in the entertainment industry. But her hopes are frustrated by stiff competition for jobs, separation from her family, and the high rents in New York. As months pass without an address or a paycheck, Dana is forced to confront whether her decisions are realistic or irresponsible.

KEY ACTIVITIES

- The film incorporates video footage, home videos, news clips and interviews with the subjects as well as FEMA officials and community leaders. Footage gathering began in the Fall of 2005, and has been supplemented by additional footage and over seventy hours of interviews acquired, shot and logged by the filmmakers. The footage includes selections from over seventy hours of interviews, Senate hearings in Washington, D.C., protests and gatherings in New Orleans.
- In the summer of 2006, the crew was awarded a scholarship to the National Association of Latino Independent Producers (NAILP) Producers’ Academy in Tucson, Arizona, where the rough cut was critiqued by documentary professionals Beni Matias and Fernanda Rossi.
- NYU Tisch School of the Arts professors Judith Helfand, George Stoney and Laura Hays, continue to contribute ideas during the editing process.
CULTURAL INTEGRATION AND SOCIAL CAPITAL DEVELOPMENT IN THE AFTERMATH OF KATRINA

Principal Investigator: Robert Hawkins, Ph.D.
Project Start: September 2005

Summary

Following Hurricane Katrina, thousands of families in New Orleans and other parts of the South were displaced from their homes. According to news reports, approximately 1.3 million people evacuated the flooded areas and were relocated to shelters, homes, and private residences in all fifty U.S. states. Over the course of one year, thousands of evacuees settled in new areas and thousands more fought to return to New Orleans. Whether or not the families affected by the storm returned, adults and children alike had to rebuild their lives by creating new social support systems in either their new community or in their old, rebuilt one. This study examined those families who left New Orleans and returned following the flooding, as well as those in other cities who did not return.

The original intent of this study was to examine only low-income families who relocated to urban areas, but the study was expanded geographically, while maintaining a focus on low-income families. This study includes families living in various arrangements, including those in shared housing. Also considered are the relative success of the families’ attempt to culturally integrate into their new community, whether inside or outside of New Orleans, the family’s perception of their experiences, their perception of the social support they received during the process, whether from their kin or acquaintance network or from the government or not-for-profit organizations. Included in the study are provisions for socio-environmental, neighborhood, and psychosocial assessment for the parents and their children.

Key Activities

• This study is ongoing, with support from CCPR having been used as leverage for national funding. Dr. Hawkins has received additional funding from the University of Kentucky Center on Poverty. The study was expanded a bit and has been retitled: “Cultural Integration, Social Capital Development, and Family Structure Among Low-Income Southern Families Affected by Hurricane Katrina.” This new direction allows for a greater examination of families and social capital.

• Initial interviews with 12 families about their Katrina experience have been conducted, and through the Center on Poverty, an additional 20 families have been interviewed, bringing the total number of families interviewed for the project to 32. Follow-up interviews will be arranged as well.

• A National Institute of Mental Health (NIMH) grant application is now under development for the funding of further research on the aftermath of Katrina, including a long-term examination of the psychological effects of disaster and how one mixed-income and ethnically-mixed neighborhoods rebuilds its social, family, and physical structures following a natural disaster.

Papers under development include:

• The Shortest War on Poverty: How We Have Already Forgotten the Lessons of Race and Class Following Hurricane Katrina.” Hawkins, R. L. & Narichania, D. (A focus on the media’s short attention span related to Katrina).


• “Social Displacement: The Disappearance of Social Capital for Low-Income Families Following Hurricane Katrina.” Hawkins, R. L. (A look at how families’ social structure was altered following Hurricanes).
THE EFFECTS OF POWER ON SENSE-MAKING AND COMMUNICATION

PrINCIPAL INVESTIGATOR: Frances J. Milliken, M.B.A., Ph.D.

PROJECT START: SEPTEMBER 2005

SUMMARY

The media coverage of the aftermath of Hurricane Katrina shocked viewers who saw pictures of people obviously in dire need of assistance, especially the thousands of people stuck in dirty and miserable conditions at the Superdome and those stranded on rooftops of flooded homes, unable to escape. Even more distressing to many viewers was the fact that, in many cases, there didn’t seem to be anyone around to help these individuals.

The major purpose of this study was to examine whether there were systematic patterns in how people made sense of Hurricane Katrina as a function of the role they occupied and the amount of power they had. The research team found that “power” mattered in the way people talked publicly about the hurricane. Specifically, the team found that individuals with power tended to use more abstract language and to express less uncertainty about the event than did victims. Power-holders also tended to use more positive language and were more focused on the future. Victims’ communication, compared to power-holders’ communication, was also characterized by more use of sensory-related terms and affiliation-related thoughts.

