Community Shielding in an Urban Military Environment

A Survey of Installation Response to Potential Critical Incidents

by:

Gregory B. Saathoff, M.D., Principal Investigator
University of Virginia School of Medicine
Robert K.Gifford, PhD., Senior Researcher
Uniformed Services University of Health Sciences
Christopher Holstege, M.D., Chief of Toxicology
University of Virginia School of Medicine
Bram Wispelwey, Research Analyst, University of Virginia
Marge Sidebottom, Disaster Response Coordinator,
University of Virginia Health System
Kristin Wenger, Project Manager, University of Virginia

Critical Incident Analysis Group
University of Virginia
Principal Investigator: Gregory Saathoff M.D.
Box 800657
Charlottesville, VA 22908
ciag@virginia.edu
434-243-9458

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Executive Summary

A terrorist attack resulting in a chemical, biological, radiological or nuclear (CBRN) event or pandemic influenza poses an enormous threat to individual and community survivability, as well as to critical infrastructure and key resources. In the event of a crisis, the _behavior_ of potential victims and public and private sectors will be the major determinant of both survivability and continuity of essential operations. *Community Shielding*[1] is defined as a "facilitated, expanded form of shelter-in-place."

Successful restoration of a community is predicated upon optimal community response to attack. While long-term events such as a pandemic influenza outbreak require social distancing with effective communications and logistical support, a short-term crisis like the recent shooting massacre at Virginia Tech requires rapid effective networked communication to influence community behavior. A successful strategy, then, must provide functional communication and logistics mechanisms for community response and recovery encompassing both extremes. *Community Shielding* provides a unique opportunity to engage individuals, communities, private sector and governmental entities in a harmonic response to a disaster. The recent Homeland Defense Pilot Study of Community Shielding suggests that the strategy is both relevant to restoration of community *and* serves as a foundational element of an integrated, dedicated strategic plan for medical countermeasures, as required by HSPD-18.

Confirmation of the feasibility[2] of *Community Shielding* was first demonstrated in the Critical Incident Analysis Group's (CIAG) 2005 survey of over 1000 National Capital Region residents[3].

While the majority of respondents would be willing to shelter at home for at least a month, many would require basic amenities such as water, food, medical supplies and knowledge of the safety of family members. [4] These findings indicate that *Community Shielding* will be embraced by the public in a biologic, radiological or nuclear event if they are provided with basic needs and information.

Analysis of this Homeland Defense Pilot Survey of almost 1000 military installation respondents provides more details, particularly with regard to the issues of communication, logistic, financial and medical needs required in a successful Community Shielding response.

Key Findings

Similar to our findings in the NCR survey of 2005, the level of preparedness varies widely. At the installation level, there is a dedication to public preparedness manifested by regular communication between the installation commander and the Director of Plans, Training, Mobilization and Security. Due to the large number of agencies and the diversity of their missions, there is less preparedness uniformity across tenant agencies within the installation. As a result:

- Most are not equipped to shelter-in-place at work without facilitation through community shielding, due to absence of medication, cots for sleeping, stored food and water.
- Only a minority actually know how to use text messaging, even though the vast majority own cell phones with text messaging capacity,

- Most are receptive and willing to work from home during a crisis that requires Community

[1] Saathoff, G.B., Everly, G., Psychological Challenges of Bioterror: Containing Contagion, International Journal of Emergency Mental Health, Vol 4., No. 4., (2002): 245-253.

[2] Hunt VJ, *"Community Shielding": A Policy Analysis.* The George Washington University, Master of Public Health/Health Policy Special Project, 2005.

[3] Williams M, Saathoff G, *et. al.*, *"Community Shielding" in the National Capital Region: A Survey of Citizen Response to Potential Critical Incidents*

(Final Report, Volume 16), September 2005, http://cipp.gmu.edu/archive/Vol-16-%20Community%20Shielding%20in%20the%20NCR.pdf.

[4] *Bioterrorism and Pandemic Influenza: Are We Prepared?* Testimony of Frank J. Cilluffo, Director, Homeland Security Policy Institute, The George Washington University, Before the Homeland Security Subcommittee of the Senate Committee on Appropriations, May 23, 2006

Shielding. Necessary policies and security measures have not yet been developed to allow for this on a large scale level.

- The current structure of health care and pharmaceutical delivery lacks the flexibility required in a protracted crisis.
- More than a third of respondents do not pay bills automatically, and are unwilling to have funds deposited on prepaid debit cards.

Recommendations

Based on the results of the above complementary studies completed within the National Capital Region, it is clear that a successful *Community Shielding* strategy will ultimately require an integrative approach that includes not only the military and civilian sectors of government, but also the private sector. Private sector involvement is particularly crucial, as these industries control 85% of the nation's critical infrastructure. Normal operations may be interrupted, but the ability to provide special disaster services will be the key to community *and* business survival, thus insuring the social empowerment required for restoration of community. A *Community Shielding* strategy can be positive for industry in that it will safeguard the economy, provide strategic guidance for employees and can serve as a market opportunity for some sectors. The wireless communications, information technology, shipping and energy sectors are examples of industries that would be vital to a successful implementation of a *Community Shielding* strategy.

In order to successfully implement a *Community Shielding* strategy after attack, advance planning is essential. Urban military installations are not islands, and therefore can not presume that successful restoration of community will occur in isolation if the surrounding non-military community is without a strategy. This can be accomplished through the identification and development of key public-private sector networks. Development and augmentation of resources and networks in the communications, logistics, medical, and financial domains will set the stage for optimal restoration of community.

Acknowledgements

Chapter 1: Introduction

The Web-based survey of Military Installation Response to Potential Critical Incidents was conducted by the University of Virginia's Critical Incident Analysis Group (CIAG) during the winter of 2007. Partners included faculty from the University of Virginia's School of Medicine, the Uniformed Services University of Health Sciences (USUHS), as well as experts in the fields of communications, logistics and banking. Valuable advice also came from the colleagues at the Homeland Security Policy Institute (HSPI) at The George Washington University School of Medicine. Funding for this research was provided by the Office of the Secretary of Defense, Homeland Defense.

This introduction will review the relevant results from the 2005 National Capital Region Survey, and will also articulate the key elements of this study. In subsequent chapters, the survey development, demographics, preparedness issues, communications, logistics and relevant financial concerns will be addressed. A summary and recommendations will follow, and will focus specifically upon the relevance to restoration of community after attack.

Background

In the event of a terrorist attack or other localized disaster, individual and community responses will be the most important predictors of survival. Preparation for disaster is a key component. A recent major survey[5] found that "many people are not as prepared as they should be, think they are, or were in 2002." Further, only about a quarter of American families "would be fully prepared with adequate food, water and medications if forced to remain in their homes for three days."

As defined by CIAG, a critical incident is an event that threatens a significant risk of injury, loss, or destructive conflict that has the potential to significantly change or confound our culture. The strong winds of a crisis tell us much about the nature of the community and its resilience.

One of the goals of this survey is to examine how to best 'contain contagion' after such an event. To the extent that this is effective, it will facilitate the restoration of the urban community after an attack. How can we enhance the potential for a major urban metropolitan area to provide and sustain shelter, becoming more than merely "any port in a storm"?

The concept of "community shielding" proposes that citizens remain in a safe place. Those without sufficient necessities (food, water, medication, information) will be supported by community or government resources, until the threat abates[6]. This involves more than just asking citizens to "shelter in place" until safe. To be successful, community shielding requires tailoring to community-specific special needs. This is particularly apparent on urban military installations.

Because urban areas are especially vulnerable to attack, urban military installations are at particular risk. They must continue to operate effectively during a long-term critical event to achieve mission assurance and force protection. Our 2005 NCR Survey indicated many of the needs that will be present on an installation, but this study specifically deals with the unique and critical needs of urban military installations.

Developing a successful Community Shielding strategy ultimately requires an integrative approach that includes many key private sectors as well as the government and civilians. Private sector involvement is particularly crucial, as these industries control 85% of the nation's critical infrastructure. Normal operations may be interrupted, but the ability to provide special disaster services will be the key to community and business survival, leading to restoration of community after attack.

Critical Infrastructure

The definition of critical infrastructure has evolved over the last two decades. In order to appreciate the requirements of community shielding, and the imperative for community

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[5] National Opinion Survey to Determine Levels of Preparedness for a Public Health Crisis, Peter D. Hart Research Associates, Incorporated, 2007.

[6] Saathoff, G, Everly, G, *Containing Contagion*, International Journal of Emergency Mental Health, 2002.

restoration after an attack, an appreciation of critical infrastructure and its role is vital. The National Strategy for Homeland Security[7] identifies agriculture, food, water, public health, and emergency services sectors. Notably, it also includes our defense industrial base, as well as information and telecommunications sectors, energy, transportation, banking and finance, the chemical industry, as well as the postal and shipping sectors. Utilities, particularly with reference to the supply and distribution of water, are of particular significance for successful Community Shielding.

More and more, the critical infrastructure of an urban military installation is a complex mix of public and private. For example, this occurs in communications, commodity supply chains and banking, to name a few.

The National Strategy singles out the communication sector as it relates to productivity and growth, "and is particularly important because it connects and helps control many other infrastructure sectors."[8] While some communications technologies (intranet, emergency radio communications) and outlets (Post newspaper) operate under the authority of the military (i.e. installation commander, leadership within the tenant agencies), other communication technologies (cell phones) and outlets (nearby broadcast radio/television, city newspapers) operate completely independently.

Privatization and outsourcing of the past two decades has particularly impacted the supply chain. Even for the military, cost effective *just in time* strategies are now de rigueur for necessities such as food, water, and medication. The supply chain is therefore increasingly fragile, and heavily dependent upon the private sector.

While we don't automatically think about supply chains when it comes to currency, it is vital to know that our dependence upon automated teller machines (ATM's) is also tied directly to supply chains. For those who depend upon ATMs for

cash, failure to restock the machines on a regular basis could lead to needs that must be met elsewhere.

**The Urban Military Community:
Safe Harbor?**

When we speak of "community" as it relates to military installations, we need to highlight the unique characteristics of the modern-day urban military installation. If we visualize a major metropolitan area as being like a harbor, the urban military installation is like an aircraft carrier moored between cruise ships. The urban military installation is defined in part by its urban surroundings. While separate and distinct, the installation is directly impacted by the vessels which surround it.

Urban military installations are "secure" from the standpoint of security checkpoints for both the installation perimeter as well as the major tenant agencies that reside within the installation. Unfortunately, security checkpoints alone are incapable of halting the plume of a dirty bomb or the contagion of pandemic influenza in a population that daily commutes between the installation and the larger urban area.

Perhaps the most extraordinary thing about urban military installations is the percentage of civilians who daily provide critical functions for the sites. In fact, modern urban military installations have a responsibility to the military personnel, civilians, contract workers and military dependents. To carry the harbor analogy further, if a military installation is an aircraft carrier surrounded by cruise ships, then most military personnel, civilians, contractors and dependents travel daily between vessels. In the event of a bioterror attack or other event, family members may be geographically close, but inhabiting very different jurisdictions and cultures.

One can not therefore study an urban military installation without understanding the geographical, technological, economic and social interface with the surrounding urban community. This interface governs the issue of mission assurance and force protection in that there is such exquisite interconnection.

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[7] U.S. Office of Homeland Security. *The National Strategy for Homeland Security*. July 16,2002. p 30.
[8] U.S. Office of Homeland Security. *The National Strategy for Homeland Security*. July 16,2002. p 30.

According to the National Strategy[9] "Our critical infrastructures are also particularly important because they are complex systems: the effects of a terrorist attack can spread far beyond the direct target, and reverberate long after the immediate damage."

This web-based survey of 913 members of an urban military installation community provided a good representation of the various groups in the community. Similar to the National Capital Region Survey Community Shielding in the National Capital Region [10], this survey examined emergency preparedness, sources of information in an emergency, and confidence about infrastructure. In addition, this study explored the interface between the military installation and the private sector, particularly with regard to communications, logistics and banking.

Many of these concepts follow upon the work of the National Capital Region Survey, Community Shielding in the National Capital Region. This military installation survey augments existing information that will better inform the government's ability to effectively anticipate, prevent, and manage critical incidents. It is this management, with a focus on restoration of community, which will determine the social and economic recovery.

This report contains a general narrative summary of the specific focus areas of the survey. As a foundation, **Chapter 2** begins by addressing Survey Development and Demographics. **Chapter 3** delves deeper, examining Beliefs in Likelihood of Events and Provision of Services. **Chapter 4** looks specifically at Personal/Home Preparedness while the ability to work from home is examined in **Chapter 5**. **Chapter 6** examines Sheltering-in-Place at Work. **Chapter 7** is devoted to the survey results on the critical issue of Communication and Information. **Chapter 8** examines financial access issues and **Chapter 9** summarizes Community Shielding Findings of

this study. References will be found at the conclusion of the report, in addition to appendices that reflect the interview questions and also the survey questionnaire.

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[9] U.S. Office of Homeland Security. *The National Strategy for Homeland Security*. July 16,2002. p 30.

