August 2005

A Cross-national Comparison of Interagency Coordination Between Law Enforcement and Public Health

Final Report

Prepared for
National Institute of Justice
Office of Justice Programs
U.S. Department of Justice
810 7th Street N.W.
Washington, DC 20531

Prepared by
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This project was supported by grant no. 2003-IJ-CX-1023, awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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*RTI International is a trade name of Research Triangle Institute.

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Abstract

Since the terrorist attacks of September 11, 2001, law enforcement and public health agencies have been required to assume new and overlapping roles in response to terrorist threats. This National Institute of Justice (NIJ)-funded project examined strategies for interagency coordination in the United States, the United Kingdom, Canada, and Ireland. The project's primary goal was to yield a set of promising practices that will help U.S. agencies improve interagency preparation and response to terrorist threats, as well as other public health emergencies. This research involved identifying coordination barriers and successful strategies and mechanisms used to facilitate interagency efforts. As part of this project, RTI researchers interviewed key stakeholders with expertise in terrorism incident response, bioterrorism preparedness, public health surveillance, and law enforcement operations.

The study identified a number of barriers and promising approaches to the coordination problem. These were divided into four general categories: cultural explanations, legal and structural issues, communication, and leadership. Commonly reported barriers to interagency coordination included the lack of mechanisms for sharing confidential data among agencies; lack of Federal guidance with regard to interagency coordination; lack of clarity among Federal, State, and local responders with respect to chain of command; legal barriers; differing agency structures; and lack of a common language. Promising approaches to interagency coordination included the liaison model, in which law enforcement and public health personnel are assigned to other agencies to facilitate communication and on-site consultation; joint release of a unified message to the news media to forestall panic or exaggerated public perceptions; development of

formal and informal relationships to facilitate routine cooperation; joint training to foster trust and an appreciation of each agency's role; and early involvement by multiagency partners in the development of preparedness and response strategies and procedures.

Executive Summary

Recent terrorist events in the United States, Spain, and the United Kingdom have highlighted the importance of communication and coordination between law enforcement and public health officials, as agencies from multiple levels of government have been thrust into a shared policy space covering emergency preparedness and response. This National Institute of Justice (NIJ)-funded project examined strategies for interagency coordination in the United States, the United Kingdom, Canada, and Ireland. The project's primary goal was to produce promising practices that will help law enforcement and public health agencies improve interagency coordination related to terrorist threats, as well as other public health emergencies. The study's goals were to

- assess the potential for coordinating responses via the use of public health and law enforcement surveillance systems, including the potential for integration across systems;
- identify and assess barriers to interagency coordination; and
- identify and assess promising practices for interagency coordination, including the applicability of existing strategies and mechanisms to the U.S. coordination problem.

To achieve these goals, we completed three project phases:

Phase I: Surveillance System Inventory (SSI). The SSI is a database that documents and describes public health and public safety surveillance systems in the United States, the United Kingdom, Canada, and Ireland. The purpose of the SSI is to summarize the status of coordination between law enforcement and public health agencies across these systems, as well as to highlight potentially useful systems for coordination and dual-use integration.

Phase II: Stakeholder interviews. Stakeholders from law enforcement, public health, and homeland security were interviewed on the nature and status of interagency coordination in each country. These interviews included a discussion of common barriers to interagency communication and coordination, as well as effective solutions to the coordination problem.

Phase III: Expert consultant panel. Results from the project's first two phases were shared with an international panel of experts to critique the study findings and assess the applicability of lessons learned in the United Kingdom, Canada, and Ireland to problems faced in the United States.

Results

Goal 1: Assess the potential for coordinating responses via the use of public health and law enforcement surveillance systems, including the potential for integration across systems.

Lack of interagency coordination. In general, we found little evidence of interagency coordination in the design, implementation, or analysis of surveillance data. Data systems are generally developed for a single purpose, such as disease outbreak detection, which limits their extensibility to secondary data analysis and dual use.

Targeted audiences. Most of the identified systems were developed for targeted audiences (e.g., public health officials and epidemiologists) and may be difficult for users not trained in these research areas. Without additional training, law enforcement officials would likely be unable to use these systems to detect unusual occurrences, and law enforcement and public health agencies lack analytical staff and resources.

Actionable alerts preferred. Because of time and budget limitations, agencies have little capability to handle raw data or analysis files from other agencies. As such, the preference

among most law enforcement and public health agencies is to receive actionable alerts, which can be used to quickly develop operational responses.

Confidential information. The confidential status of some information collected by the systems may prevent public health officials from sharing the information with law enforcement. For example, the Multistate Anti-Terrorism Information Exchange (MATRIX) hosts confidential information shared only with Federal, State, and local law enforcement, while systems such as the Epidemic Information Exchange (Epi-X) often contain sensitive medical information about patients. Obtaining consent or stripping identifiers out of these surveillance systems would be time-consuming and would delay information sharing and use.

Data quality/timeliness. The quality of the data is often difficult to determine because of insufficient documentation, which introduces the risk of false positives due to design artifacts. Data sharing may be inhibited by low data quality, poor methodological documentation, incompatible reporting systems, or delays in and barriers to data availability.

Goal 2: Identify and assess common barriers to the interagency coordination problem.

Interagency coordination can be negatively affected by a variety of factors, including cultural differences among agencies, legal constraints on the sharing of classified information, and communication problems that stem from a lack of familiarity and trust among agencies. As expected by social choice theory, many of the reported barriers to coordination stem from interagency competition. These issues are not exclusive to other explanations, however, nor do they provide a sufficient explanation of the nature of the problem. The following were common barriers identified within four general categories related to interagency preparedness and response.

- ***Cultural differences.*** Although law enforcement and public health agencies share the common goal of saving lives, they have very different approaches and backgrounds. Cultural differences created a number of barriers to the interagency coordination process, including the following:
  - lack of understanding of agency roles
  - lack of appreciation among public health personnel for the importance of preserving the integrity of physical evidence
  - concern among public health officials about violating the public trust if they are seen as partnering too closely with law enforcement
  - lack of protocols and mechanisms for sharing sensitive information
- ***Legal and structural challenges.*** Effective and coordinated response can be hindered by legislation and policy designed prior to the current security-focused environment. These issues created the following barriers:
  - lack of clarity among Federal/State/local responders with respect to chain of command
  - legal barriers
  - different agency structures
- ***Communication barriers.*** Problems were identified related to agencies' ability to share information with their own members, with other agencies, and with the public. These included lack of common language and inability to develop a joint message through the media.
- ***Leadership.*** A majority of stakeholders in all countries emphasized the need for clear, committed, and effective leadership at several levels. Specific barriers related to leadership issues included the following:
  - lack of guidance at the Federal level
  - competition among agencies as a result of new homeland security
  - emphasis on the most proximate problems, not on terrorism response coordination

Goal 3: Identify and assess promising practices for interagency coordination, including the applicability of existing strategies and mechanisms to the U.S. coordination problem.

- ***The Liaison Model.*** Crossover training and assignments of law enforcement and public health personnel can facilitate communication of information between the agencies and provide on-site consultation. This model was reported to be successful in improving cross-agency coordination in the United States and Canada. Cross-

fertilization, gaining legitimacy in the partnering agency, and increased access and information sharing were among the benefits listed by stakeholders.

- ***Developing mechanisms for sharing sensitive information.*** One promising solution for improving real-time communication is the development of a virtual Secure Classified Information Facility (SCIF), which provides a mechanism for storing and sharing relevant documents in a secure environment so that they do not mix with other operations. A related practice is the securing of top secret security clearances for relevant public health and medical professionals who are key members of interagency initiatives (e.g., FBI Joint Terrorism Task Force [JTTF]).

- ***Controlling the message.*** Information flow to the media and general public can be a key issue in relation to both preparedness and response. Differences among agency procedures can be exaggerated by public perceptions and the media's portrayal of agency methods. Furthermore, the lack of a coordinated message can result in distrust among coordinating partners.

- ***Institutionalizing the coordination process.*** In the United Kingdom, interagency cooperation and information sharing has become mandated at the Federal level. In the United States, States such as New Jersey are incorporating preparedness and response activities into their routine activities, an important step toward improving dual functionality. Some highly successful coordination efforts were initiated in response to a basic issue (e.g., traffic concerns) and became more comprehensive over time.

- ***Personalities are key.*** Strong personalities in leadership positions are behind almost all examples of successful preparedness and response coordination. Some partnerships exist in large part because a high-level champion (or champions) forged relationships with other agencies.

- ***Formalizing relationships and communication networks.*** A detailed coordination and response plan can help formalize relationships and networks, as can regular participation in interagency exercises. Establishing a series of backup procedures and personnel is key, allowing for a range of outcomes during scenario planning.

- ***Joint training exercises and planning.*** Joint training helps improve appreciation of other agencies and their roles, establish trust between parties, draw attention to details, and force participants to ask difficult questions that arise during crisis situations. Joint training should be done regularly and have set goals for improving performance over time.

- ***Public-private partnerships, reaching out to industry for advance capability.*** Developing partnerships with private industry can be critical to the success of joint, multidisciplinary efforts. In agroterrorism initiatives such as the promising model used in Ford County, Kansas, key individuals from the beef industry serve as industry liaisons by helping educate their peers, assisting with consequence management, and ensuring that any developed response procedures accurately reflect industry capabilities and needs.