For organizations to learn and to effectively solve problems, information about issues needs to be communicated by those who “notice” these problems to people with the power to make decisions about how to solve the problems. Further, those in power need to listen to the problems and develop solutions that are then implemented by those in the field. This process always involves the transfer of information up and down a hierarchy. The effective transfer of information up and down hierarchies, however, is rarely smooth (Milliken and Morrison, 2000) because hierarchies are characterized by power differences between those at the top and those at the bottom. Not only do those at the top have the power to affect the outcomes of those at the bottom, they may also have a different perspective on the nature of issues. Research suggests that the amount of power an individual has systematically affects how he/she thinks and communicates. Past research, for example, suggests that people who are high in power may tend to communicate in a more abstract way while people who are low in power tend to speak in more detailed terms. Furthermore, the more power someone has, the greater is the tendency to objectify people and to disregard the uniquely human aspects that define those people as individuals.

How might these power differences in communication affect responses to a crisis? If people who are high in power speak “a different language” from people low in power, then it is possible that a “communication gap” is created in a crisis. Those who are in the midst of the crisis may be quite literally speaking a different language from those who are higher in the hierarchy and who are charged with the responsibility to respond. When those high in power respond, they may respond in a way that reflects their more abstract, less emotional, more hopeful view of the situation. They also may respond in a self-protective way. Thus, they may not respond with specific enough solutions to the immediate problems as perceived by those in need. Over time, this pattern of communication can lead to two different “understandings” of the situation, to a widening of the perceived “gap” between those with power and those without it, leading ultimately to dissatisfaction with the responsiveness of those in power. In the case of elected officials, this, of course, can lead to being voted out of office. In the case of managers or appointed officials, this can lead to resignations and firings.

KEY ACTIVITIES

• Research team conducted a qualitative survey and analysis of first-hand quotes from people involved with Hurricane Katrina at all levels, as conveyed in four media sources in the 10 days immediately following the hurricane.

ASTRODOME INTERVIEWS

Principal Investigator: David Dent, FAS
Project Start: September 2005

SUMMARY

On September 10, a group of NYU honors journalism students went to Houston, Texas to interview New Orleans residents who were evacuated to the Astrodome. This project grows out of those interviews and looks at the lives of those survivors beyond emergency and the immediacy of the disaster and explores how they struggle to forge new lives in new environments. Through a combination of oral history collections and ethnographic research, this project explores the impact of class on the challenges of urban resettlement in the wake of a disaster. The project interviewed 20 evacuees who were resettled in the Houston Astrodome with plans to interview more and will expand this body to include other communities. This research will result in multiple products that will be beneficial for scholars and experts on preparedness in disaster relief as well as the general public. A document will be produced with the detailed interviews that provides insights for professionals in disaster relief to understand the everyday challenges and encounters that vulnerable populations face in resettlement. The material will also feed into a book on income inequality and the future of the middle class. Two chapters of the book, a journalistic exploration of class in America, will analyze Katrina in the context of the issue of income inequality.

KEY ACTIVITIES

- Palgrave McMillan will publish Dent’s American Extremes: Portraits of Wealth, Poverty, and the Endangered Middle Class, which draws on the interviews conducted for this project, in January, 2008.
AMERICAN DIASPORA: DISPLACED STUDENTS AND THE EFFECTS OF SELECTED EDUCATIONAL POLICIES

PRINCIPAL INVESTIGATOR: MARY DRISCOLL, PhD
PROJECT START: SEPTEMBER 2005

SUMMARY

In the fall of 2005, The US Department of Education estimated that over 372,000 students were displaced by Hurricane Katrina (USED, 2005). As a result, elementary and secondary schools (especially those in states proximate to the disaster zone) encountered a sudden influx of students who had experienced recent trauma, whose economic status was often precarious, and whose family resources had been severely strained. For many students, what began as a short term placement in a school at some distance from the Gulf has become a more permanent affiliation, either by choice or because the homes and towns they left still struggle over a year later to reconstruct themselves.

This study explored the role schools and school districts played in this sudden diaspora of students. In particular, the study focused on how two current trends in educational policy—namely, the provision of coordinated services through schools, and the influence of the No Child Left Behind (NCLB) legislation—shape the experiences of these students and help us to understand what is likely to occur in the future.