[10]

http://www.healthsystem.virginia.edu/internet/ciag/publications/community_shielding_report_body.pdf

Chapter 2:
Survey Development
and Demographics

While military installations share many common features, each is unique. Rather than attempt to develop and field a generic survey, the study team decided to develop a survey instrument that would be tailored to the specific circumstances of this military installation. To gather information, the study team conducted key informant interviews with thirty individuals from different organizations on the installation. These individuals were selected by their organizations as people who would understand the organization's contingency plans and state of readiness. While interviewers had a list of topics to be covered (see Appendix 1), the interviews were casual conversations during which the study team gathered information to help determine the important issues to address in the survey. In keeping with this informal approach, there was no statistical analysis of interview data; rather, the interview notes were

compiled and used in deciding item content and wording for the survey.

The study team gave consideration to several different methods of conducting the survey, including telephonic interviews, paper surveys, and email surveys. Each method has advantages and disadvantages. The study team decided that a Web-based survey would best meet the needs of the military installation community because that method minimized difficulty and intrusiveness for respondents, did not place a large logistic burden on the installation and offered the most security and assurance of anonymity for respondents.

Following the interviews, a draft survey was developed and then critiqued by members of the study team and by personnel assigned to military installation. Senior leaders on the installation were briefed about the upcoming survey, and it was described at two Town Hall meetings. Comments by these groups led to additions to the survey. As a final check, the survey was pre-tested by nine representative respondents

1%   2%
11%
10%
14%
61%
1%

□ DoD Civilian- 61.6%
□ Non-DoD Civil Service- 0.7%
□ Contractor (DoD or other Fed. Agency)-14.3%
□ Military, Officer-10%
□ Military, Enlisted-10.6%
□ N/A- 0.7%
□ Other- 2.2%
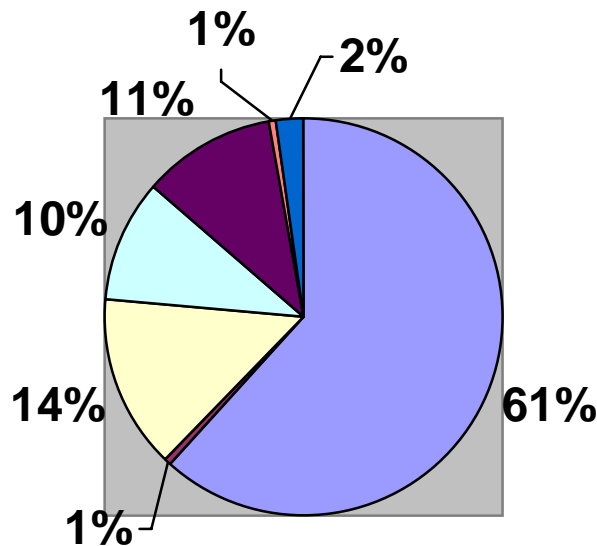
Figure 2-a. Survey Respondents' Current Employment

familiar with the military installation. These representatives took the survey and provided feedback to ensure that the survey was understandable to respondents and that the Web interface worked. The final survey instrument, which most individuals completed in 10-20 minutes, is at Appendix 2.

The Directorate of Plans, Training, Mobilization, and Security (DPTMS) and the Public Affairs Office (PAO) at Fort Belvoir sent emails containing links to the survey website to all tenant organizations on the installation, and published an article promoting the survey and containing the link in the post newspaper. The survey remained available on the Web for six weeks, during which time DPTMS and PAO sent out two additional reminder notices to encourage participation.

Respondent Characteristics

913 members of the military installation community completed the survey, providing a good representation of the various groups in the community. 61.6% were DoD civilian employees, 14.3% were contractors working with DoD or another Federal agency, and 21% were active duty military. There were small numbers (fewer than 12 in each category) not

employed outside the home, who work for NAF, AAFES, etc., or who are non-DoD civil service. Most respondents (92.7%) worked on the installation. One hundred and sixteen individuals (12.7%) lived on the installation. Of the sample, 13.1% reported that another adult living in their household also worked on the installation.

This was an educated sample, with over 90% having completed at least some college. Nearly 30% had masters, doctorate, or other professional degrees. This is similar to the education level of respondents in the 2005 NCR survey.

The main difference in the two samples is that the NCR survey had more respondents who had not completed high school or had completed high school but not taken any college courses.

Of the sample, 59.8% had current or prior uniformed military service. This is potentially important since we know from the NCR survey that people with military service are more likely to keep supplies such as food, water, and first aid items in their homes than those without military experience.
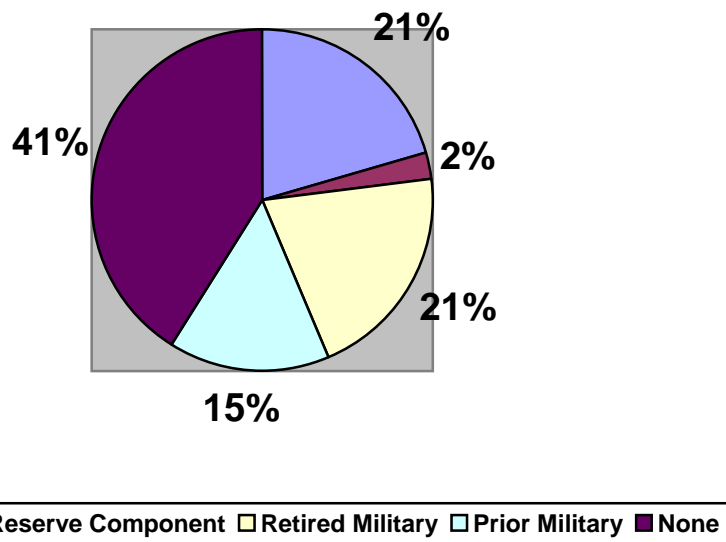
Figure 2-b. Military Experience

The individuals taking the survey comprised an older sample, with more than 80% of respondents having been over age 35. [The NCR survey also attracted an older group of respondents, and in fact had 17.3% of the sample over 65, as compared to 3.9% of the military installation sample.] Perhaps because this was an older sample, slightly fewer reported having children under 18 living in the household, compared to the national sample reported in the Harvard School of Public Health / Institute of Medicine (HSPH) survey[11] conducted in 2006. Of the sample, 59.9% of respondents were male.

The urban military installation that we studied differs from what one would find in a larger United States population in some important ways besides being older and more educated. Perhaps most importantly, the vast majority in the sample reported that they were employed, and even those few who were not employed outside the home had a spouse who was employed. In comparison, over one-third of the HSPH survey sample reported that they were unemployed, and the NCR survey respondents included approximately 30% who were unemployed, retired, or full-time students.

An important caveat to remember is that survey results possess interesting and compelling findings – but they are also regional centric. Regions differ with regard to their "preparedness cultures." Specific regions do influence levels of readiness and as such these beliefs / findings captured on the current study may have some categories that will be different in areas that face other threats that serve as a preparedness catalyst such as tornado alley, hurricane prone areas and earthquake zones. Citizens in those areas may have different responses.

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[11] Blendon, R.J., Benson, J.M., Weldon, K.J. & Hermman, M.J. (2006) *Pandemic Influenza and the Public: Survey Findings*. Harvard School of Public Health Project on the Public and Biological Security, Presented at the Institute of Medicine, Washington DC, October 26, 2006.

Chapter 3:
Belief in Likelihood of Events and Provision of Services

Respondents were essentially noncommittal regarding their beliefs of the likelihood of various types or attack or pandemic flu. The modal response was "Somewhat likely" for all items except nuclear attack (48% "Not very likely") and cyber-terrorism attack (45% "Very likely"). One person noted in the comment section that the question did not specify whether they were being asked to predict whether the event would occur someplace or whether they were predicting whether it would happen in a place or manner that affected them personally.

Similarly, "Somewhat confident" was the modal response for all items asking their belief in the availability of public services, except for public transportation, which received a lower confidence rating. The confidence ratings were generally lower than found in the NCR survey. This difference could be a difference between the military installation sample and the NCR sample, or it could reflect changes in the general population over the last two years. This particular military installation represents a large area controlled by security checkpoints. It is not linked directly with rail and metro service. Public transportation, whether it occurs by bus, metro, rail or other means, is quite limited in the Installation area.
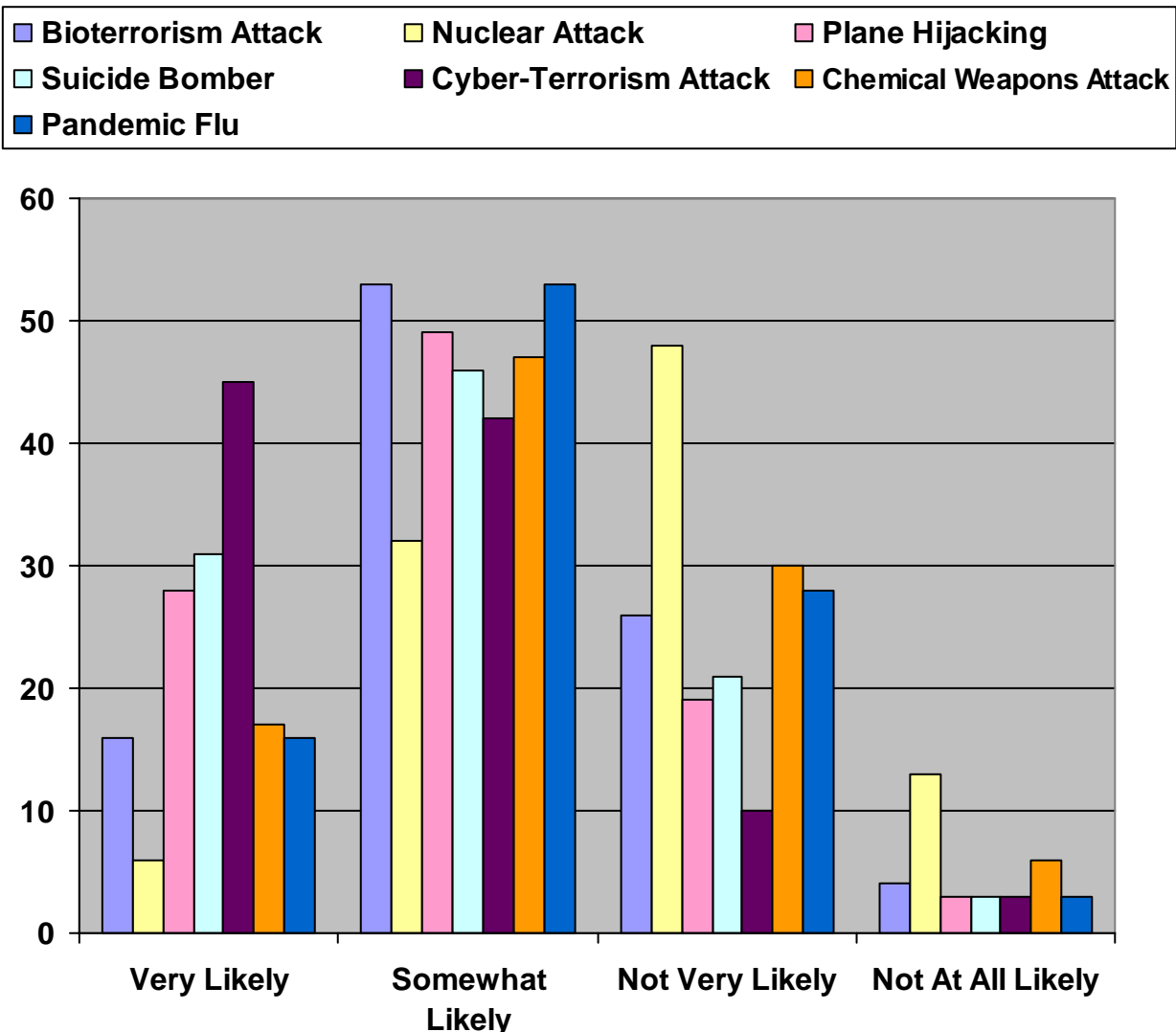
Figure 3-a. Belief in Likelihood of Critical Events

Whenever any service is disrupted the roll-down impacts on other services inherently come into play. For example, road transportation systems were viewed as "likely sufficient" and public transportation as "not trusted". However, if gas supplies or power to pump gas into vehicles were to be disrupted, the dependency on public transportation now becomes critical.

Transportation systems are also a critical link to re-supply plans. This includes all items from medical, pharmaceutical, food and, in some cases, water.