Introduction

"Be under no illusion—the threat is real and here and affects us all."
—Director General MI5 Eliza Manningham-Buller

"Preparing public health for future events of bioterrorism will require a new culture of partnership with multiple stakeholders."
—Biodefense expert Elin Gursky

"All growth occurs while it is being inhibited."
—Chilean biologist Humberto Maturana

Terrorist events in the United States and abroad have highlighted the importance of communication and coordination among public health officials and law enforcement, as agencies from multiple levels of government have been thrust into a shared policy space covering emergency preparedness and response (DOJ & CDC, 2005{ XE "Allswede et al., 2005" }; Reuland & Davies, 2004{ XE "Reuland & Davies, 2004" }; Butler, Cohen, Friedman, Scripp, & Watz, 2002{ XE "Butler, Cohen, Friedman, Scripp, & Watz, 2002" }; Fine & Layton, 2001{ XE "Fine & Layton, 2001" }; National Research Council, 2002{ XE "National Research Council, 2002" }; U.S. General Accounting Office [GAO], 2000, 2004{ XE "U.S. General Accounting Office [GAO], 2000, 2001, 2004" }). The anthrax incidents and associated white powder scares that occurred in 2001 and 2002 underscored the need for law enforcement and public health agencies to work together more effectively (National Research Council, 2002{ XE "National Research Council, 2002" }). Many obstacles had to be overcome during these investigations, most notably the lack of an integrated system and a set of procedures for communicating across agencies. White powders were increasingly being detected and classified as suspicious as a result of the panic that spread across the United States, and the number of white powders submitted to

laboratories for testing began to overwhelm public health laboratories nationwide. In many jurisdictions, it was necessary for public health and law enforcement officials to collaborate on developing protocols for submission (e.g., packaging, drop-off points) and criteria for the analysis of white powder specimens (e.g., written threat, visible powder). Effective communication and coordination were especially important because of the security and enforcement concerns associated with the possible covert release of biological or chemical weapons by terrorists. Top Officials (TOPOFF) exercises, which are designed to produce a more effective and coordinated global response to terrorism, have demonstrated that these types of events place special demands on interagency coordination and response. A TOPOFF biological training exercise in May 2000 that involved law enforcement, emergency management first responders, and other officials faced challenges in terms of multijurisdictional, multidisciplinary coordination (Inglesby, 2001**{** XE "Inglesby, 2001" **}**).

Although their approaches to ensuring the safety of the general public necessarily vary, law enforcement and public health agencies share a number of common responsibilities in responding to a terrorist attack; most importantly, both have the primary mission of saving lives. These two types of agencies play critical roles in the early identification of terrorist attacks, especially biological or chemical incidents, and their response duties overlap somewhat. Their common objectives include identifying biological/chemical agents, preventing the spread of disease, preventing public panic, and assisting in the apprehension of those responsible for an attack. The ability of these agencies to plan and execute coordinated responses is crucial to a nation's preparedness for major terrorist incidents. The lack of understanding of the expertise and roles of other agencies, as well as the failure to establish communication and response

procedures before incidents occur, greatly impairs the ability of these agencies to prevent or respond to large-scale man-made or natural emergencies.

1.1 Background

Before 2001, there were few instances of sustained coordination between U.S. law enforcement and public health agencies in relation to terrorist incidents. These agencies typically responded independently and conducted their own investigations using threat-specific protocols and procedures. For example, public health agencies had methods for detecting and responding to bioterrorist incidents but were less prepared than law enforcement agencies to manage the operations, tactics, and criminal prosecution elements of terrorism. Fundamental reasons for this lack of coordination include the different missions, training, and on-the-job experiences of these two types of agencies. Often, personnel from law enforcement and public health agencies speak different professional or technical languages. And fundamental cultural differences between law enforcement and public health agencies can affect their willingness to share confidential information in a timely manner and to collaborate on ethnically or politically sensitive topics. The issue of interagency coordination is particularly complicated in Federal political systems such as the United States, where agencies must coordinate across Federal, State, and local levels. For example, even nearly 4 years after the September 11 attacks, the Pentagon was reluctant to share sensitive information regarding a potential bioterrorist incident with local authorities in Fairfax County, Virginia (*Washington Post*, 2005**{** XE "*Washington Post*, 2005" **}**).

Coordination, therefore, is a major challenge for agencies that have seldom worked together and have traditionally had different standards, legislative mandates, and operating procedures. Even small problems can be magnified when crises occur in multiple geographic areas or when sensationalized media reports heighten public panic. Overlapping agency

jurisdictions and responsibilities in the area of emergency response can compound budgetary concerns, interagency friction, and miscommunication (Hearne et al., 2004{ XE "Hearne et al., 2004" }).

Law enforcement and public health agencies have made some progress, however, in coordinating with each other; for example, they worked together during the anthrax case investigations, and a number of promising training programs for law enforcement and other emergency response officials now include public health issues (e.g., Goodman et al., 2003{ XE "Goodman et al., 2003" }). Agencies are collaborating to develop terrorist incident response plans that delineate the roles and responsibilities of each agency and focus on coordination among all responsible personnel.

It is critical that agencies continue to work together in developing effective multiagency and multijurisdictional response capabilities. A major terrorist attack, especially one that targets simultaneous sites, requires a quick and coordinated response from multiple agencies, and the specific tactics employed must draw on existing plans and protocols tailored to the specific type of threat (e.g., chemical, biological, radiological, nuclear, conventional). This response specificity, in turn, requires advance coordination of roles and responsibilities and strategic planning of resource allocation, communication models, and training and networking.

1.2 The Coordination Problem

> *"The SARS crisis exposed deep fault lines in the structure and capacity of Ontario's public health system…..Competition for tax dollars is fierce. It is not easy in a time of fiscal constraint for any government to make additional funds available for any public programme. It will require significant political will on the part of the government to commit the funds and the long-term resolve that are required to bring our public health protection against infectious disease up to a reasonable standard"* (The Honourable Mr. Justice Archie Campbell, Commissioner as reported in the Interim Report of the SARS Commission, 2004{ XE "The Honourable Mr. Justice Archie Campbell, Commissioner as reported in the Interim Report of the SARS Commission, 2004" }).

> *"No bureau can survive unless it is continually able to demonstrate that its services are worthwhile to some group with influence over sufficient resources to keep it alive"* (Anthony Downs, *Inside Bureaucracy*, 1966**{** XE "Anthony Downs, Inside Bureaucracy, 1966" **}**).

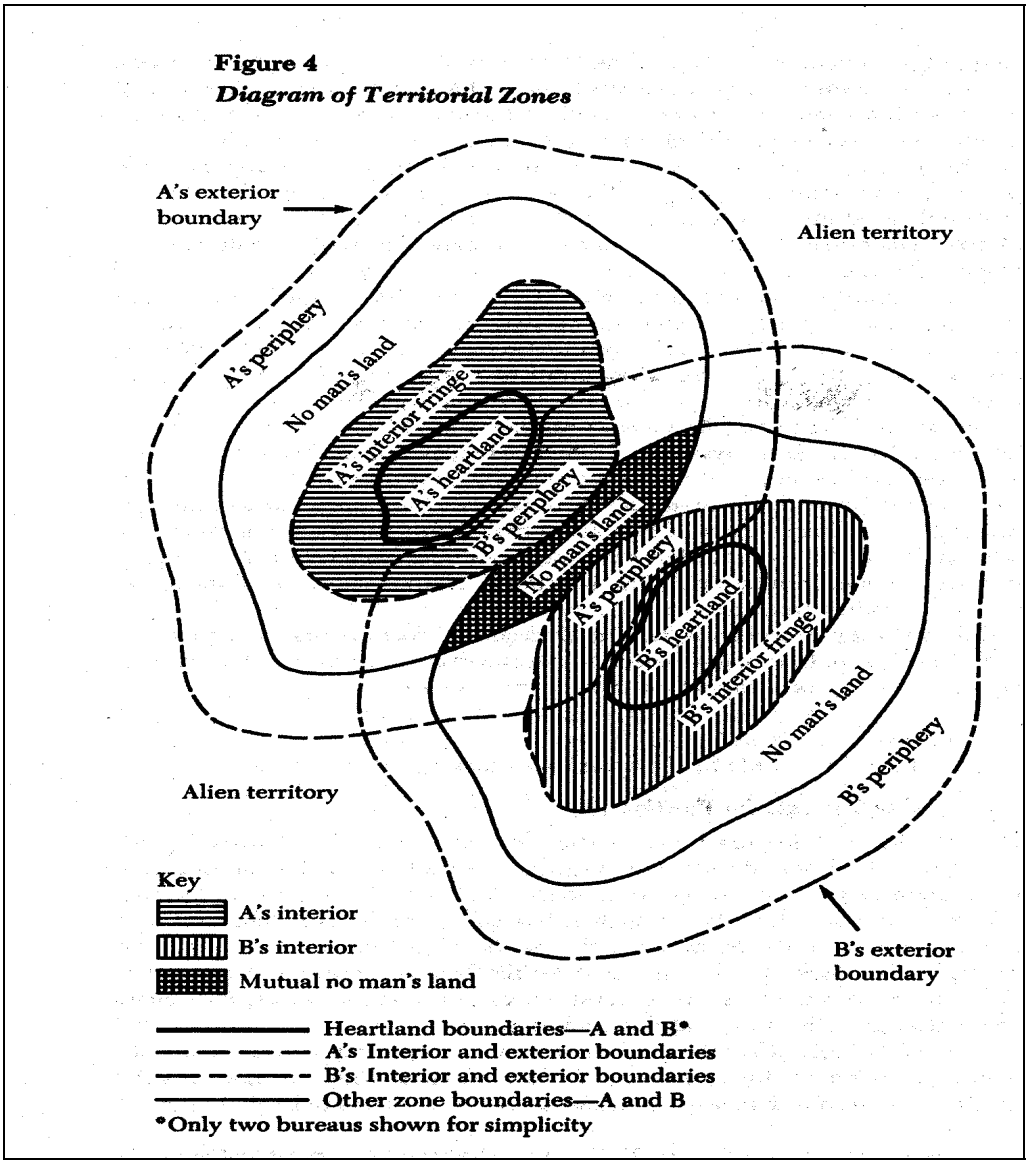
The multiagency coordination problem inhibits the efficiencies and effectiveness that can be realized through cooperative policy making and implementation by agencies responsible for a common policy (Downs, 1966**{** XE "Downs, 1966" **}**). Competition over control of the policy can lead to conflict among agencies and the development of parallel and redundant systems (Peters, 1981**{** XE "Peters, 1981" **}**). As indicated in the statement above by Commissioner Campbell, individual agency leaders tend to act in the public interest but often are constrained by limited budgets. To overcome this limitation, agency leaders must generate political support for their programs within government bodies. And agencies in a shared policy space typically become rivals when they seek funding from the same limited sources.