KEY ACTIVITIES

• Phase I of the study, now complete, used Web-based survey technology to contact a national sample of districts across the US that were eligible for federal Emergency Impact Aid through the Hurricane Relief Act of 2005. Seventy-five districts, located in 28 different states, were identified as enrolling at least 1 displaced student for all or part of the academic year 2005–2006. District informants were asked to report on a variety of factors affecting the education of displaced students, including the number of students enrolled, the types of schools enrolling them, the funding sources supporting their education, the availability of coordinated services and differentiated staff for these students, and the degree to which NCLB provisions appeared to facilitate their education.

• A preliminary report of the findings, co-authored with Renee Waters, was presented at the Annual Meeting of the University Council for Educational Administration in San Antonio, Texas in November 2006; the final report for Phase I was released in March 2007. Data collection for Phase II, focusing on school-level data from schools enrolling displaced students, is complete. Preliminary analyses to date suggest that principals may see NCLB as having a greater effect on displaced students than do district-level informants.

Several key findings have emerged from these data:

• First, the research team found a widely dispersed pattern of displaced students who for the most part are scattered throughout schools across districts in many states. Most of these students have been absorbed into regular education schools; in addition, over 51% of the districts reported that they enrolled no more than 200 such students, with many districts in the sample enrolling fewer than 50 displaced students. Although many students clustered in urban areas such as Houston and Atlanta, a significant number of families ended up far from the Gulf area, relatively isolated by school even when multiple students were enrolled in the same school districts.

• Second, while additional federal aid provided some support for these students, districts reported that they relied heavily on voluntary sources of assistance, many of which were created on an ad-hoc basis as needs emerged.

• Third, districts varied widely with respect to their ability to provide coordinated health and other social services to this population. Although most districts provided additional tutoring, only a fifth provided primary medical care and less than 18% could administer immunizations.

The research team concludes that the opportunities for assistance students encountered was a much a matter of luck as planning, and that even where students were relocated deliberately via federal airlift they were not necessarily likely to encounter a service-rich district.
DISASTER PLANNING: MOVING IMAGE & SOUND COLLECTIONS

Principal Investigator: Howard Besser, Ph.D.
Project Start: September 2005

SUMMARY

This project is an in-depth exploration of disaster preparedness and recovery issues for archival moving image and sound materials. Drawing on the experiences of collecting institutions and individuals affected by Hurricane Katrina and its aftermath in the New Orleans area, the project highlights the lack of available disaster resources aimed at audiovisual collections, as well as provides practical preparedness, response, and recovery advice. By sharing the lessons learned by the Gulf region’s archivists, curators, and artists, this project highlights the need for new ways of thinking about disaster preparedness, a task that many people avoid simply because it appears too overwhelming. The reports and presentations surrounding this project stress the idea that, “You can’t prepare for everything,” while offering simple methods of creating defense, security, and preparation that can be used in numerous circumstances.

KEY ACTIVITIES

• Extensive academic research, travel to the New Orleans area, interviews, and damage assessments. Moving Image Archiving and Preservation (MIAP) Program Director, Howard Besser, leads this research. Kara van Malssen, a graduate of the 2006 MIAP class, is the principal researcher.

• Master’s thesis by van Malssen, which collects the experiences of three New Orleans institutions and one filmmaker, and draws on these to outline useful methods for preparing audiovisual collections for disaster. The report also outlines steps that can be taken to recover A/V media damaged by water or fire.

• Ms. van Malssen participated in a panel titled “Preserving New Orleans: The Fate of Media Collections in the Wake of Katrina,” at the 2006 American Library Association Conference in New Orleans. Organized and moderated by Professor Besser, approximately 65 people gathered to hear what one reviewer for the Association of College and Research Libraries called, “a timely and affecting presentation.”

Work on this project will continue as a contribution to a guidebook on disaster preparedness and recovery, to be published by the Association of Moving Image Archivists (AMIA) and the Society of American Archivists (SAA) in late 2007. The proposed guidebook is currently awaiting format approval from the SAA publications committee, and writing should begin in March 2007. This guide will fill the gap in the existing disaster planning and recovery literature for archival collections, by providing professionals and non-professionals alike with the tools and information needed to recover a range of A/V materials after a disaster.

Besser and van Malssen will also be turning their research findings into curriculum to be used by the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM). They will be presenting this curriculum in August 2007 in the first of ICCROM’s training sessions on “Safeguarding Sound and Moving Image Collections”, and this is likely to become part of ICCROM’s ongoing training.