Local emergency responders and local law enforcement were the only government support agencies for which more than half the sample rated their confidence as "A great deal" or "Quite a lot." Among business and nonprofit organizations, only the Red Cross had a majority in these categories. More than one respondent noted in the comments that they found these hypothetical questions about confidence difficult to answer and that it would depend on the nature of the event.
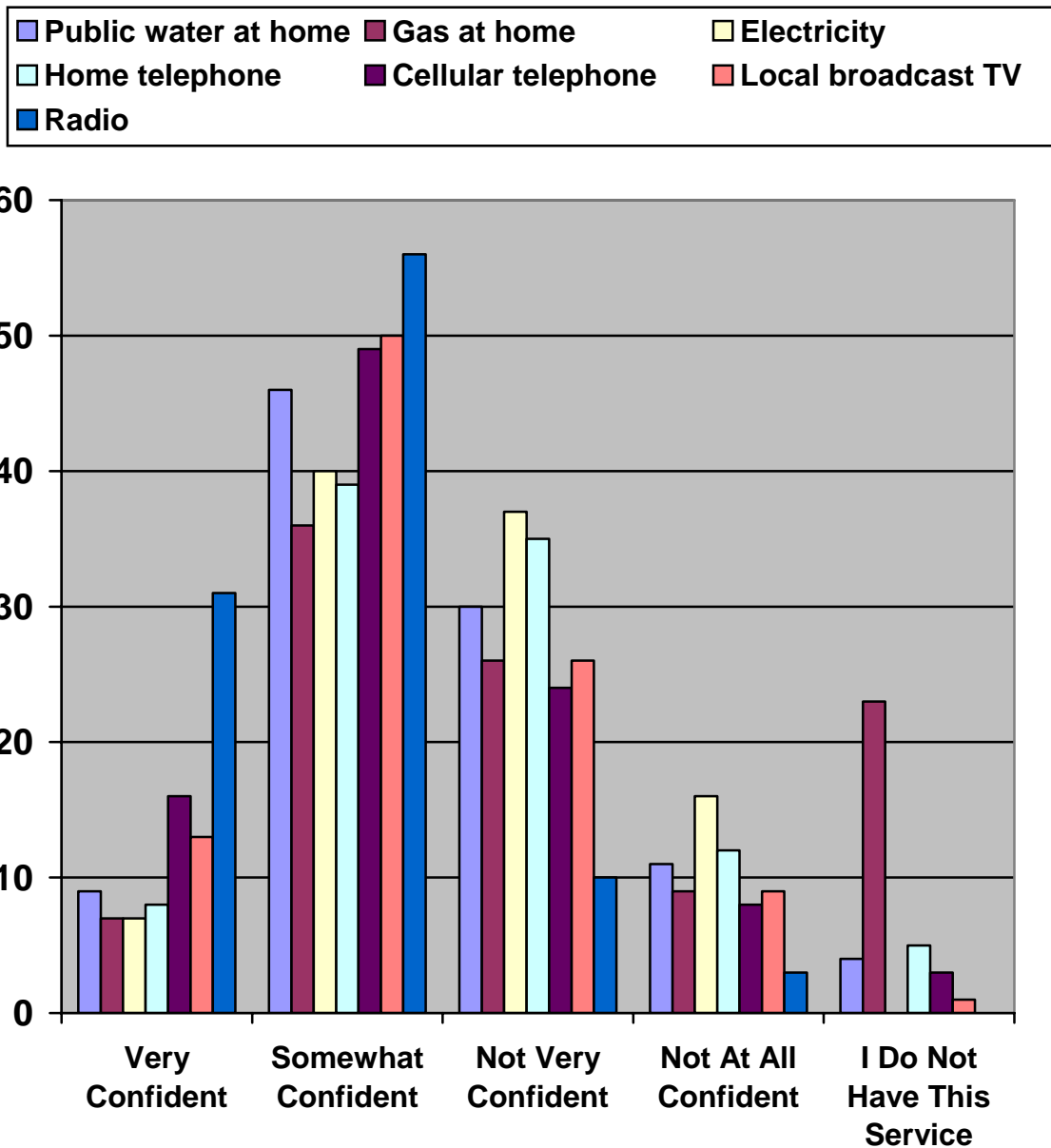
Figure 3-b. Confidence in Service Availability

Of note, American Red Cross chapters are by and large staffed with volunteers and are not structured to be emergency response forces. In the event of a crisis that required Community Shielding, the prevailing perceptions of the public may inappropriately raise expectations that will not be fulfilled. Volunteer organizations are particularly vulnerable to unrealistic expectations during a crisis that encourages citizens to engage in community shielding.

Additionally, it should be noted that the trust that respondents have in their local emergency responders may not be warranted if the local responders have competing obligations or responsibilities with other vulnerable government and private systems. This is known as "double or triple hatting."

As will be discussed in Chapter 4, a lack of confidence in the availability of public water at home is unfortunately not matched by a high rate of water storage. While more than 40% have little or no confidence in the public water supply, only 2/3 of respondents have more than three days of water stored.
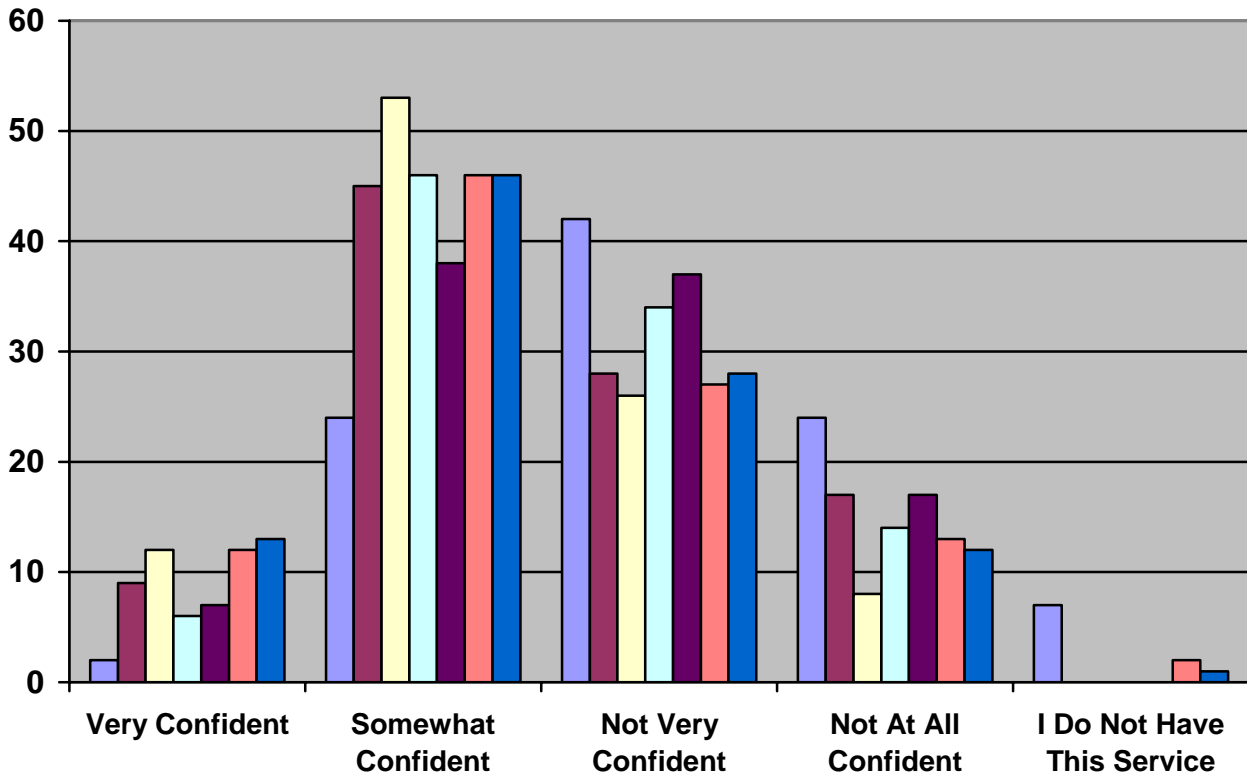
Figure 3-c. Confidence in Service Availability II

Chapter 4:
Personal/Home Preparedness

Most respondents had food for three days or more, flashlights, and spare batteries in their homes. However, about a third did not have a three-day supply of water, so any emergency that disrupted the water supply would create a support need.

The issue of water availability is central to citizens' ability to shelter in place. This survey mirrors the findings of our National Capital Region (NCR) Survey. While a larger proportion (40%) in the NCR study had no water stored, we found that those serving in the military and suburbanites were among those who were more likely to have water and food stored in their homes.

Effective Community Shielding would require delivery of essential supplies (such as food, water and prescription medication) to those who do not have adequate supplies on hand. Failure to adequately store necessities such as water is represents a public preparedness "disconnect", in light of the fact that more than 40% of respondents were either "not very confident" or "not at all confident" that public water would be available following a major event.

Legend:
- ■ Flashlight
- ■ Spare Batteries
- ■ Food (3 days or more)
- ■ Secure Shelter
- ■ Prescription Meds
- ■ Thermometer
- □ Alternative Energy Radio
- □ Medical Kit
- ■ Water (3 days or more)
- □ Duct Tape/Plastic (to seal openings)
- ■ Fever Meds (i.e. Tylenol, Ibuprofen, etc.)
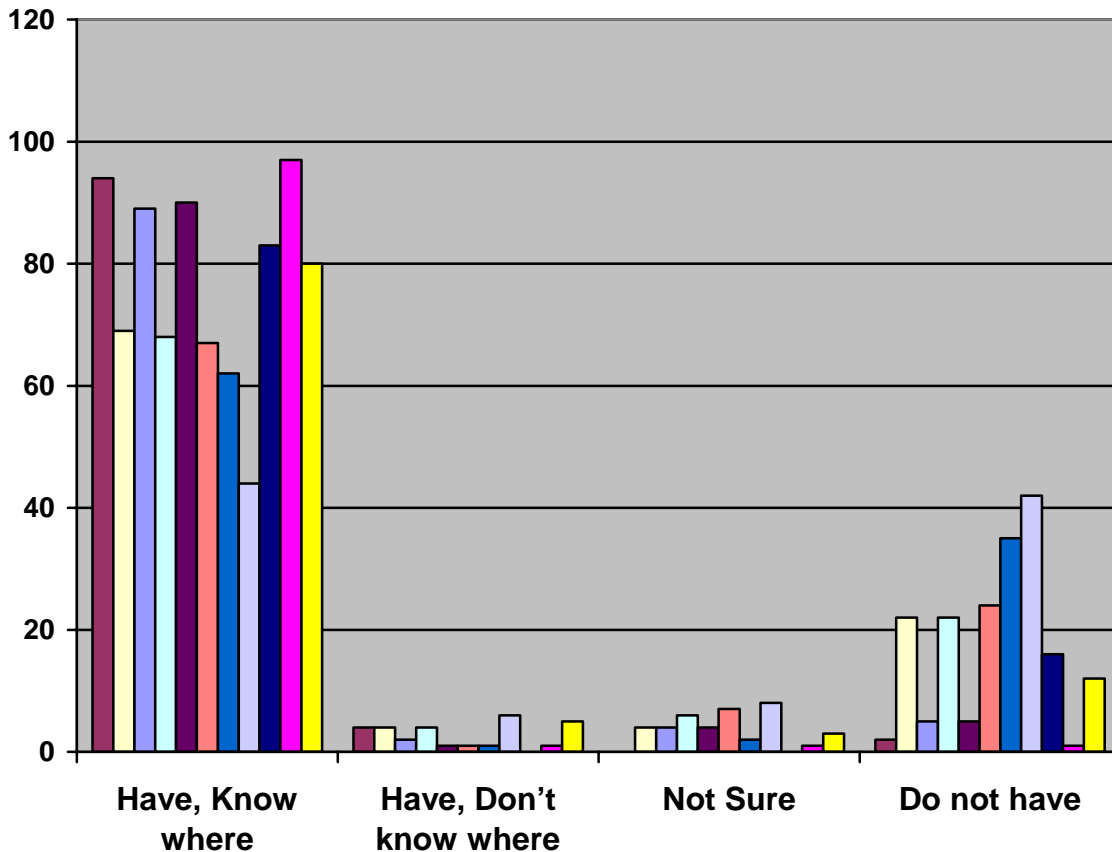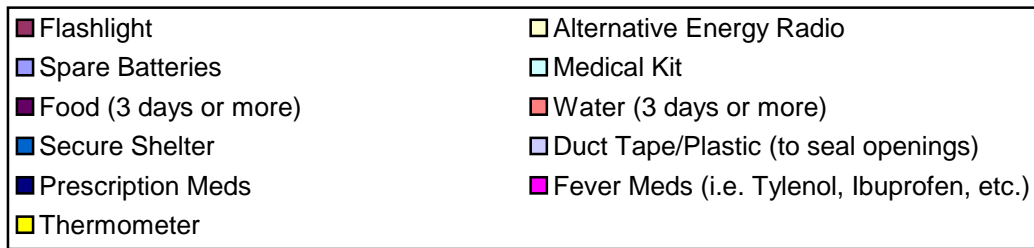
Figure 4-a. Supplies Available at Home

These survey results on personal preparedness are consistent with other studies. For example, a study done in Los Angeles[12] noted that only 17% of responders had an emergency plan and 35% stated that that they had emergency supplies such as food, water, or clothing. Similar findings were noted in a national telephone survey conducted by the National Center for Disaster Preparedness[13] where 31% of responders had a basic family emergency plan and 66% felt unprepared for a disaster. Even a survey of preparedness[14] of members of local health departments revealed that 43% were classified as "minimally prepared" and 32% were "not prepared." Similar findings have been noted in other reports, namely there is concern of a potential disaster, but without a similar level of preparedness. [15]

The majority of respondents did not have preexisting family plans for communicating, meeting, or evacuating if required by an emergency.