Before 2001, terrorism was a known threat to the United States, but because its saliency to Congress and the president was low relative to other issues, agencies dedicated few resources to terrorism preparedness and response. Since 2001, however, funding for homeland security has increased dramatically, resulting in multiple stakeholder agencies claiming their share of public safety and antiterrorism policy space. Homeland security is a policy space in which law enforcement and public health must identify mechanisms to bypass the rational and traditional tendency for conflict.

An extensive theoretical literature explains why agency conflict and role confusion occur when policy issues occupy the shared space of two or more government agencies. As demonstrated in exhibit 1, agencies have responsibility for interior and exterior issues. The interior issues are those associated with the primary mission of the agency. For example, the

primary mission of State and local law enforcement agencies is to protect the public and to investigate, apprehend, and prosecute criminal offenders. Interior issues can be either unshared (heartland) or shared with other agencies (fringe). Exterior issues are those dominated by other agencies. An agency can either have some influence on these periphery issues or have no influence at all (alien territory). Issues in the fringe and periphery exist in the shared policy space and can lead to competition over control and responsibility, and eventually to interagency conflict. As an example, responding to bioterrorist attacks is the responsibility of both public health and law enforcement agencies and therefore exists in their shared policy space.

Exhibit 1. Down's Shared Policy Space[1]



The social choice literature suggests methods for diminishing interagency competition on shared issues (Morrow, 1994{ XE "Morrow, 1994" }; Ordeshook, 1986{ XE "Ordeshook, 1986" }; Snidal, 1985{ XE "Snidal, 1985" }; Gwartney & Stroup, 1995{ XE "Gwartney & Stroup, 1995" }; National Research Council, 1999{ XE "National Research Council, 1999" }). These coordination mechanisms can include

[1] Reprinted by permission of Waveland Press, Inc. from Anthony Downs, *Inside Bureaucracy*. Long Grove, IL; Waveland Press, Inc., 1967[reissued 1994]. All rights reserved.

- recognition of **shared interests** and objectives through open exchange of information among agencies, as in the Cops & Docs program;
- reduction of the ability to compete over policy space by **mandating authority** to one agency for certain issues, such as to the Department of Homeland Security (DHS) for domestic security issues;
- separation of performance from out-year budgets through the **reduction of discretionary spending** (research and development, evaluation, special programs) for agencies and the increase of mandated activities;
- encouragement of conditions that allow agencies to expend resources for **dual purposes**, both for the primary mission (heartland) of the agency and for the secondary efforts in coordination with other agencies (fringe and periphery), such as dual-use information systems and training; and
- focus on long-term sequential planning by the agency to promote **cooperative regimes**, such as the Centers for Disease Control and Prevention (CDC) and the Department of Justice (DOJ)'s jointly planned and funded training using the CDC Forensic Epidemiology course.[2]

1.2.1 Coordination and the Department of Homeland Security

The responsibility for homeland security is one issue that occupies the shared policy space of a large number of agencies, including law enforcement and public health agencies at the Federal, State, and local levels. Homeland security represents an ideal example of the coordination problem resulting from agencies with overlapping policy space (see exhibit 1), because

- it is a highly salient topic to government decision makers and the voting public;
- it has the potential to yield very large budgets for participating agencies;
- it is a broad topic that is not completely addressed by the core (heartland) policy space of any single agency, but it does fall within the fringe and periphery space of many preexisting agencies;
- existing agencies are not fully positioned to respond to the new issue space (e.g., CDC and criminal investigation of terrorism); and

[2] In spring 2002, CDC's Public Health Law Program, in partnership with other agencies and organizations (State and local public health, State and local law enforcement agencies, the U.S. Attorney's Offices, the FBI, and others) developed a joint training module with the goal of enhancing the cooperative threat response efforts by law enforcement and public health agencies (CDC, 2004).

- by its nature, homeland security requires a coordinated response by law enforcement and public health to promote planning, detection, and response.

DHS is an example of a possible solution to the coordination problem. The National Strategy for Homeland Security and the Homeland Security Act of 2002 assigned homeland security to the heartland of DHS by mandating that the authority to mobilize and organize U.S. national defense against terrorist attacks be coordinated by DHS (DHS Strategic Plan). Some aspects of the DHS mission, however, overlap with the periphery policy space of other Federal agencies. Definitive responsibility for specific issues within the overlapping policy space will be determined over time. The main goal of this study is to help guide the agencies in selecting mechanisms to bypass or minimize the coordination problem. The initial step necessarily requires a brief review of the social choice literature and its utility in understanding how multiagency coordination can be facilitated.

1.2.2 Agency Coordination as a Social Choice Problem

Coordination is inherently difficult for the *budget-maximizing bureaucrat*. This concept is central to the social choice perspective and its modeling of agency behavior (Tullock, 1965**{** XE "Tullock, 1965" **}**; Niskanen, 1971**{** XE "Niskanen, 1971" **}**; Bendor & Moe, 1985**{** XE "Bendor & Moe, 1985" **}**; Bendor, 1988**{** XE "Bendor, 1988" **}**; Brehm & Gates, 1999**{** XE "Brehm & Gates, 1999" **}**). For the purposes of this report, we interpret the budget-maximizing-bureaucrat explanation to include the following propositions. Individual bureaucrats participate in government and policy making in pursuit of their personal goals, including better social policy, better government, personal income, and social justice. We assert that agency leaders recognize that the size of the agency budget, the opportunities presented to the agency, and the quality of the staff are primary factors in achieving their personal goals. These propositions have direct implications concerning the rate of growth of bureaucracies, the potential for performance-

based oversight of agencies and staff, and the role of politics in agency policy making in a democratic society (Miller & Moe, 1983{ XE "Miller & Moe, 1983" }; Bendor, Taylor, & Van Gaalen, 1987{ XE "Bendor et al. 1987" }; Calvert, McCubbins, & Weingast, 1989{ XE "Calvert et al. 1989" }; Wood & Waterman, 1991{ XE "Wood & Waterman, 1991" }). In turn, both individual-level budget-maximizing-bureaucrat factors and all the organization-level factors affect the potential for agencies to work together in the pursuit of common goals. We believe that individual bureaucrats are the key to overcoming coordination problems. It is necessary, however, to understand how social choices are made within budget and other critical organizational structures and processes. Again, agency internal dynamics are central to understanding both the problems and the solutions to interagency coordination in responding to a shared policy responsibility.

Coordination problems generally occur when two agencies share the same policy responsibilities for a common set of problems (Downs, 1966{ XE "Downs, 1966" }). Competition over control of the policy can cause conflict and the development of redundant and costly systems (Peters, 1981{ XE "Peters, 1981" }). Although individual agency leaders desire to act in the public interest, they typically are constrained by limited budgets, even for highly salient issues such as homeland security. These leaders often attempt to bypass this limitation by generating political will for their specific agency programs in the various branches of government (e.g., in Congress or an allocating agency). Inevitably, competition among agencies for the political support of the government results, given the total government budget limits. By successfully responding to high-profile issues, agencies can generate additional political support, and, in turn, more support for a bigger share of the finite budget. In effect, agencies in shared policy space become rivals primarily because of their desire to secure resources from the same

funding source. Social choice theory asserts that given this competitive strategy, a rational agency chief is willing to accept support from other agencies that are not perceived to control an issue space and related budgets. A rational agency chief is unlikely to provide support to other agencies on issues beyond his/her agency's control because finite resources are best used to promote success in policy areas that help gain budget support from Congress or another resource-allocating body for the single agency. Furthermore, shared control of an issue among agencies reduces the value of return on that issue to each agency.