Cell phones were by far the most common intended form of emergency communication with families (92.5%), followed by office phones (73.2%) and email (67.8%). A few wrote in the survey that they would meet in person, and seven said they would use short-wave or CB radio.
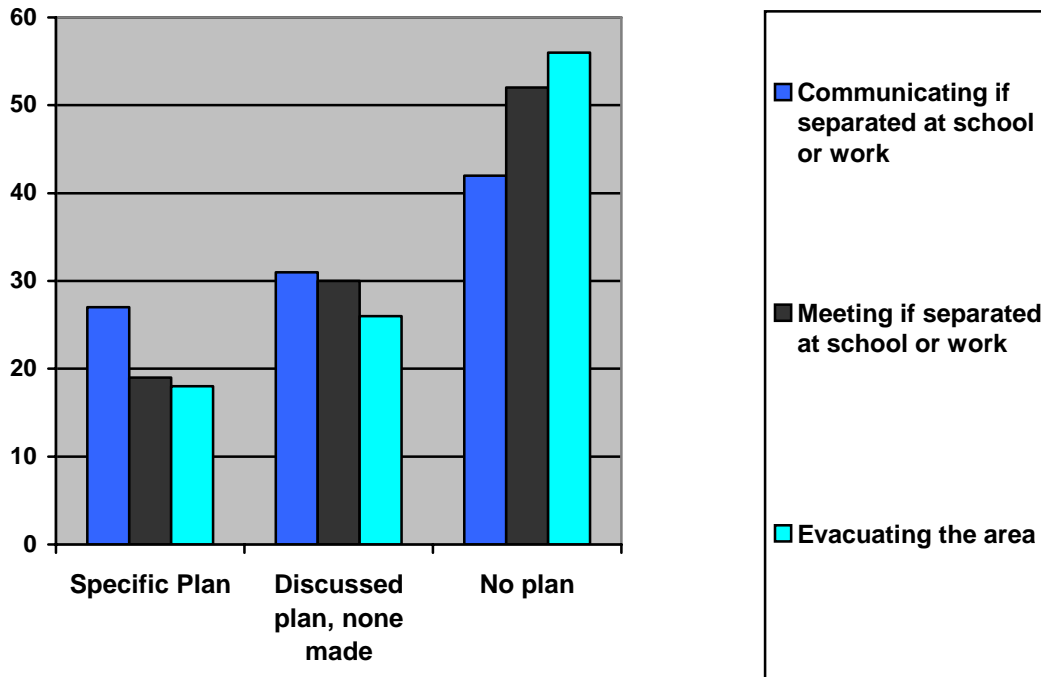
Figure 4-b. Family Emergency Plans

[12] Eisenman DP. Disaster planning and risk communication with vulnerable communities: lessons from Hurricane Katrina. Am J Public Health. 2007 Apr;97 Suppl 1:S109-15.

[13]http://www.ncdp.mailman.columbia.edu/files/2006_white_paper.pdf

[14] Blessman J. Barriers to at-home-preparedness in public health employees: implications for disaster preparedness training. J Occup Environ Med. 2007 Mar;49(3):318-26.

[15] Blessman J. Barriers to at-home-preparedness in public health employees: implications for disaster preparedness training. J Occup Environ Med. 2007 Mar;49(3):318-26.

Chapter 5:
Working from Home

Over two-thirds of the sample stated that they could do some work from home, with 43.2% of those who work at The installation reporting that they could do half or more of their jobs from home. Only 29.2% reported that they could not do any work from home.

Since this was a Web-based survey, people whose jobs do not involve computer access were probably less likely to take the survey, so the latter figure would probably be somewhat higher among the full population of the installation.

Despite the large portion who stated that they could do at least some work from home, fewer than 15% reported that they actually had worked from home as much as once a month. We cannot assume that people who have not worked from home could do so without training and practice. Without such training/practice, we would have to expect a learning curve as those people whose duties allow them to work from home learn the access and communications

techniques they would need. Indeed, some might find that, not having trained at working from home, they would be unable to access the systems and data they would need. Further, a number commented that restrictions on using private email or computers for Government business would preclude their working from home.

Even if people have historically been able to operate remotely, when a significant portion of the work force is now working remotely, it is reasonable to assume that there will be competition for services, hardware and bandwidth. Further, these remote operations may well be without appropriate levels of help and support required to allow them to be effective in performing their responsibilities remotely.

Therefore, the issue of data flow system assessment and physical vulnerabilities to the infrastructure is distinct from workforce willingness to telecommute. This could be a major external impediment to sustaining economic activity pertaining to telecommuting.
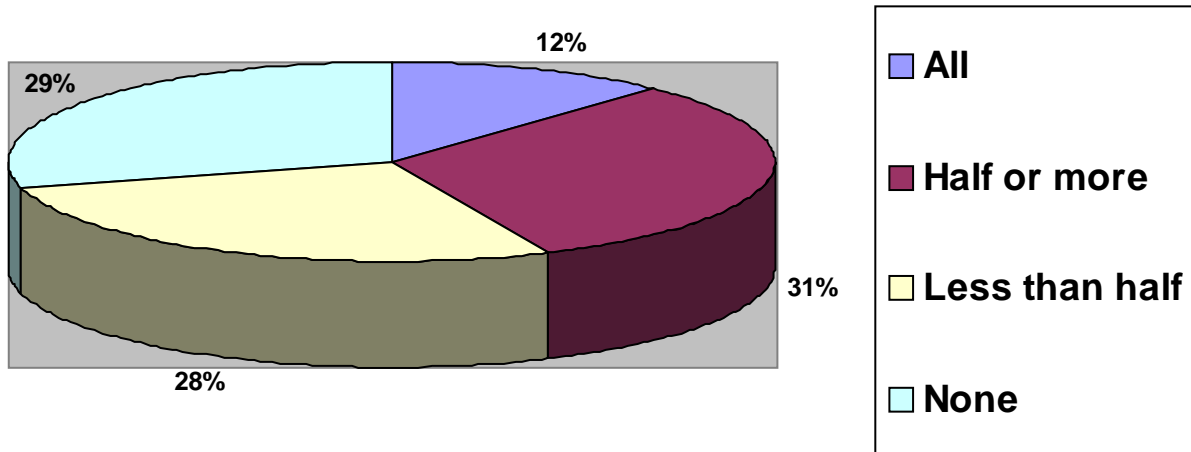
Figure 5-a. Portion of Job That Could Be Performed from Home

Chapter 6:
Sheltering-in-Place at Work

Nearly a third of the total sample stated that they either would not be able to stay beyond normal duty hours (20%) or could stay only six hours or less (11%). Not surprisingly, having children at home and pets were strongly related to perceived inability to remain at work. Among those respondents who did not have children under 18 or pets at home, only 12.2% felt they could not stay beyond duty hours and only 6.8% said they could stay no more than six hours. In contrast, among those with children under eighteen the rates were 29.3% for "not at all" and 14.7% for "six hours or less." Respondents with pets, but no children, were not nearly as likely to report inability to stay at work as those with children, but their rates of 14.9% and 10.4% were still higher than those of people with neither pets nor children.

On the other hand, nearly a third reported that they could stay for three days or more. The item was not specific to the type of emergency, so it is possible that people's behavior would be different if staying on post became a safety issue, as with a dirty bomb. The item did not actually ask if they would stay, rather, it asked when they thought personal circumstances would force them to leave. In a fast-breaking crisis that prevented exiting the installation for prolonged periods of time, it is possible that many of these people would find alternative means to meet their off-post obligations. However, we can expect that after a few hours, many would attempt to leave post.

The survey confirmed the interview reports that most individual organizations on The installation do not stock food or water, nor do they have blankets or cots for people to sleep on. The interviews highlighted some reasons why this type of preparation does not occur and why it is not practical to do such preparation at the level of individual worksites, e.g., problems with shelf-life and storage space, as well as costs. Only 16% of the individuals had spare clothes available at work. Since the survey did not differentiate emergency-essential personnel, it is quite possible that there is no reason for the other 84% to keep clothes on hand.

Of the respondents, 40% needed prescription medicines that they do not keep at work. Presumably these are medicines that they take in the morning or evening. The effect of not having these medicines available was not assessed in this survey. However, if even 10% of those who do not keep medicines at work would suffer serious health problems if they skipped a few doses, there would be a large burden on the health system to screen them, validate or re-write prescriptions, and obtain and
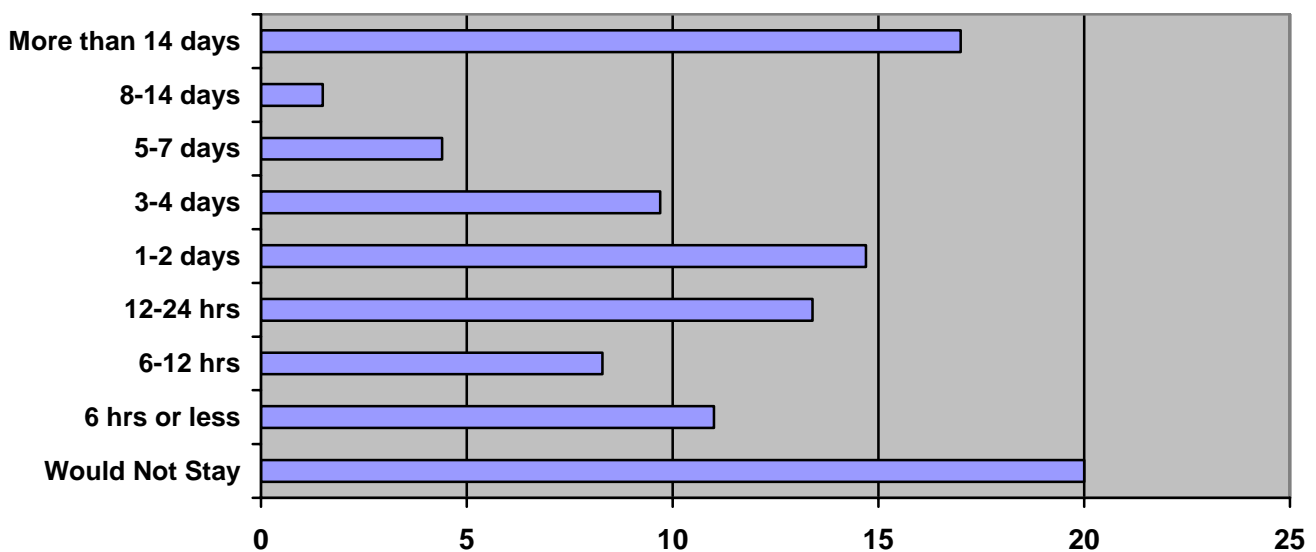
Figure 6-a. Reported Ability to Remain at Work During an Emergency, Total Sample

issue medicines. If each person took only a total of ten minutes of health care professionals' time – a highly optimistic estimate, especially when one considers pharmacy technician time – to accomplish these tasks, the aggregate effect of several hundred people would require considerable expenditure of effort from a health system that already would be overburdened by other tasks during the crisis.

Beyond the time requirements for servicing the people, the supply of pharmaceuticals could also be in jeopardy. Given the "just-in-time" supply processes for medical supplies, re-supply will likely be problematic. For people who reported not having their medication "on hand", even if they were able to reach their residence they may not have sufficient supplies there. Given the current controls placed on prescription quantities by various health insurance plans, reorder points

are tightly matched to the exact counts. Another challenge could be for periodic medical treatments such as dialysis would raise unique challenges for those needing to remain on base.

Most respondents who use medical devices did not report that they needed assistance in using them; however the few who did need assistance probably would have difficulty remaining on post very long in an emergency.