According to the social choice perspective, the separation of the agency from external markets is essential for understanding the motivation for agencies to accept or pursue the performance of additional aspects of social policy (policy space). Because the implementation of government policy is not evaluated through financial returns in the market, the agency acquires resources by allocation from government decision makers, usually legislatures. These decision makers reward agencies with larger budgets if the agency policy space overlaps with the preferences of the decision makers. Therefore, agency leaders are motivated to expand their policy space to capture as many of the salient interests of decision makers as possible and to protect their existing issue space from competition.

Competition among Agencies (Peters, 1981{ XE "**Peters, 1981**" **})**

"One criterion for governance generally associated with democratic and partisan government is competition among contenders for office. Bureaucrats already have office, and are unlikely to lose it. What they do not have is money" (p. 70).

"The nature of bureaucratic competition has two principal effects on politics and government. First, it may in part account for some of the massive growth of the size of the government—as reflected in public spending . . . The second major effect of bureaucratic competition is that it limits the internal consistency or "coherence" of government. The bureaucracy does not act as an integrated instrument to serve the public interest, but rather acts as a set of subgovernments each serving a clientele group critical in the political game of survival" (p. 73).

Given the inherent costs of interagency conflict in terms of time, use of already limited resources, and the finite return to the agency over a policy space, agencies will seek to minimize conflict in one of two ways. First, they will attempt to control their policy space absolutely, thereby reducing conflict. If this is not possible, they will avoid involvement in the issue and choose to dedicate their resources to issues they already control. As a result, issue space will tend to be controlled by one agency, with little support, coordination, or cooperation from other agencies. Agencies may choose to invade policy space held by another agency, if they have extra resources, or if they feel that the return for controlling the policy space will exceed the cost of conflict and the cost of providing services to the issue. This invasion of space may happen if a rival agency is relatively weak on an issue or if the value of the issue increases (i.e., becomes more salient to the funding source). For example, the threat of bioterrorism was known before the anthrax events in the United States in 2001, but the saliency of the issue to Congress and the president was low relative to social security, health care, or tax breaks. As a result, agencies dedicated few resources to controlling the bioterrorism issue space. Following the 2001 events and the increase in funding for bioterrorism security, however, stakeholder agencies made many attempts to claim some of the policy space of bioterrorism safety. The social choice perspective is useful in understanding the multiagency coordination challenges and solutions that are the central research objectives of this project.

1.3 Project Objectives

Terrorist events in the United States, Spain, and the United Kingdom have highlighted the importance of communication and coordination between law enforcement and public health agencies, as many agencies from multiple levels of government have been thrust into a shared policy space covering emergency preparedness and response. This NIJ-funded project examined

strategies for interagency coordination in the United States, the United Kingdom, Canada, and Ireland. The project's primary goal was to produce promising practices that will help law enforcement and public health agencies improve interagency coordination related to terrorist threats, as well as other public health emergencies. The study's specific objectives were to

- assess the potential for coordinating responses via the use of public health and law enforcement surveillance systems, including the potential for integration across systems;
- identify and assess common barriers to interagency coordination; and
- identify and assess promising practices for interagency coordination, including the applicability of existing strategies and mechanisms to the U.S. coordination problem.

To achieve these objectives, we completed three project phases:

Phase I: Surveillance System Inventory (SSI). The SSI is a database that documents and describes public health and public safety surveillance systems in the United States, the United Kingdom, Canada, and Ireland. The purpose of the SSI is to summarize the current status of coordination between public health and law enforcement agencies across these systems, as well as to highlight potentially useful systems for coordination and dual-use integration. A total of 113 systems were identified and classified: 73 in the United States, 13 in the United Kingdom, 21 in Canada, and 6 in Ireland.

Phase II: Stakeholder interviews. RTI interviewed stakeholders from law enforcement, public health, and homeland security to determine the nature of the interagency coordination in each country, as well as to identify barriers and effective solutions to the coordination problem. Forty-three stakeholder interviews were completed in person or by phone: 14 in the United States, 8 in the United Kingdom, 14 in Canada, and 7 in Ireland. Stakeholders provided valuable information on current strategies for coordination, common barriers to coordination, and

promising approaches for improving the ability of multiple agencies to work together in preparing for, detecting, and responding to terrorist events.

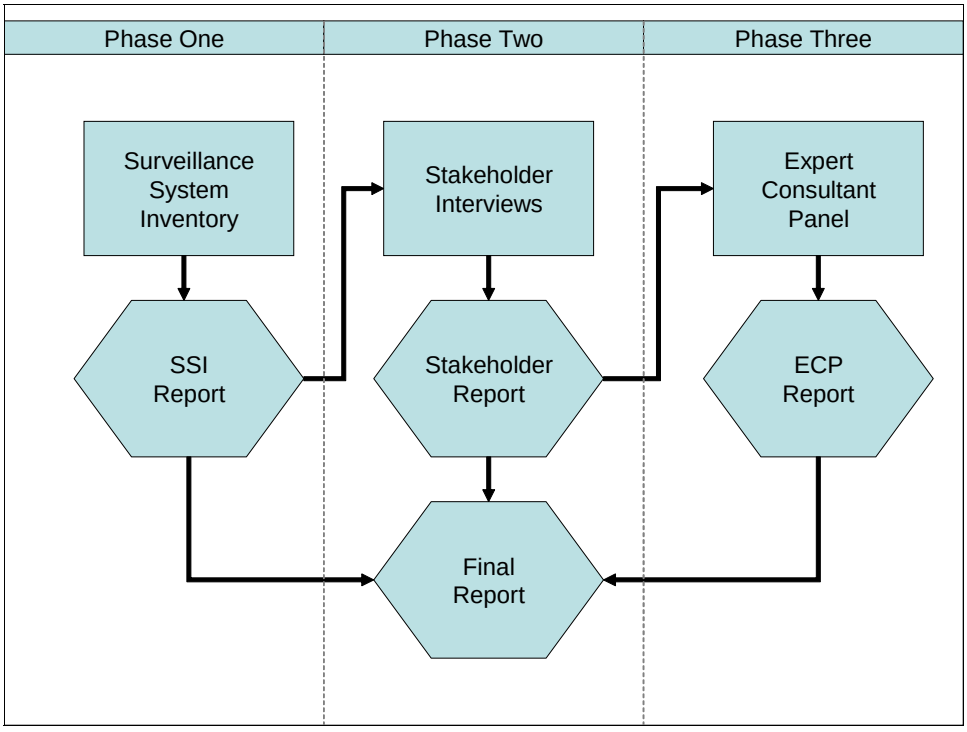
Phase III: Expert consultant panel. Results from the first two phases were shared with an international panel of experts to assess the applicability of lessons learned in the United Kingdom, Canada, and Ireland to problems faced in the United States. The panel met twice, with the final meeting held on RTI International's main campus in North Carolina on April 15, 2005. The panel included external experts and RTI staff with domain and technical expertise on domestic and international terrorism, public health policy, infectious disease, and law enforcement operations.

2

Research Design and Methods

The research design and methods used for this study were tailored to the specific needs of the research questions and the type of information being collected. We elected to employ a three-phase approach (described in exhibit 2) to enhance our ability to explore the underdeveloped research field of interagency coordination. This approach was valuable because it allowed us to explore many dimensions of the coordination issue while providing the flexibility to respond to unexpected challenges in the data collection. However, since the data collected are exploratory and largely qualitative, they are generally not useful for hypothesis testing. Instead, these data can assist in refining existing theories and developing new hypotheses, which can be more rigorously tested in future research.

Exhibit 2. The Three Phases of Data Collection



The main purpose of this NIJ study was to identify promising practices used in other countries to solve the coordination problem and then recommend a set of preferred practices for use in the United States. To achieve this goal, it was necessary to first demonstrate that the coordination problem, as theoretically defined in the social choice literature, existed in the United States and other countries. Second, we examined successes and failures in resolving the coordination problem in each of the four countries. Finally, we used the experiences from the four countries to identify promising practices for solving the coordination problem.

2.1 Three-Phase Approach

International considerations, sensitive research topics, and national security concerns added to the complexity of this research. As a result, the design employed is exploratory and not definitive. Furthermore, time and budget constraints required us to forgo depth for breadth to obtain a wider range of comparative (i.e., cross-national) experiences with coordination issues and the challenges discussed above. Detailed descriptions of each of these phases are presented below. The full protocols for each of these phases are contained in appendixes A, B, and C.

2.1 Comparative Case Study Method

The comparative case study method has been employed by social scientists to produce cross-national generalizations about social policy using a small number of cases. It is frequently used for exploratory analysis of critical cases to guide the development of research designs for use in studies with larger samples. When used as an exploratory technique, this method yields the additional benefit of a detailed description of the systems or processes being examined using a standard organizational format for each case. This standardization allows for careful analysis of the similarities between two or more systems and the social policy being examined. Some common characteristics of the comparative case study method are as follows:

- Predetermined and standardized data collection criteria that allow for flexible and open-ended responses. This process requires the researcher to capture information on the same set of social dimensions across countries while still considering each country as a whole, not as a collection of variables.

- Case study reports that summarize each country's characteristics collected during the data collection stage. These reports are organized around the dimensions used for the data collection but report as much additional information about each country as necessary to fully describe the process in question, allowing for organized but flexible data reporting that encourages exploration and theory development.

- Comparative analysis of similar and dissimilar systems to examine the patterns of invariance and constant association in the countries being examined.

Two types of comparative analysis can be used to assess the case studies: most different systems (MDS) design and most similar systems (MSS) design (Przeworski & Teune, 1970**{** XE "Przeworski & Teune, 1970" **}**). The MDS design allows comparisons among social systems that are generally dissimilar but share a few common characteristics. These common characteristics can be examined for relationships to the outcome measure (concept of interest). The MSS design examines social systems with a large number of similar characteristics and a few dissimilarities. These dissimilarities are examined for relationships to the outcome measure.

The MSS design can be effective for exploratory, small-sample research. It reduces a study's scope by selecting a small set of similar systems for analysis. This small set can be examined in careful detail to assess differences that might lead to changes in the outcome measures.

The MSS design was used to reduce the scope of this study and to facilitate exploratory approach to the topic. Future work may allow analysis of a larger set of countries and therefore a different design. This preliminary work, however, was limited to analysis of the United States, the United Kingdom, Canada, and Ireland. These countries were selected because they are very similar to the United States on most measures related to political-economic institutions, such as democracy, presence of a strong bureaucratic infrastructure, high economic level of

development, and cultural values such as Western religious and ethical belief systems (see exhibit 3).

Exhibit 3. Summary of Political Dimensions across Four Countries

	United States	Canada	United Kingdom	Ireland
Constitution	Written	Written	Unwritten	Written
Type of Democracy	Presidential	Parliamentary	Parliamentary	Parliamentary
Government Powers	Separated	Separated	Unitary	Unitary
Executive (head of government)	President	Prime Minister	Prime Minister	Prime Minister
Legislative	Bicameral	Bicameral	Unitary*	Bicameral
Elections	Regularly scheduled (representatives, 2 years; senators, 6 years; president, 4 years)	At least every 5 years	At least every 5 years	At least every 5 years
Judiciary	Independent Supreme Court with judicial review	Independent Supreme Court with judicial review	Legal system provides for the judicial review of Acts of Parliament under the Human Rights Act of 1998	Independent Supreme Court with judicial review
Major Political Parties	Democratic; Republican	Liberal Party; Conservative Party of Canada; New Democratic Party; Bloc Quebecois; Green Party	Labour Party; Conservative Party; Liberal Democrats; Scottish Nationalist Party; Party of Wales; Ulster Unionist Party; Democratic Unionist Party; Sinn Fein; Social Democratic and Labour Party	Fianna Fail; Fine Gael; Green Party; Labor Party; Progressive Democrats; Sinn Fein

(continued)

Exhibit 3. (continued)

	United States	Canada	United Kingdom	Ireland
Law Enforcement Organizations	Policing is carried out by forces organized at the local, State, and Federal levels.	Royal Canadian Mounted Police (RCMP). The RCMP is unique in the world since it is a national, Federal, provincial, and municipal policing body.	U.K. Police Service. Each county or group of counties has a police force led by a chief constable.	An Garda Síochána. For policing purposes, the country is divided into six regions, each of which is commanded by a Regional Assistant Commissioner.
Domestic Intelligence Organizations	Department of Homeland Security, Federal Bureau of Investigations	Canadian Security Intelligence Services	British Security Service (MI-5)	Special Branch—An Garda Síochána

*Hereditary House of Lords can delay but not veto legislation.

Source: Combating Terrorism: How Five Foreign Countries Are Organized to Combat Terrorism, NSIAD-00-85, April 7, 2000; and Official Web site of An Garda Síochána http://www.garda.ie/.

2.2 Phase I. Surveillance System Inventory (SSI)

Phase I, the SSI, was designed as a critical case to evaluate the level of coordination in a narrowly defined and fairly well-established area of a routine procedure used by both public health and law enforcement. This design was based on the assumption that interagency coordination would most likely be found in an area that was established for both types of agencies and that had the potential to improve our understanding of the nature of the terrorist threat and to develop response plans through a data-driven approach. For this reason, the level and type of coordination between public health and law enforcement agencies was examined on all federally funded public health and public safety surveillance systems, which serve as valuable tools for planning for, detecting, and responding to population-based health hazards and criminal activity. Understanding the range of surveillance systems in these two categories across the United States, the United Kingdom, Canada, and Ireland will advance interagency coordination in the United States by demonstrating common goals and identifying resources that can be

shared. In addition to addressing the coordination issue, the SSI serves as a descriptive repository for coordination-related data on public health and public safety surveillance systems. Finally, the SSI was used to guide the stakeholder interviews conducted during Phase II of the project by identifying potential or current mechanisms for interagency coordination.

Specifically, the SSI was designed to

- attempt to provide a comprehensive list of all publicly funded public health and public safety surveillance systems that could be applied for terrorism planning, detection, and response;
- provide a set of existing surveillance systems that have relevance to stakeholders; and
- serve as a point of reference and information for the stakeholder interviews.

2.2.1 Data Collection

This section describes the specific procedures that will be used to identify and collect information about the surveillance systems. Systems were identified through a thorough search of several information sources, and data elements were extracted from Web sites, published documents and reports, and other appropriate sources.

Criteria for Inclusion and Exclusion

Surveillance systems were included if they were

- operational and ongoing during the data collection period;
- systematically collecting, analyzing, and interpreting public health and/or public safety–related information to plan, implement, or evaluate actions; and
- collecting data that could potentially be used to prepare, recognize, or respond to a terrorist incident.

System Identification

Systems were identified through searches of published literature and the Internet. The published literature searches included relevant peer-reviewed articles, government reports, system documents and manuals, and other relevant documents. The Internet searches examined both government and private Web sites for surveillance information. These searches were

iterative, with follow-up searches based on information gained during the initial search, such as document citations and references.

Literature Search

The literature was searched using keywords in five databases:[3]

- MEDLINE/PubMed
- the University of North Carolina at Chapel Hill's online book catalog
- TOXLINE
- the National Technical Information Service (NTIS) database
- the U.S. Government Printing Office (GPO) Monthly Catalog database

Internet Searches

Internet searches used the Google general search engine. Initial searches used a general keyword search.[2] This information was augmented with targeted searches of both government agency Web sites and nongovernmental sites. The government search used the full range of agencies likely to fund, develop, or use public health or public safety surveillance systems. For the United States, these included the following:

- Centers for Disease Control and Prevention (CDC)
- Department of Defense (DOD)
- Department of Energy (DOE)
- Department of Veterans Affairs (VA)
- Environmental Protection Agency (EPA)
- Federal Bureau of Investigation (FBI)
- Federal Emergency Management Agency (FEMA)

[3] Initial keyword searches included each type of surveillance system listed in section 3.1 and the following terms: public health surveillance; law enforcement; agency cooperation; and foodborne, waterborne, vectorborne, injury-related, and infectious diseases. Subsequent searches were expanded using information collected during the initial searches.

- Public Health Service (PHS)
- National Technical Information Service (NTIS)
- Lexis-Nexis general news and legal review search
- Dissertation search

International government agency sites included the following:

- Canadian Security Intelligence Service
- Criminal Intelligence Service Canada
- Eurosurveillance
- Health Canada
- National Criminal Intelligence Service (United Kingdom)
- National Public Health Service for Wales
- Royal Canadian Mounted Police (RCMP)
- U.K. Police Portal
- World Health Organization (WHO)

Data Abstraction

The project staff used published materials found during the search activities to code both basic and detailed information on each of the surveillance systems. Basic data elements were captured during the system identification stage. Project staff extracted detailed data elements during subsequent reviews of the information identified in the literature and Internet searches. The data elements were keyed into a data capture form and stored in an Access database.

The basic elements included the following:

- Sponsoring and cooperating agencies
- Primary purpose of the surveillance system
- Source of data used in the surveillance system
- Population being tracked by the system

- Reports and data generated by the system
- Distribution, schedule, and availability of the reports and data
- Reports and summary statistics about data quality
- System stakeholders
- Data processing procedures and schedule
- System duration

More detailed elements were also captured at later stages of the project, schedule and resources permitting. They were useful for assessing the value of each system for counterterrorism.

The detailed elements included the following:

- Periodicity of the data collected for the system
- Current users of the system
- Timeliness of the data for response, decision making, and research
- Analysis and reporting methods and tools used for the systems

2.2.2 Surveillance System Typology

A typology was developed for the SSI to facilitate coding and analysis of the systems. Our typology builds on previous surveillance classification systems such the one used by Bravata et al., 2002**{** XE "Bravata et al., 2002" **}**. The dimensions used for the typology are (1) the topic or problem studied via the system, (2) the reporting agent who provides data to the surveillance system, and (3) the mode of information capture. These dimensions were selected to best classify the systems for their potential use in counterterrorism research.

Topic

The most critical dimension for describing surveillance systems is the topic or problem studied via the system (e.g., foodborne illness). The topics coded for the SSI are listed below.

The list does not include all the topics of surveillance systems—it includes only systems with topics that may have a dual use for terrorism preparedness and response.