U.S. residents have received much advice about individual preparedness. This survey, like others before[16], demonstrates the limited extent to which individuals have acted on current guidance is less that what would be expected.
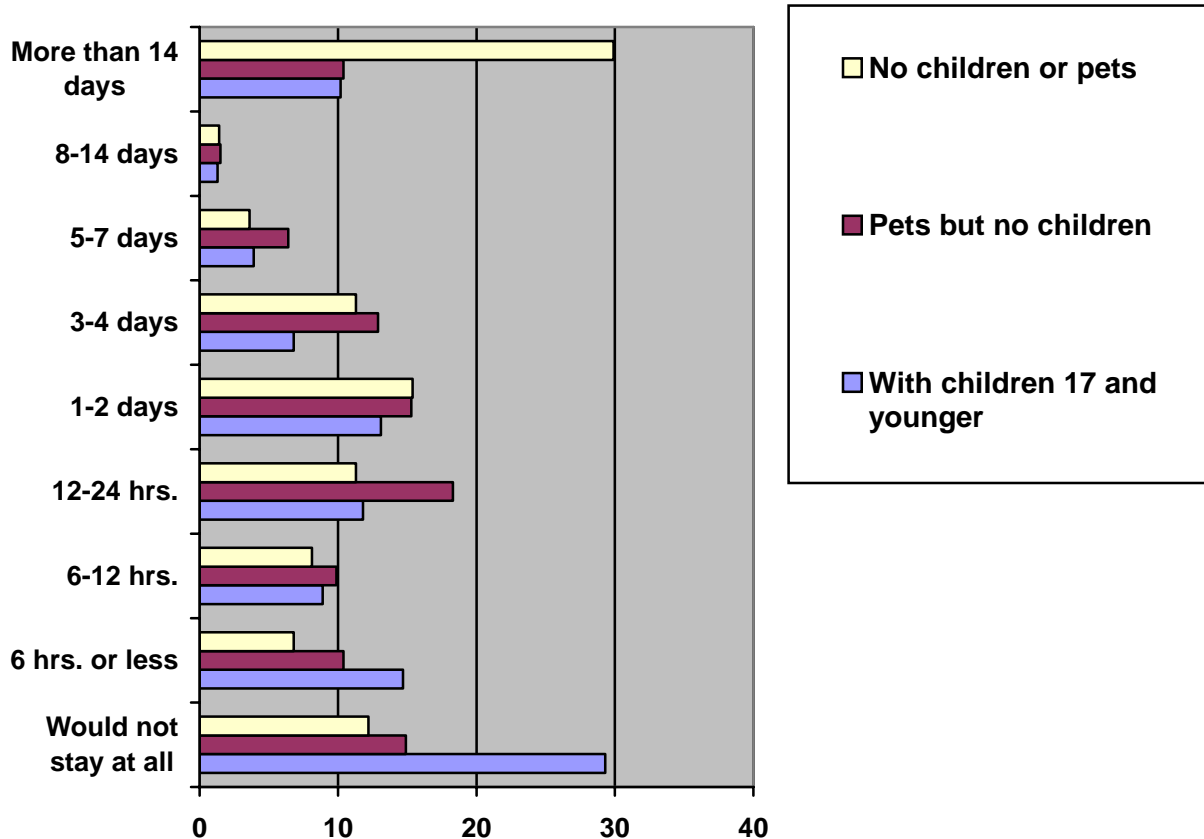
Total Figure 6-a(II). Reported Ability to Remain at Work During an Emergency, Sub Samples

[16] Schoch-Spana M. Community engagement: leadership tool for catastrophic health events. Biosecur Bioterror. 2007 Mar;5(1):8-25.

Chapter 7:
Communication and Information

As noted above in the Personal/Home Preparedness section, most respondents have cell phones and would use them to communicate in emergencies. However, not everyone keeps their cell phone on all the time - nearly 25% reported that they keep their phones on no more than six hours a day. Of course, in an emergency, it is likely that some of those people would keep their phones on longer, especially if they had an expectation that their phones would be used to distribute emergency alerts as is now planned pursuant to efforts to upgrade the emergency alert system. This raises the question of cell phone battery and recharging capability. Those individuals who do not routinely use their cell phones at work may not feel the need to maintain cell phone re-chargers at the office. Because cell phone chargers are specific to the specific make of phone, these people may find themselves without critical charging capability if their re-charger is not readily available.

Voicemail is the only cell phone option used by a majority of respondents (89%). Depending upon the volume of traffic on the cell phone systems, however, alerts using text messages are more likely to be delivered in a timely manner because text messages impact cell phone systems less than voice communications. Of the people surveyed, 39% reported using text messages. Another 40% have the option of text messaging, but do not use it. It is possible that the latter 40 % would be able to read text messages sent to them; however, unless they have actually practiced reading emergency text messages, one cannot assume that they can do so. Furthermore, text message communication to members of the public or those not in the chain of command on a military installation would almost certainly be limited to one-way traffic, with emergency information being sent out to them, but without expectation of any reply. Critical personnel, however, may be expected to respond that they have received emergency instructions and whether they are able to implement them.

The response to the question about GPS indicating that >75% either don't believe that they have it or are not sure, probably shows that people don't know it is there. In that case, it also suggests that they have the ability to receive text messages and may not realize it. Some carriers use other methods to provide E911 service, but they all have location capability. The industry turn over in phones is less than every 15 months
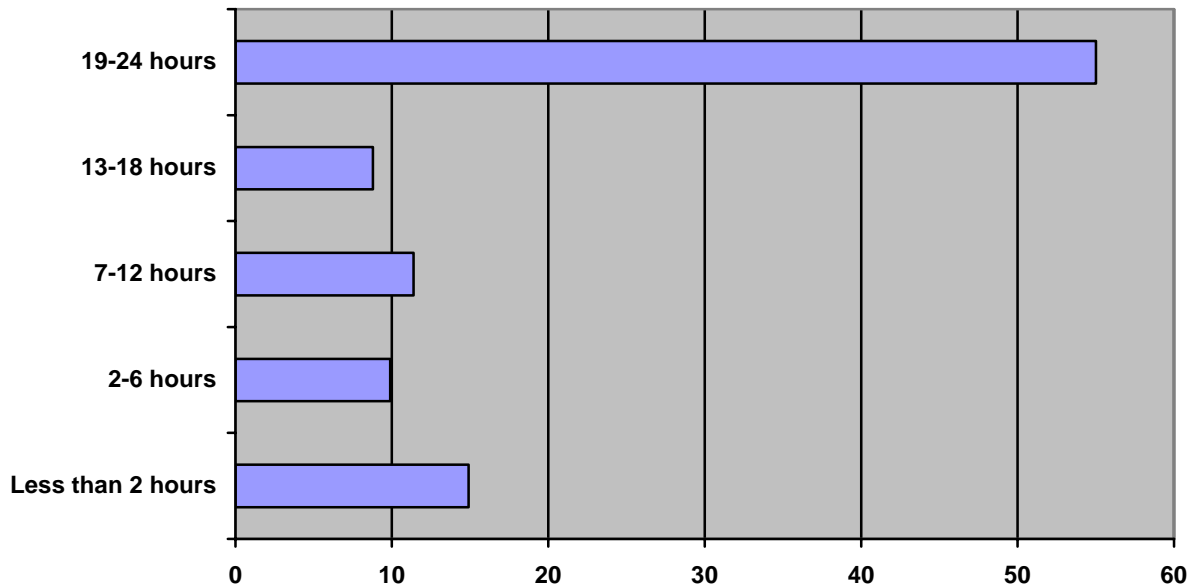
Figure 7-a. Hours per Day Mobile Phones are Active

(average time it takes subscribers get a new phone), but the age of this group could skew the results such that there is a larger percentage with older phones.

The vast majority (94.6%) has internet access in their homes, and most of those are some form of broadband connection. [Given that this was a Web-based survey, this level of broadband access is not surprising, since, even though most respondents took the survey at work, it probably appealed more to those people who would also have home access.] More than 75% connect to

the Internet at least once a day. This suggests that most of the respondents have the skills to use the Internet to gather information in an emergency. Fax capability exists in 38.8 % of their homes.

Television and radio were the most commonly cited methods for getting information in a critical event (91%). Official Websites (73.4%) and the chain of command (72.7%) were also frequently cited, and 50.4% would use the post information telephone line. Local weeklies
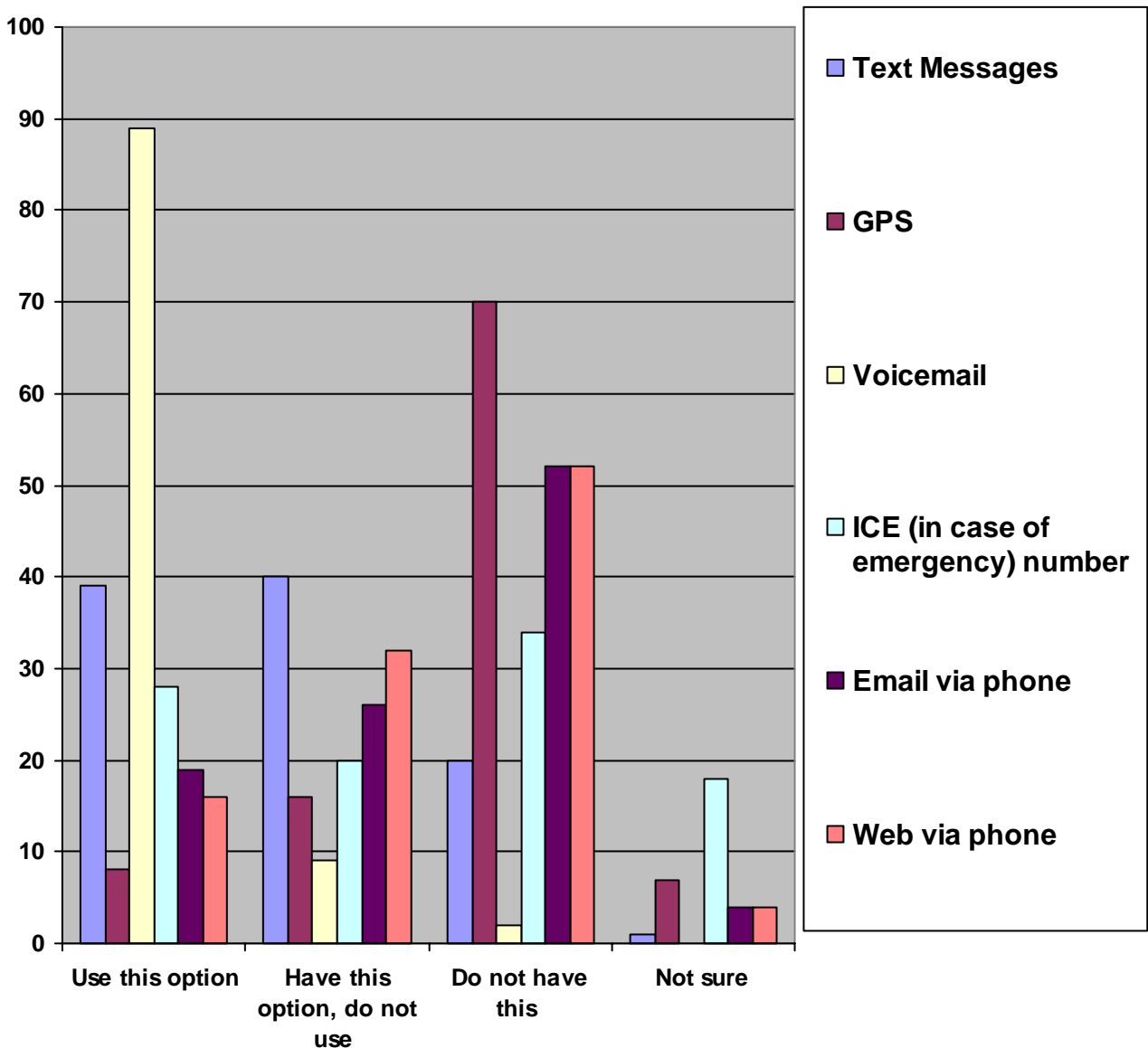
Figure 7-b. Mobile Phone Services and Options