- **Antimicrobial resistance**—Collects data on emerging infectious disease human outbreak patterns featuring pathogens that are resistant to conventional antibiotic treatment or that are introduced to humans through the application of antimicrobial agents to the food supply.
- **Foodborne illnesses**[4]—Collects data from health officials or clinical laboratories to track the incidence of foodborne illnesses.
- **Incident/suspect-based**—Utilizes law enforcement agency crime records containing information on incidents, suspects, and victims in order to investigate, track, analyze, and prosecute criminal offenders.
- **Infectious disease**—Collects and reports data on communicable diseases (i.e., viruses, bacteria, fungi, and protozoa) that can be transmitted through person-to-person, airborne, and fecal/oral modes. Includes both notifiable and nonnotifiable reports of communicable diseases and conditions reported to State or local health departments.
- **Influenza**[3]—Collects and reports influenza data from multiple sources, including sentinel clinicians and laboratories.
- **Injury-related**—Monitors nonfatal and fatal injuries, most commonly using hospital emergency department records. Includes both intentional and unintentional injuries.
- **Nosocomial**[3]—Uses surveillance to detect infections or exposures that occur as a result of hospitalization or working in a hospital setting.
- **Other classification**—Any surveillance system topic that could not be classified using our typology.
- **Software/technology (not a surveillance system)**—Software or technology that may serve as a tool for collecting, sharing, and organizing surveillance or other health-related data but that is not a surveillance system in its own right.
- **Syndromic**—Uses health-related data that precede diagnosis and signal a sufficient probability of a case or an outbreak to warrant further public health response. Syndromic surveillance is characterized by organizing data into syndromic categories (e.g., respiratory illness) as a way of detecting subtle exposures or disease outbreaks within populations.
- **Zoonotic/animal disease**—Collects, processes, and disseminates information on zoonotic and animal diseases.

[4] This system category is based on the Bravata et al. (2002) typology.

Reporting Agent

A second key dimension for the SSI typology is the reporting agent who provides the data to the data collector. This dimension includes information about the type of data being collected and the potential for dual use of the data. For example, a system based on data from a health care provider may provide more accurate clinical detail than a system based on self-reports by patients. However, it may be more difficult to modify the health care provider–based system for counterterrorism purposes because changes may increase the study burden on an already busy and stressed medical staff. The types of reporting agents used in the SSI typology are listed below.

- **Emergency room**—Includes disease or injury data as reported by emergency room personnel or as a result of data abstraction of emergency room records.
- **Health care provider**—Includes disease and injury data as provided by private health care providers such as group physician primary care practices, specialist care practices, and urgent care facilities where the reporting agent may be a physician, nurse, or physician's assistant.
- **Hospital (nonemergency/nonlaboratory)**—Includes disease or injury data as reported by hospital staff in nonemergency or nonlaboratory areas.
- **Laboratory**[3]—Includes clinically confirmed disease cases submitted to laboratories for analysis as reported by hospital laboratories (emergency and nonemergency data), public health laboratories, health care provider laboratories, and other laboratories.
- **Law enforcement**—Any individual or organization within a governmentally sanctioned body whose purpose is to protect public safety, enforce statutory and criminal law, and apprehend and incarcerate individuals suspected of criminal activity.
- **Other classification**—Any reporting agent that could not be classified using our typology.
- **Self-reported**—Relies on self-reported data to gather information on various behaviors and health conditions. The Behavioral Risk Factor Surveillance System (BRFSS) is an example.
- **Secondary data analysis**—Relies on previously collected data to analyze a related or possibly different purpose from its original collection purpose.

Mode

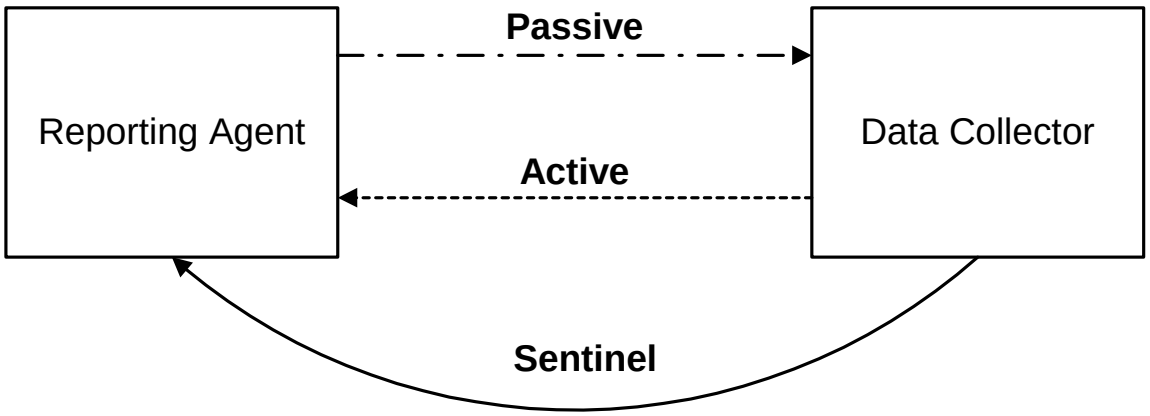
As illustrated in exhibit 4, the mode describes the general data capture process based on which party (data collector or data provider) initiates data collection. The mode is useful for the present study because it has direct effects on the data collection costs, data quality, and usability of the data for counterterrorism purposes. In general, the more involved the data collector is with the process, the higher the costs, quality, and usability of the data. The three modes identified in the current study are as follows:

- **Active**—Includes all systems in which the data collector initiates the data collection process and is responsible for managing the capture of the surveillance data. Some examples of the active mode include population surveys (e.g., BRFSS) and active laboratory surveillance (e.g., FoodNet laboratory surveys).

- **Passive**—Includes all systems in which a reporting agent initiates the data collection process, either voluntarily or as required by law, such as in most routine notifiable-disease systems (Teutsch, 2000**{** XE "Teutsch, 2000" **}**). For example, in the National Notifiable Diseases Surveillance System (NNDSS), State public health departments provide reports to CDC on a selected set of notifiable diseases.

- **Sentinel Surveillance**—This is a special class of the active and passive modes and includes all systems in which the data collector establishes a data collection protocol with a set of key reporting agents in advance. Data are then collected according to protocol, by the data collector in the active sentinel systems and by the reporting agent in the passive sentinel systems. The goal of sentinel surveillance is to quickly identify possible epidemics by relying more on site-based data than on case-based data. For example, the United States Influenza Sentinel Physician Surveillance Network collects weekly reports from a network of physicians throughout the country.

Exhibit 4. Data Flows by Modality: Active, Passive, Sentinel



2.2.3 Problems and Solutions

The project team encountered several problems during the design and implementation of the SSI. These problems stemmed primarily from the exploratory nature of the study and can be used to demonstrate some of the challenges faced with interagency coordination. Specifically, the SSI required the generation of new typologies, translation and standardization of terms across the fields of law enforcement and public health, and standardization of methods and reporting models in both fields. In many ways, the problems faced by the research team mirror those faced by the practitioners in both fields as they attempt cooperation. The absence of common terms makes it difficult for researchers and practitioners to communicate and share information, and the absence of standard methods and report models compounds the issue. The failure to share information in the surveillance systems across agencies is a result of both the competitive interests of the agencies and the absence of standards for surveillance system design and documentation.

The problems encountered and solutions employed for this project were related primarily to definitional issues and general terminology. For example, agency disagreement regarding the definition of *surveillance system* generated confusion for the coders. Furthermore, because the definitions of *public health* and *law enforcement* were not the same across the countries, the set of systems did not necessarily translate to the U.S. model. To address this issue, the project team generated a new definition of *surveillance system* that was broad enough to capture the differences between public health and law enforcement but also able to include relevant systems from all countries. This definition is based on the data collection process employed and the topic area of the system.

Another consistent problem was the relative scarcity of data capture protocols and data quality reports. Although these reports are standard in the survey and statistical communities,

they were difficult to find for public health and law enforcement surveillance systems. Wherever possible, the coders relied on project reports, published literature, and Internet information, but these sources did not consistently address the data issues required for coding the SSI.

2.3 Phase II. Stakeholder Interviews

Phase II consisted of 42 stakeholder interviews conducted with public health and law enforcement practitioners and experts from the United States, the United Kingdom, Canada, and Ireland. The stakeholder interviewers were designed to enrich and expand our understanding of coordination that was realized through the SSI. For this reason, we shared the results and the data from the SSI with the stakeholders in advance of the interviews. The interviews were conducted in person or over the phone and followed a semistructured process, which used a script but allowed the stakeholder flexibility to introduce new ideas and expand on specific topics. The interview script (appendix B) covered a variety of topics and was detailed enough to cover a 2-hour interview. In many cases, the initial interview was limited to an hour, with subsequent meetings, calls, and e-mail contacts for clarification and expansion. In most cases, the stakeholders were very aware of, and concerned with, the coordination issue and came prepared to provide information beyond that described in the script. Many of the stakeholders were eager to continue sharing information after the interviews were complete. The stakeholder interview process (Phase II) consisted of five basic steps: identification of stakeholders, recruitment of stakeholders, data collection, data management, and analysis and reporting of findings.

The specific objectives of the stakeholder interviews in Phase II were as follows:

- Collect information on coordination mechanisms and strategies being used in the United States, the United Kingdom, Canada, and Ireland.
- Assess the barriers inhibiting more effective interagency coordination.
- Identify examples of successful interagency coordination.

- Assess potential methods for integrating law enforcement and public health coordination.
- Identify enhancements to the current coordination environment.
- Increase our knowledge of public health surveillance capabilities, including their intersection with law enforcement information systems and criminal justice policies and strategies.
- Identify recommendations for communication and coordination between public health and law enforcement agencies.

2.3.1 Identification of Stakeholders

The RTI team worked with a team of area experts to identify a list of potential stakeholders in each country, with the goal of recruiting and interviewing a minimum of eight stakeholders per country. The area experts acted as members of the project team (consultants) with specific knowledge of the public health or law enforcement systems in the United States, the United Kingdom, Canada, and Ireland (appendix B). Stakeholders were also identified during professional meetings and conferences, through personal contacts and networks, and by monitoring relevant media and publications. A protocol outlining the stakeholder interview methodology, including informed consent guidelines, was distributed to stakeholders (appendix B).

Public health stakeholders were recruited from the following areas:

- ***Federal decision maker.*** A person working in a Federal position in a decision-making role regarding public health surveillance, planning, or response to terrorist events.
- ***Epidemiologist.*** A State or regional epidemiologist involved in surveillance, planning, or response to terrorist events.
- ***State or regional first responder.*** A State or regional medical first responder or emergency planner (e.g., emergency medical technician, emergency room medical personnel) for potential or actual terrorist events.
- ***State or regional bioterrorism coordinator.*** A State or regional coordinator for bioterrorism surveillance, planning, or response to terrorist events.

Law enforcement stakeholders were recruited from the following areas:

- ***Federal decision maker.*** A person working in a Federal position who is in a decision-making role regarding law enforcement planning or response to terrorist events.
- ***State or local law enforcement.*** A person in State or local law enforcement who is involved in the surveillance, planning, or response to terrorist events.
- ***State or local decision maker.*** A person working for a State or regional law enforcement agency in a decision-making role (e.g., State attorney general, sheriff, or police chief).
- ***Federal terrorism analyst.*** A person working in a Federal position who serves as a terrorism analyst involved in the surveillance of potential or actual terrorist events.

2.3.2 Data Collection

The interviews were conducted in person or over the telephone by the principal investigators (PIs) in the summer and autumn of 2004. Stakeholders were contacted by telephone or e-mail to schedule an interview meeting and were asked whether they preferred in-person or telephone interviews. When possible, the interviews were conducted in person. In general, the interviews were conducted in stakeholders' offices. In some cases, the interviews were conducted in a meeting room or at a neutral location away from a stakeholder's place of work. When possible, both investigators participated in the interviews, with one leading the discussion and the other recording notes. On some occasions, and with the stakeholders' permission, additional members of the RTI research team participated in the interviews. Some stakeholders requested that we conduct the interviews in a group setting to allow their colleagues to participate in the interview. The interviews took about 60 minutes to complete, and in many cases they lasted longer or were augmented with post hoc e-mail exchanges or conversations.

The interviews covered a number of topics related to public health and law enforcement surveillance, planning, and response to terrorist events. In particular, the interviews focused on the information technology and computer database solutions used to track potential terrorist or public safety threats, including the following:

- Assessment of the SSI report for completeness and accuracy
- Current applications of public health surveillance systems for any topic by law enforcement practitioners or researchers
- Potential applications of public health surveillance systems for terrorism preparedness and response by law enforcement practitioners or researchers
- Suggested enhancements or additions to the current system that may benefit law enforcement practitioners or researchers
- Feasibility of these enhancements, given the primary function of the surveillance systems
- Recommendations for communication and coordination between public health and law enforcement agencies in the development and management of public health surveillance systems
- Known or expected barriers to cooperation
- Coordination mechanisms currently in place or planned to facilitate interagency cooperation

Finally, before beginning each in-person interview, the stakeholders were asked to review and sign a copy of the study information and informed consent form. The consent forms were reviewed with the stakeholders during the telephone interviews, and verbal consent was obtained. The information on the procedures for holding discussions with stakeholders appears in the Study Information and Informed Consent Agreement (appendix B).

2.3.3 Analysis and Reporting of Findings

The RTI team used an iterative process to conduct conducted qualitative analyses of the data collected in the interviews. Responses to the questions from each country were categorized into units of meaning using the method of constant comparison. In this method, the investigators recorded notes and observations at the time of the interview. Later, the investigators reexamined, challenged, amended, and/or confirmed themes within those notes during a debriefing meeting.

This review process was used to develop a set of common themes in the stakeholders' responses to questions about the detection of, preparation for, and response to terrorist events. In particular, the analyses focused on the feasibility of coordinating interagency efforts in preparedness planning and terrorism response, seeking to identify common barriers to coordination and different strategies bypassing the barriers. We were also interested in results that demonstrated the effectiveness of current surveillance systems, including current applications of dual-use or shared surveillance systems.

The analysis was developed using common standards of qualitative methods (Miles & Huberman, 1994**{** XE "Miles & Huberman, 1994" **}**). First, both PIs reviewed the interview notes immediately following the interviews to capture any comments that were made but not recorded. Second, we typed the interview notes into a template designed to reflect the format of the interview, reviewed the notes from both PIs, and combined them into a summary set. Third, we identified common emergent themes for barriers and promising practices if (1) an item was mentioned by at least three different stakeholders from either law enforcement or public health or (2) if an item was mentioned by at least one stakeholder from both law enforcement and public health.

2.3.4 Problems and Solutions

During the stakeholder interviews, we encountered several challenges that required modifications to the original research design. These problems and solutions are discussed below.

Phone vs. in-person interviews. The initial research design called for the stakeholder interviews to be conducted via telephone. During the recruitment stage of the interviews, however, the area experts recommended that the principal investigators conduct the interviews in person whenever possible. The area experts reported that the stakeholders were reluctant to

participate in telephone interviews on this topic and that they would be likely to provide more candid responses in person. Furthermore, the area experts suggested that the effort required to travel for the interviews would demonstrate the PIs' commitment to the research goals.

The project team worked with the NIJ grants officer to revise the research design and modify the budget to allow in-person interviews. This revision introduced some unexpected delays in the project schedule, but it was likely to greatly improve data quality. Many of the stakeholders indicated that they would not have participated in the interview over the phone, or that they would have provided only the official agency position on certain topics over the phone. Many reported that they appreciated our willingness to travel to their offices for the interview and felt that they were able to provide more candid and detailed responses in person, in many cases drawing in colleagues for subsequent interviews with the PIs. The in-person interviews also improved the relationship among the PIs, the area experts, and the stakeholders. This relationship has already yielded follow-up discussions and research projects and should facilitate any future work in this area.

Confidentiality and security concerns. Many of the stakeholders were concerned that the information they provided would be reported in the media or another forum and thus be revealed to their supervisors and constituents. Furthermore, some of the stakeholders raised concerns about the PIs' authority to collect these data, about demonstrating a clear connection to NIJ, and about following appropriate security channels for each country. In response to these concerns, a series of informed consent procedures were developed (appendix B), and the PIs agreed to report the results of the interviews in a manner that could not be associated with the stakeholder (e.g., "a Canadian public health stakeholder reported that…").

The PIs worked with the area experts to identify the appropriate security protocols for each country and followed them whenever possible. Unfortunately, the necessary clearances often required more time than the project schedule allowed and occasionally prevented or delayed interviews with stakeholders.

Conceptual concerns. One of the primary problems faced during the interviews resulted from a lack of shared concepts across the countries. Although the four target countries share many cultural, economic, bureaucratic, and political structures, there were some conceptual barriers to communicating the meaning of our questions and to drawing valid responses from the stakeholders.

Recruitment. Initially, the recruitment of the stakeholders was very difficult and required a considerable amount of effort by the area experts. The recruiting became less difficult, however, as the project progressed. This occurred for three reasons. First, stakeholders were generally interested in the research topic and were willing to contact their colleagues and encourage participation. Second, because the stakeholders appreciated the PIs' willingness to travel to the interviews, they were more likely to share access to their networks. Third, although the recruitment materials included a copy of the questionnaire and background documents about the study, many stakeholders remained reluctant to participate because they were concerned that interviews would cover different, more controversial topics. It became easier to recruit after a few interviews were completed in an agency or city and when stakeholders confirmed the content of the interview and reported the relatively benign nature of the project to their colleagues.

Logistics. Budget and schedule constraints made it difficult to remain in any one city for an extended period to conduct interviews. Furthermore, because most stakeholders elected to

complete the interviews as part of their standard business schedule, the interviews had to be scheduled in short periods and within standard work hours.

Time. Promising to limit interviews to an hour made it easier to recruit stakeholders; it was difficult, however, to complete an interview in an hour. When necessary, the PIs conducted follow-up meetings, telephone calls, or e-mail exchanges to cover any topics not adequately addressed in the interview. Stakeholders were generally willing to provide additional information after they met the PIs in person and learned more about the project goals.