and the post newspaper were less widely cited, likely because they are not immediately available. One can speculate that special editions or flyers relevant to the event would be more widely used as sources of info than are the weekly versions of these publications.
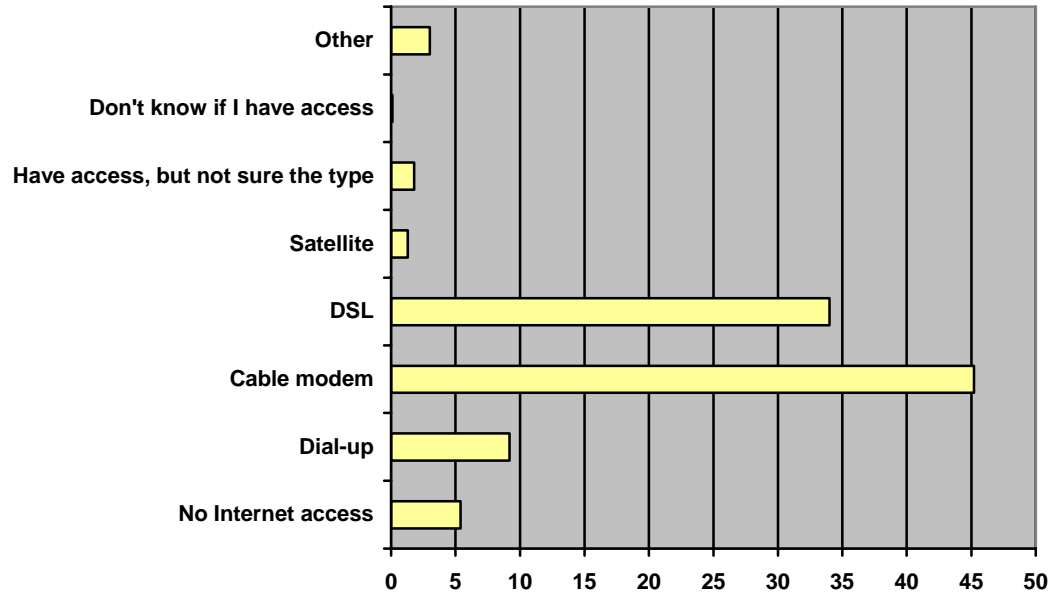
Figure 7-c. Internet Connectivity
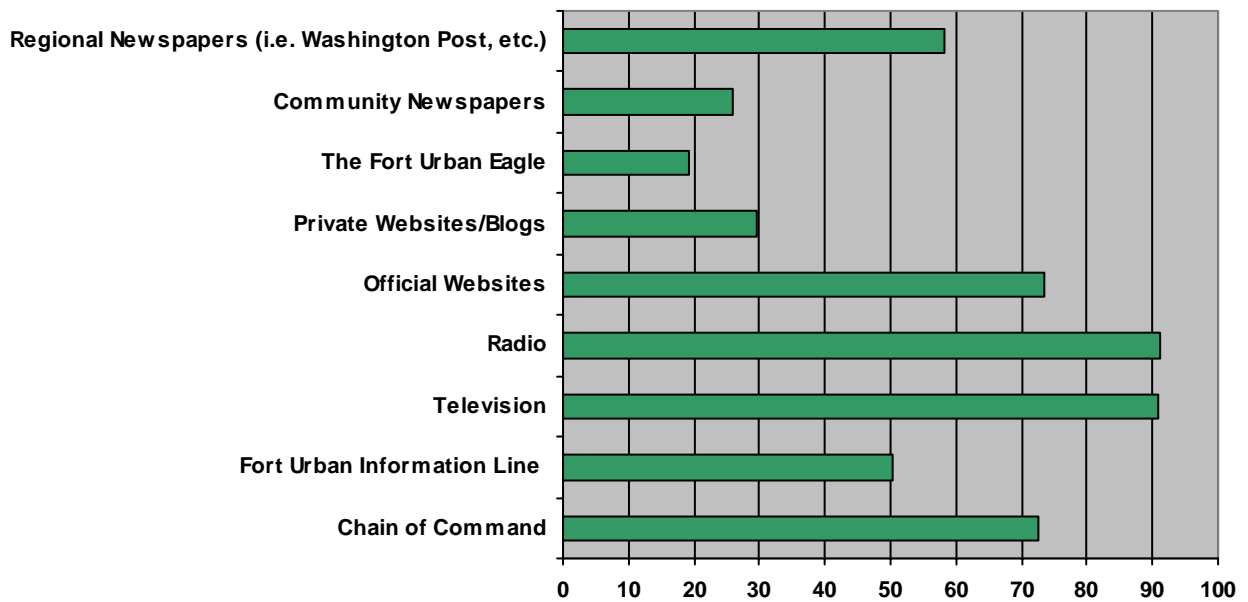
Figure 7-d. Sources of Information in Emergencies

Chapter 8:
Financial Access

As expected, almost all respondents (97.8%) had checking accounts, and virtually all of these had direct deposit by their employers. 84.8% use ATM's, with over a third using them more than three times a month.

Although the majority (62.2%) used electronic payment for some of their bills, there is a substantial minority who did not and cannot be assumed to have the knowledge or capability of doing so. Paper checks were still widely used.

Very few used payday lenders or check cashing retailers.

Only 12.5% reported experience with having funds loaded onto prepaid debit cards (most

probably did not think of the fact that gift cards are a form of prepaid debit cards), and less than one percent had prepaid cards from government agencies. However, 65.1% stated either that they would be willing to have funds deposited on a prepaid card in an emergency or that it would depend on the cost. Another 17.2% responded "Not sure." Thus, even though people are not familiar with the procedure, there is a widespread willingness to consider the possibility if the situation merited it.

The funds access challenge is as importantly an issue for the various retailers or points of service or distribution. The availability and ability of their systems to accept these alternative payment methods will be critical. If there is disruption in the retailer's or other service providers' payment systems, these alternative methods will also be challenged.

Legend:
■ Use ATM to access funds
■ Use Electronic Bill Payment
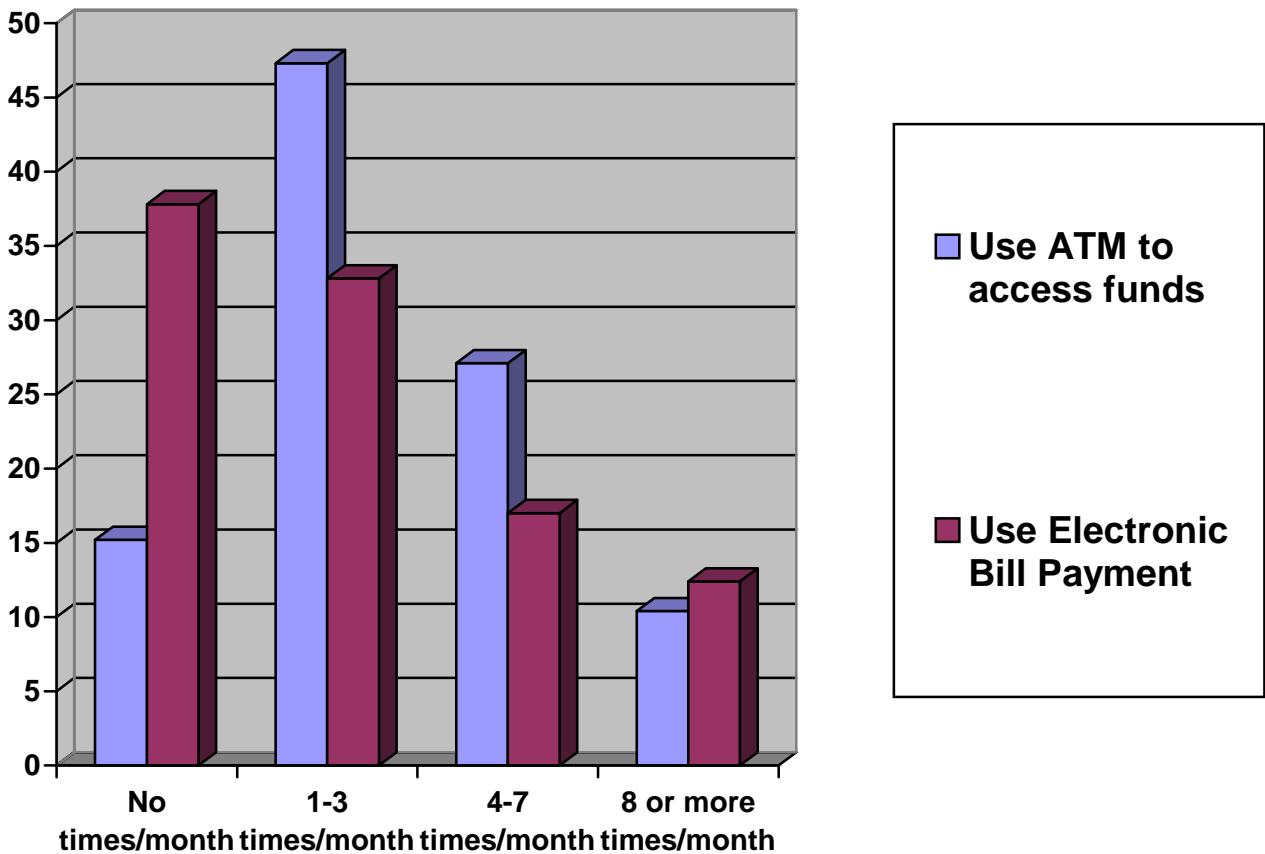
Figure 8-a. Current ATM and Electronic Bill Payment Use
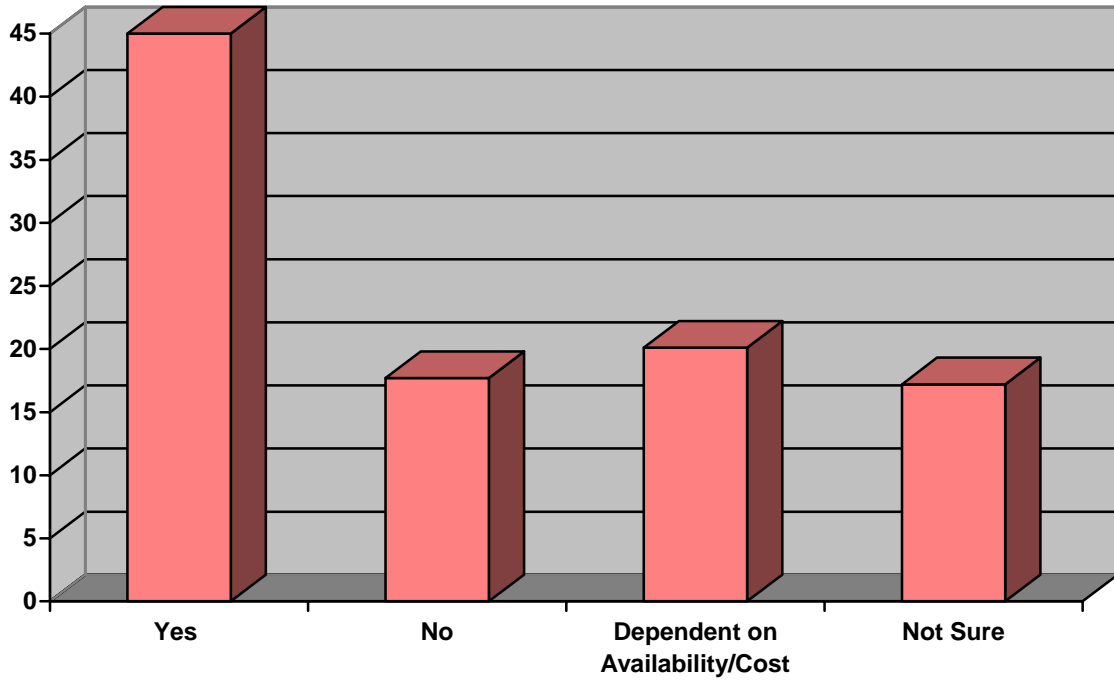
Figure 8-b. Willingness to Have Funds Deposited on Prepaid Debit Cards

Chapter 9:
Summary of
Community Shielding Findings

Disasters present immense challenges. Preparedness is multifaceted, with public, private, and military sectors having essential yet in most instances poorly defined roles.[17] A recent survey[18] noted that while a minority (27%) claim to be prepared for a public health crisis, only 14% actually have a 3 day supply of food, water and medication. In 2006, the Trust for America's Health published a report assessing health emergency preparedness capabilities. Based on the deficiencies noted, a number of recommendations were made[19] including: integrating individuals into emergency planning, modernizing risk communications, expanding the volunteer medical workforce, partnering with businesses and community groups, stockpiling essential equipment and medications, and clearly designating a single senior official to be in charge.

During our interviews of installation leadership and personnel, we determined that there were specific sectors that would be essential for adequate Community Shielding to take place. These included Communications, Emergency Response, Supply Chain Logistics, Financial Considerations and Public Preparedness Education.

Communications

Clearly, no one method of communication will be able to reach everyone, so a multi-faceted communication effort is needed. Additionally, different types / categories of information may be best delivered through different communication vehicles, and the best vehicles may vary according to the incident. For example, the release of a toxic substance may require differing messages sent to people based on their current location requiring immediate action. A pandemic is likely to evolve over time, thus providing people time to access several sources of information. Finally, many of these communication vehicles continue to evolve to provide greater capabilities for use in emergencies, i.e., the ability to send messages to mobile devices based on where they were located in the past, thus recommending medical treatment to those who were in an area of exposure.

As noted in the survey results, over 90% of the respondents expect to use cell phones to communicate in times of an emergency. Because there may be limits on system capacity, text messages are more likely to be delivered in a timely manner since they use less capacity than voice messages. Unfortunately, most respondents do not use this feature. This is a critical skill set for both short term crises as well as longer term crises requiring even more extensive integration of logistical, communications, medical and financial strategies. These can be used for notices requiring immediate action. The message length is actually a limitation of some alerting systems, i.e., those that use SMS as the means of distribution, but not all systems suffer from the limits on the length of the message. Text messages also can be used to augment communications programs by directing people to alternative vehicles for further details. For example, data that includes lists, reference materials and lengthy instructions could be provided via written vehicles that include email, newspapers and similar channels.

What determine whether the public will respond appropriately to public preparedness communication? Longstanding research[20]

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[17] Hodge JG. The pandemic and All-Hazards Preparedness Act: improving public health emergency response. JAMA. 2007 Apr 18;297(15):1708-11

[18] National Opinion Survey to Determine Levels of Preparedness for a Public Health Crisis, Peter D. Hart Research Associates, Incorporated, 2007.

[19] (http://healthyamericans.org/reports/flurecession/ FluRecession.pdf)

[20] McCroskey, J. C. & Young, T. J. (1981). Ethos and credibility: The construct and its

demonstrates that source credibility is an integral part of the communication. More recent research on email response behavior demonstrates that our response to messages is complex, and is dependent not only on the message but the messenger.[21] Crisis messages where people need to receive subject matter and understand the commitment/feelings of leaders (influence and position), are best delivered through the most credible means. To the extent that this includes voice-based messaging, these would include radio, television, telephone, voice mail and wav files sent via emails or attached to web pages.

Delivering the appropriate messages through the best vehicles that are available at the time will be core to the effective communication and management of people and their behavior. Ensuring that people actually read/listen to the information sent will also be critical to the effectiveness of the desired response.

During crisis of any nature, there will be disruptions in services providing communications. As a consequence, breadth of vehicles and diversity of service providers will support the continuous availability. Finally, a successful communications campaign requires competency of their target audiences. This implies training and continuous use of the various vehicles to ensure their effective use during crisis.

Clear and accurate communication is essential during disasters. For example, the sarin attack of Tokyo in 1995 highlighted the lack of cooperation and communication among related organizations that can occur during a disaster[22]. The CDC Public Health Law Program conducted systemic daily searches of media

reports mentioning legal issues related to Hurricane Katrina and Rita response efforts. One of the issues identified as problematic was the lack of sharing of communication resources between Army and state.[23] In order to maintain an orderly response to a disaster, it will be imperative that the individuals present at The installation know how to appropriately communicate and obtain accurate information during a disaster. Prompt attention must be given to information issued to the public through various media.[24] The content of the communications to the public should be discussed with appropriate emergency management authorities to prevent release of conflicting or erroneous reports.

As noted in Chapter 7, the response to the question about GPS probably shows that people don't know it is there, which probably also means they have the ability to receive text messages and may not realize it. Even though some carriers use other methods to provide E911 service, but they all have location capability. It is possible therefore to collect information not only about who has received the message but also where they are located when they receive the message

The 25% of respondents who keep their cell phones on for no more than 6 hours per day could face a simple obstacle in the event that they have an emergent need to keep them on throughout the day and night. Because there are myriad cell phone models available, and because phone rechargers are often uniquely specific to the individual phone model, these respondents could find themselves without their cell phone charger or extra batteries when caught unexpectedly at work or at home. This could be remedied by

measurement after three decades. Central States Speech Journal, 32 (1), 24-34.

[21] Dabbish, L, Kraut, R, et. al, *Understanding Email Use: Predicting Action on a Message*, Carnegie Mellon University, 2005.
http://hciresearch.hcii.cs.cmu.edu/complexcollab/pubs/paperPDFs/chi2005_dabbish.pdf

[22] Tokuda Y. Prehospital management of sarin nerve gas terrorism in urban settings: 10 years of progress after the Tokyo subway sarin attack. Resuscitation. 2006 Feb;68(2):193-202

[23] Weiss RI. The law and emergencies: surveillance for public health-related legal issues during Hurricanes Katrina and Rita. Am J Public Health. 2007 Apr;97 Suppl 1:S73-81.

[24] Macintyre AG. Weapons of mass destruction events with contaminated casualties: effective planning for health care facilities. JAMA. 2000 Jan 12;283(2):242-9.

encouraging that employees maintain chargers at home and office. In addition, recognizing that their employees will need open lines of communication during a crisis, the workplace could maintain and extra supply of cell phone chargers and batteries.

Emergency Response

Medical services are critical to a successful response to a major public health event that requires Community Shielding. During the anthrax attack of 2001, there was an enormous multiplier effect. In fact, for every confirmed exposure, 1500 people sought and received medical management.[25] Because the majority of people who work at urban military installations live in the surrounding communities, force protection and mission assurance will rely in part on emergency responders in those areas.

With the prevalence of volunteer emergency responders in many of the surrounding communities adjacent to urban centers – how does this influence the "community shielding" concept – especially when contrasted against the possibility that some individuals who may be classified as essential personnel at the employment base may also be emergency responders in their communities – where will they report? -- moreover in those cases that the emergency response organization has requirements for the responder to actively participate in the response for their families to receive fast track assistance – where will they report for duty? Additionally, a common theme can be found when one looks at workers who might be integral in sustaining the logistics chain etc – must be examined. Lastly, what is the impact upon emergency response capacity in the event of a NGB or reserve activation / recall – is this the classic Peter to pay Paul scenario?

Dual & triple "hatting" of responders must be determined. This practice extends not only with a variety of volunteer organizations but also with individuals who are a career member of an urban

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[25] Rowan, F, Public Participation and Risk Communication, International Journal of Emergency Mental Health, 4:4, 2002, pp 253-258.

department and also a volunteer back home. Further those members may also possess additional relationships with specialty teams such as MMRS, DMAT, DMORT, USAR etc will be impacted, as will the public that expects their service. Additionally, essential individuals who are also emergency response personnel back home might also be members of the National Guard. Fully accounting for organizational allegiance and pre-registering, if possible, is vital to successfully predicting staffing availability and deployment patterns to support a community.

The issue of emergency response is complex. It is not enough for EMS providers to be available and willing to do their jobs. There may be legal proscriptions against optimal functioning during crises. Treatment protocols and indemnification are largely unresolved issues. Although EMS Paramedics are being written into plans for distribution and administration of medications and vaccinations, these may not be covered in their pharmacopeia. Hence while their activities are important they may not be legal.

Logistics/Supply Chain Realities

If the great majority of urban residents maintained a month's supply of food water and medication in their homes and apartments, the issue of logistics and the fragility of the supply chain would be of less importance. The fact remains that great numbers of Americans do not have adequate supplies of food, water and medication for three days, much less one month. In order to effectively engage in Community Shielding, certain necessities must be available for delivery to shielded communities.

Delivery of the right products at the right place on time is woven across today's economic structures. Storage space and inventories, controls and production cycles, distribution channels and company financial solvencies will be foundationally challenged

during any event driving Community Shielding to be activated.

Further, with outsourcing and the virtualization of supply chains, there is less direct control by any few companies. It is typically a broad network of companies.

It is important to have agreements and operating protocols in place prior to the event in order to achieve sustainability of the recovery period. The companies will need to remain solvent and in control to ensure their staffs and products are available to deliver the critical products from the supply chains.

Financial

It should first be noted that the banking industry is almost wholly dependent upon an energy infrastructure that provides electricity around the clock. For the sake of discussion, the following paragraphs relating to financial issues presume a functional electric grid.

A community unprepared to use debit cards or other cashless vehicles will struggle in a protracted crisis, thus further weakening both the economy and morale of the population. Strategies to effectively deal with these arenas are essential for effective social empowerment and restoration of community.

More than a third of respondents do not pay bills automatically, and are unwilling to have funds deposited on prepaid debit cards. This has significant implications for a crisis that may require that the population survives with electronic bill-paying in an essentially "cashless society." Those who do not use debit cards or other cashless vehicles will struggle in a protracted crisis, thus further weakening both the economy and morale of the population. Strategies to effectively deal with these arenas are essential for effective social empowerment and restoration of community.

Through surveying the financial habits of urban military installation personnel and dependents, we were able to determine the population's flexibility for utilizing alternate payment

methods in the event of a major public health crisis. Compared to urban civilian communities, an adjoining military installation with high value tenant agencies has less income disparity, as its population is more homogenous and highly educated. Because the federal government employs the overwhelming majority of personnel, it is possible to centrally and more uniformly arrange for payment methods that can be employed in the event of a major public health crisis that requires Community Shielding.

Within a military installation, such as the one studied in this project, Community Shielding would be facilitated by the high percentage that would allow for funds to be deposited onto a prepaid debit card in time of emergency. This 65% confirms that the majority of Americans is open for us to provide payments directly to them in time of emergency. Once you address the low or no cost aspect of this type of program, the 17% or so would most likely move to the willing side giving us about 82% acceptance in the banked side.

The most reliable payment system is certainly the Visa/MasterCard infrastructure. The acceptance of prepaid debit cards with MasterCard or Visa is as broad as credit cards, and continues to increase in popularity, especially with lower income individuals or those who are unable to obtain credit cards with acceptably low interest rates. This should address any merchant acceptance concerns by potential cardholders.

While financial access to existing accounts is an issue of central importance, another issue addressed in a separate survey[26] relates to the ability of employers to pay during an interruption of operations. The survey found that "only 18% of employers say that they would continue to pay their employees

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[26] National Opinion Survey to Determine Levels of Preparedness for a Public Health Crisis, Peter D. Hart Research Associates, Incorporated, 2007

if there were an interruption of operations. This only serves to heighten the priority for restoration of community after an attack, in order to prevent an otherwise disastrous economic cascade that could devastate the economic, thereby weakening the social framework of the community.

Community Shielding and Education

From a strategic perspective, education and training can have an important positive impact on the challenges that face the communications, medical, logistics and financial arenas. Simply put, effective public preparedness education results in enhanced community resilience. Preparation both decreases the worry that precedes crisis *and* the turmoil that follows. In their 2002 article, Saathoff[27] and Everly wrote "Preparation also punctures the denial for those who cannot acknowledge the need to prepare for a bioterrorism event. It has a two-fold benefit, in that it serves to provide our physical and emotional well-being. The public is best able to deal responsibly with crisis when anxieties are decreased. This is accomplished when we are prepared to face crisis with sound information in a familiar, stable environment.

The military's continued commitment to education and training is matched by its methods for providing training to its military and civilian personnel. Appropriate existing educational and training programs could serve as vehicles to provide a program of training and education that would impact military personnel, civilian personnel and their dependents.

After an agreed upon educational strategy is determined, a number of existing avenues could be examined. In a recent survey, it was demonstrated that school administrators are more concerned than the public about the likelihood for a major public health crisis in the

community.[28] Because an event could likely occur during the period when students are in class, public preparedness is relevant to the education of elementary, secondary and college students.

Whether public preparedness awareness, education and training occurs in the workplace, classroom, through the media or in other avenues, it will be important for the public to receive community specific advice that is relevant to their needs, rather than a "one-size-fits-all" approach that fails to address the social, economic, and medical needs. Because installation preparedness will be impacted by the civilian areas surrounding it, novel means for providing public preparedness education must be explored. As an example, our NCR survey[29] found that people were amenable to learning about public preparedness in local shopping malls through computerized kiosks or other means.

Ultimately, it will be important to provide sound public preparedness education through multiple channels. Effective education will provide for effective public response. A population that is more secure and stable is in a better position to work constructively with the communications, logistical, medical and financial challenges that will face leadership. In fact, this type of preparation will be critical in mitigating the destructive impact of a major event, so that necessary elements are in place for restoration of community.

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[27] Saathoff, B, Everyl, G, Psychological Challenges of Bioterro: Containing Contagion. International Journal of Emergency Mental Health, 4:4, 2002, pp. 245-252.

[28] National Opinion Survey to Determine Levels of Preparedness for a Public Health Crisis, Peter D. Hart Research Associates, Incorporated, 2007
[29] Williams M, Saathoff G, *et. al.*, *"Community Shielding" in the National Capital Region: A Survey of Citizen Response to Potential Critical Incidents* (Final Report, Volume 16), September 2005,

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APPENDIX 1

QUESTIONS FOR KEY INFORMANT
INTERVIEWS AT THE INSTALLATION

1. Does your organization have a disaster plan that includes response to terrorist attacks, WMD, and pandemic? Is it adequate?

2. Does the plan include shelter-in-place as an option?

How long will your plan allow your agency be able to shelter in place under your current plan?

On what other on-post agencies does your shelter-in-place disaster plan rely for provision of services?/Supplies?

For what other agencies on post must you provide services/supplies in a shelter-in-place emergency plan?

Same as above two for off-post (e.g. on whom do your rely/for whom must you provided)

Does your agency's shelter in place plan include provisions for care of the workforce's families? On post? Off post?

3. What are the barriers to effective implementation of this plan?

4. Would your workforce comply with the plan?

5. Do you have food, water, and medicine available for a shelter-in-place scenario, or a plan for getting them? Do the plans include those who are not beneficiaries of the military health system? Are there employees with special diet needs? How long could you function with existing stocks? What else would you need to keep functioning [e.g., maintenance]?

6. How many of your personnel can work from home if an event precludes their getting on to The installation?

7. What would your/your organization's role be in an event [smallpox, dirty bomb, pandemic]?

What, if any, critical mission functions will you not be able to perform if your must shelter in place for 48 hours? Two weeks? What if people must stay home for two days? Two weeks? How many of your workers would have difficulty remaining on post during an emergency because of family issues? In the event of pandemic flu, what percent of your workforce do you need to keep functioning? Can you close down or reduce functions? How would you replace people who get sick?

8. How would your personnel get information during a crisis? How would you get information about local conditions beyond what you can see, e.g., the roads around post, other organizations on post? What information would you need (a) immediately, (b) 3-6 hours into the event, (c) the next day following the event?

9. What disaster exercises have you had? Do you test your call roster to make sure you have current contact information? Have you had an event that required evacuation? An event that required lockdown? [Snow, hurricanes as models]

10. How many of your personnel have handicaps or other special needs that would have to be addressed during either evacuation or shelter-in-place? These include dietary and medication needs. Do you anticipate any areas of conflict within your organization, as along ethnic or religious lines [example of anthrax scare - what are the fault lines?]

11. What information would you like to have that would help you plan for contingencies?

12. Are there important issues/questions related to preparedness that have not already been addressed your answers to the above questions?

APPENDIX 2

MILITARY INSTALLATION SURVEY

You have been invited to participate in this survey because you are a member of the Installation community. This survey is being conducted on behalf of the Office of the Assistant Secretary of Defense for Homeland Defense to gain information about how members of our community might respond to emergencies that might affect you, the installation, and the local area.

Your participation in this survey is important to help in preparing for different contingencies that might affect members of the community.

This survey is voluntary, and your responses will be confidential. Some of the questions relate to personal matters such as your financial habits, but your responses will not be linked to your personal identity. Although you will be responding by logging into a website, the site managers will not give us your email identity or other personally identifying information when they transmit your data. The information you enter will be encrypted to prevent others from intercepting it in transmission. The stored data will not include any information that could be linked to you.

While we very much hope you will complete the survey, you may skip any questions you don't want to answer, or quit at any time. No one in your organization besides yourself will know whether or not you took part in the survey.

There is no individual benefit for you in completing this survey other than being the benefactor of enhanced, comprehensive planning for different types of emergencies that might affect the Installation community.

The survey will take approximately 15 minutes to complete.

If you have any questions regarding this survey, please email them to Dr. Robert K. Gifford at rgifford@usuhs.mil, using the phrase COMMUNITY SHIELDING SURVEY in the subject line. Your inquiries, like the survey itself, will be confidential.

Thank you for your participation!

Yes
1. Do you live on a military installation?   No
        Yes, on This installation
        Yes, on an installation other than
This installation
        No, I do not live on a military
installation

2. Are you or have you been a member of
the U.S. military?
        Yes, currently on Active Duty
        Yes, currently in a Reserve
        Component
        Yes, retired military
        Yes, prior military service but did not
        retire from military
        No

3. Which of the following best describes
your current employment?
        DoD civilian
        Non-DoD civil service
        Contractor working with DoD or
another Federal agency
        Military, officer
        Military, enlisted
        Does not apply; I am not employed
outside the home
        Other employment [Please
specify_____]

4. Do you work on the This installation?
        Yes
        No

5. Including yourself, how many adults, 18
or older, are there living in your household?
[If you live alone in military barracks,
        transient billets, or bachelor officer
        quarters,
answer "None" and go to question 10.]
        None
        1
        2
        3
        4
        5 or more

6. Does any other adult (for example, your
spouse or significant other) living in your
household, besides you, work on the This
installation?

7. How many children under the age of 5 live in your household?

        None
        1
        2
        3
        4 or more

8. How many children aged 5-12 live in your household?

        None
        1
        2
        3
        4 or more

9. How many children aged 13-17 live in your household?

        None
        1
        2
        3
        4 or more

10. Do you have pets that would require care if some event such as a disaster or terrorist attack kept you from getting home for an extended period?

        No, I do not have pets
        No, I have pets, but caring for them would not be a problem
        Yes, I have pets that would require care in my absence.

11. Which of the following items do you have in your home?

Flashlight
Battery powered or alternative energy radio
Spare batteries
Emergency medical kit
Food for three days or more
Water for three days or more
Secure place to shelter, such as a basement
Duct tape and plastic sheeting to seal openings
Gas mask
Prescription medicines
Medicine for fever, such as acetaminophen (Tylenol), Ibuprofen (Motrin, Advil, etc.) or aspirin
A thermometer to measure fever

12. Do you have a family or personal plan …

… for communicating if separated at school or w

| … for meeting if separated at school or work? |
| … for evacuating the area? |

16. What if another member of your household was sick from pandemic flu and health officials recommended that YOU and ALL members of your household should stay at home, away from other people, for 7 to 10 days. Is this something that you and other members of your household would do voluntarily, or not?

Yes
No
Some members of household would, some wouldn't
Don't know
Not Applicable, I live alone

13. How would you communicate with your family in an emergency? (Mark all that apply)
Cell phone
Office phone
E-mail
Other [Please specify _____]
NA

14. If an emergency required you to shelter in place on post, how long would you be able to stay before family or personal circumstances would force you to leave?
I would not stay at all beyond normal duty hours
6 hours or less
6-12 hours
12-24 hours
1-2 days
3-4 days
5-7 days
7-14 days
more than 14 days

15. If public health officials thought you might have been exposed to pandemic flu and recommended that you stay at home for 7 to 10 days so that you would not expose other people to the disease, is this something you would do, or not?
Yes
No
Don't know

17. Which of the following do you have available at your workplace if you were required to shelter in place at This installation. Please mark all that apply

	Yes	No	Don't Know
Water for at least three days			
Food for at least three days			
Spare clothes			
Blankets			
Beds/Cots			

18. Do you take prescription medicines that you must take at least daily?
No
Yes, and I have at least a two-day supply available at my workplace
Yes, but I do not have a supply at my workplace

19. Do need to use any of the following medical devices, and, if so, do you require assistance in using them?

	No	Yes, and I use without assistance	Yes, and I need assistance
Oxygen tanks or bottle			
Ventilator			
Bi-level Positive Airway Pressure (BiPAP) machine			
Dialysis machine			
Intravenous infusion pump			

20. If you need to list any medical devices other than those listed in item 19 above, please list them in the space below.

[_____

_____]

21. Are you limited in any way in any activities because of physical, mental, or emotional problems?
Yes
No
Don't know

22. Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?

Yes
No

23. Is anyone else in your household limited in any way in any activities because of physical, mental, or emotional problems? Please include children in your household in your answer.
Yes
No
Don't know
Not applicable, I live alone

24. Does anyone else in your household now have any health problem that requires them to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?
Yes
No
Don't know
Not applicable, I live alone

25. How likely do you think each of the following events is: very likely, somewhat likely, not very likely, or not at all likely:

	Very Likely
Bio-terrorism attack	
Nuclear attack	
Plane hijacking	
Suicide bomber	
Cyber-terrorism attack	
Chemical weapons attack	
Pandemic Flu	

26. How familiar are you with the term "pandemic flu"?
I know what the term means
I have heard of it, but am not sure what it means
I have never heard of the term

27. In general, how confident are you that each service listed below would still be available to you during and after a major local emergency, such as a natural disaster, pandemic flu, or terrorist attack: very confident, somewhat confident, not so confident, not at all confident:

	Very confident	
Public water at home		
Gas at home		
Electricity at home		
Home telephone		
Cellular telephone		
Local broadcast TV		
Radio		
Public transportation		
Highways		
Health care facilities		
Ability to purchase food		
Access to cash		
Credit cards		
Cash or debit cards		

28. If any one of these services were to be interrupted, how long do you estimate you could go without each service before suffering a hardship: cannot go without, a few hours, up to a day, several days, a week or more, or not applicable to me. In your answer for each, assume only that one service is disrupted.

	Cannot go without	A few hours	Up to a day	2-6 days	A week or more	Not applicable to me
Public water at home						
Gas at home						
Electricity at home						
Home telephone						
Cellular telephone						
Local broadcast TV						
Radio						
Public transportation						
Highways						
Health care facilities						

29. How much confidence do you have in each of the following organizations to do its job properly after a disaster or in an emergency situation: a great deal, quite a lot, some, or very little confidence. "Local" and "state" refer to where you live.

	A great deal	Quite a lot	Some	Very little	Not sure
Local emergency responders, such as firefighters and emergency medical technicians					
Local law enforcement forces					
Local roads and highways department					

State emergency management agency					
State environmental protection agency					
State transportation department					
State public health department					

30. How much confidence do you have in the ability of the Federal government to manage effectively during terrorist attacks or natural disasters, including pandemic flu?

> A great deal
> Quite a lot
> Some
> Very little
> Not sure

31. How much confidence do you have in the ability of the Federal government to help your community recover from terrorist attacks or natural disasters, including pandemic flu?

> A great deal
> Quite a lot
> Some
> Very little
> Not sure

32. How much confidence do you have in various business or non-profit organizations you deal with, overall, to do their jobs properly in the event of an emergency: If you rely on more than one organization in each category, base your answer about the one you deal with most.

	A great deal	Quite a lot	Some	Very little	Not sure or Not Applicable
Red Cross					
Your church or religious organization					
Community-based organizations					
Water company					
Gas company					
Electric					

company					
Telephone company					
Public transportation agency or company					
Health care system					

33. In the event of an emergency such as a natural disasters including pandemic flu, or a terrorist attack, what sources of information would you use. Mark all that apply.

       Chain of command?
       This installation information telephone line?
       Television
       Radio
       Official Websites
       Private (Non Government) Websites or Blogs
       The *Belvoir Eagle*
       Community newspapers
       Regional newspapers such as *The Washington Post* or *The Washington Times*

34. Do you have a cell phone (mobile phone) that you use **during off work hours or at home**? [If your answer is "No" please skip items 35-38 and go directly to item 39.]

       Yes
       No

35 If you have a cell phone, do you use the following services/options?

	Use this option	Have this option, but do not use	Do not have this option	Not sure	Not applicable; I do not have a cell phone
Text messages					
GPS					
Voice mail					
An ICE (In Case of Emergency) number					
Receive email via phone					
Access Web via phone.					

36. How many hours a day do you usually have your cell phone on, allowing you to receive calls?
        Less than 2 hours
        2 - 6 hours
        7 -12 hours
        13 - 18 hours
        19 -24 hours

37. Who is your cell phone service provider?
        Verizon
        Cingular/ATT
        Sprint
        T-mobile
        Nextel
        Other [Please specify _____]

38. Is your cell phone also a personal digital assistant (PDA) such as a Blackberry, Palm Treo Smartphone, etc. ? If yes, please write in the type.

     No
     Yes, Blackberry
     Yes, Palm Treo
     Yes, other type [Please specify)
_____]

39. Do you have a Fax machine in your home?

     Yes
     No
     Not sure

40. What Internet/Web access do you have in your home?

     No Internet access
     Dialup
     Cable modem
     DSL
     Satellite
     Have access, but not sure what type
     Don't know if I have access
     Other [Please specify_____]

41. How often do you connect to the Internet **from your home**, on the average?

     More than once a day
     Once a day
     Less than once a day, but typically 2-6 times per week
     Once a week
     Less than once a week
     Never connect from home

42. **This item and the ones following it ask about your financial and banking habits. These items are not meant to pry into your personal life; rather, they are asked because experience in past events, such as Hurricane Katrina, has shown that providing financial services after a disaster is a critical part of the relief effort. In order to get a sense of the range and scope of services that would need to be provided, planners need to know what services people use. Your answers to these items, like your other answers on the survey, will not be linked with you personally and will not be reported individually.**|

Do you currently have an active checking account at a bank or credit union?
 No
 Yes

[If your answer to this item is "no," please skip items 43-46 and go to item 47.]

43. Does your employer directly deposit funds into this account?
 No
 Yes

44. Do you use an ATM to access funds, and if so, how many times each month?
 No
 Yes, 1-3 times a month
 Yes, 4-7 times a month
 Yes, 8 or more times a month

45. Do you use your account's electronic bill payment capabilities, and, if so, how often?
 No
 Yes, 1-3 times a month
 Yes. 4-7 times a month
 Yes, 8 or more times a month

46. How many bills do you pay by mail using paper checks each month?
 None
 1-3
 4-7
 8 or more

47. If you do not have an active checking account with a bank or credit union, and receive a paper check for your payroll, please tell us a little about how you conduct your financial business. [If your answer to question 42 above was yes, please skip this question and go to question 48.]

Where do you cash your paper check?
 Payday lender
 Retail store such as grocery, using customer service
 Check cashing retailer
 Not applicable, I have a checking account
 Other [Please specify_____]

48. When you cash your pay check, do you have funds loaded onto a prepaid debit card, for example, Visa or MasterCard?
 No
 Yes

49. Do you have a prepaid debit card from a government agency for receipt of funds such as child support or pension?
 No
 Yes

50. In time of emergency, would you be willing to directly deposit your payroll on a Visa or MasterCard prepaid debit card rather than using paper checks?
 Yes
 No
 It would depend on the availability/cost of the debit card
 Not sure

51. Do you use child care services?
 No
 Yes, on This installation
 Yes, but not at This installation

52. How old are you?
 18-24
 25-29
 30-34

CIAG
Critical Incident Analysis Group

35-39
40-44
45-49
50-54
55-59
60-64
65 or over

53. What is the highest level of education you completed?
      Did not complete high school
      Completed high school or G.E.D.
      Some college but didn't finish
      2 year college degree/AA/AS
      4 year college degree/BA/BS
      Some graduate work
      Completed masters or professional degree
      Doctorate (Ph.D, M.D., etc.)
      Other [Please specify
_____]

54. Which best describes where you live most of the time:
      An urban area
      A suburban area
      A rural area
      Other [Please specify
_____]

55. How often do you currently work at your main job from home?

      Never
      Less than once a month
      One to three days a month
      Four to six days a month
      More than six days a month

56. If an event kept you from coming onto This installation for several days, how much of your job could you accomplish from home? [Assume that you would have all utilities available and your current computer and telephone access.]

      All
      Half or more of my job
      Less than half of my job
      None

      Not Applicable, I do not work at This installation

57. Are you
      Male
      Female

58. [Military installation residents only] If an event kept you from doing your regular job, would be interested in being trained to do volunteer work to assist on the installation?
      Yes
      No
      Not applicable, I do not live at This military installation

59. [military installation residents only] Do you have family members you think would be interested in being trained to do volunteer work to assist on the installation during an emergency?
      Yes
      No
      Not applicable, I do not live at this military installation
60. Do you have any additional comments? If so, please enter them here:

_____
_____