2.4 Phase III. Expert Consultant Panel

Phase III engaged an expert consultant panel (ECP) to evaluate the lessons learned, conclusions, and preferred practices identified in the first two phases. The ECP comprised subject matter experts from the United States and area experts from each of the target countries. The purpose of the ECP was to assess the feasibility of implementing the preferred practices recommendations in an applied setting in the United States. The expert panel was asked to assess the identified strategies and approaches across four general dimensions: effectiveness, feasibility, technical soundness, and cost/benefit. The area experts were invited to attend the ECP to provide context to the findings based on their countries and to provide additional insight into the coordination issue. Two full meetings of the expert panel were held: one on May 26, 2004, before the initiation of Phase II, to review the study protocols and interview plans; and one on April 15, 2005, to review the findings from Phase I and Phase II before preparing the final report.

Because of the exploratory nature of this study, it was important to review the findings of Phases I and II to ensure that they accurately described the breadth of public health and law

enforcement coordination issues. A variety of factors may either facilitate or hinder coordination, including budgets, bureaucracy, politics, level of interest, communication processes, usability of data/surveillance systems, type of data/information utilized, and legal constraints. Because these factors represent a broad array of information types, RTI vetted our methods and results with the ECP.

Area Experts. The area experts were asked to join the project team very early in the project, and in some cases they assisted with the research design and initial proposal. The area experts are leading researchers and practitioners from each of the targeted foreign countries. These experts were asked to facilitate the international aspects of the study, including providing country-specific assistance with recruiting stakeholders, tailoring research methods, and demonstrating legitimacy to stakeholders and local authorities. They were also asked to participate in a final expert consultant meeting. For the United States, area experts facilitated research activities such as the recruitment of stakeholders.

Expert Consultant Panel (ECP) Members. The ECP members were asked to join the project team to provide a context-based understanding of coordination in the United States. They are leading researchers and practitioners in the United States with applied understanding of interagency coordination issues. The primary role of the ECP was to participate in the expert panel meetings and review the final report. Many of the panel members also assisted with the research design and with recruiting stakeholders in the United States.

The ECP comprised experts from a variety of positions within public health and law enforcement agencies (exhibit 5). These experts provided both academic and practical knowledge on the major coordination issues within the fields and helped ensure that the project was both adequately capturing the available information and fully understanding the contextual coordination issues. Working with the project team, the ECP reviewed the findings of the project and provided feedback on recommendations for future coordination practices that may be useful to U.S. agencies involved in the detection, preparation, and response to terrorist activities.

Exhibit 5. Contributing Area Experts (AE) and Members of the Expert Consultant Panel (ECP)

Name	Position	AE	ECP
Michael P. Allswede, D.O.	Chief, Special Emergency Medical Response Section, University of Pittsburgh		●
Geoffrey P. Alpert, Ph.D.	Chair, Department of Criminology and Criminal Justice, University of South Carolina		●
Malcolm Baker	Superintendent, Metropolitan Police Anti-Terrorism Branch, New Scotland Yard, London, United Kingdom	●	●
Raymond R. Corrado, Ph.D.	Professor of Criminology at Simon Fraser University	●	●
Ronald Fichtner, Ph.D.	Assistant Director for Business Development Operations, RTI		●
Sue Frost, Ph.D.	University of Huddersfield, United Kingdom	●	
Barrington D. Gore	Commander of the West Virginia State Police, Bureau of Criminal Investigations, Retired Consultant, University of Pittsburgh Medical Center (UPMC), Center for Biosecurity.		●
Alex Hirschfield, Ph.D.	Professor, Director of the Applied Criminology Group, University of Huddersfield, United Kingdom	●	●
James Lane	Undersheriff, Ford County Sheriff's Office, Ford County, Kansas		●
Pam Lattimore, Ph.D.	Professor, Department of Criminology and Criminal Justice, University of South Carolina		●
Steven Marshall, Ph.D.	Bioterrorism Preparedness Program Coordinator, Wisconsin Division of Health and Family Services		●
Paul McKeown, M.D.	Specialist in Public Health Medicine Health Protection Surveillance Centre Republic of Ireland	●	●
Ken Pease, Ph.D.	Professor of Criminology at University of Huddersfield, United Kingdom	●	
Parminder S. Raina, Ph.D.	Director, Evidence-based Practice Centre, McMaster University, Canada	●	●
Anthony Staines, M.D.	Epidemiologist, Professor Department of Public Health Medicine and Epidemiology, University College Dublin Republic of Ireland	●	
Lucy Savitz , Ph.D.	Senior Health Research Analyst, RTI		●
Margaret Zahn, Ph.D.	Director, Crime, Justice, Policy, & Behavior Program, RTI		●

3

Results

The results of the three phases of the study are summarized below. This summary is focused primarily on the implications of the study for coordination, including barriers and suggested preferred practices. Subsequent research will expand the analysis for each phase.

3.1 Phase I: Surveillance System Inventory (SSI)

The purpose of the SSI was to assess the potential for coordinating responses via the use of public health and law enforcement surveillance systems, including the potential for integration across systems, as well as to highlight potentially useful systems for coordination and dual-use integration.[5] Following the protocol included in appendix A, over 260 systems were identified. Of these, 110 were eligible for coding based on the inclusion criteria, as listed in Exhibit 6. Exhibit 7 lists examples of surveillance systems in the SSI.

Overall, the current state of the public health and law enforcement surveillance systems does not lend itself to rapid integration of data to support coordinated responses. As detailed below, this is due primary to the data capture, reporting, and sharing methods used in each system. However, there is a tremendous potential for integrated systems if the methodological and technical barriers can be resolved. Policy makers, researchers, and responders can better help realize this potential through four activities. First, continue to identify overlapping interests between public health and law enforcement, and review the data sources captured by each organization. An awareness of the available data will increase the potential for developing

[5] According to a recent GAO report, coordination among Federal, State, and local agencies is a major undertaking. The report findings stated that "CDC and DHS have coordinated with each other on specific projects, but that coordination has not been optimal, according to agency officials from both agencies" (GAO, 2005).

secondary uses to promote preparedness. Second, data users should communicate their interest in a particular system to the data collection organization in advance of an emergency event. This will allow the managers of the surveillance system to consider both primary and secondary data users as part of the stakeholder constituency, which may lead to increased funding through pooled resources and to small modifications of the system that would benefit the secondary users without diminishing the value to the primary users. Third, system managers should consult both primary and secondary stakeholders when re-designing and developing a surveillance system in order to promote dual-use of the data. Fourth, system designers should draw on inter-disciplinary methods and processes when building new systems, such as the preferred practices used in statistics and survey methodology. This will encourage standardization and facilitate secondary analysis of data.

More detailed findings are listed below.

- **Targeted audiences**. Most of the identified systems were developed for targeted audiences (e.g., public health officers and epidemiologists) and may be difficult to use without training in these research areas. Law enforcement officials would probably not be able to use these systems to detect unusual occurrences without additional training. A major factor affecting this issue is the shortage of analytical staff and resources from law enforcement and public health agencies. Because most agencies do not have the capabilities to handle raw data from other agencies, the preference among most appears to be receiving actionable alerts that can be used to quickly develop operational responses.

- **Confidential data**. Some of the information collected by the systems is confidential and protected by Federal legislation, which may prevent public health agencies from sharing it with law enforcement agencies. For example, the Multistate Anti-Terrorism Information Exchange (MATRIX) hosts confidential information shared with Federal, State, and local law enforcement, while systems such as the Epidemic Information Exchange (Epi-X) often contain sensitive medical information about

Exhibit 6. Summary of Cases in the Surveillance System Inventory

	United States	United Kingdom	Canada	Ireland	Totals
Total (no systems checked as "excluded")	**71**	**12**	**21**	**6**	**110**
Mode of surveillance					
Active surveillance	13	3	4	3	23
Passive surveillance	19	5	7	1	32
Sentinel surveillance	41	5	10	2	58
Total	**73**	**13**	**21**	**6**	**113**
Surveillance system topic					
Antimicrobial resistance	0	0	0	1	1
Foodborne illnesses	8	5	6	2	21
Incident/suspect-based	20	1	3	0	24
Infectious disease	18	5	1	3	27
Influenza	6	1	0	0	7
Injury-related	10	1	8	0	19
Nosocomial	2	0	0	0	2
Other topic—waterborne	1	0	0	0	1
Other topic—reporting and communications systems	3	0	0	0	3
Other topic—integrated, multisource surveillance	0	0	2	0	2
Software/technology (not a surveillance system)	6	0	0	0	6
Syndromic	5	0	0	0	5
Zoonotic/animal disease	4	4	1	0	9

Exhibit 7. Examples of Surveillance Systems in the Surveillance System Inventory (SSI)

National Flu Surveillance Network (NFSN)

- Sentinel physician Web-based reporting of influenza using nearly 6,300 volunteer physicians at over 1,100 surveillance sites located in all 50 States
- Each day, the sites report the flu test results from ZstatFlu, a 99%-specific throat-swab test
- Since September 11, 2001, each member of the NFSN has received (1) alert that the network could assist in countering a biological agent attack and (2) information for review of possible biological agents and their symptoms

Behavioral Risk Factor Surveillance System (BRFSS)

- Active tracking of self-reported risk behavior using a random-digit-dialing (RDD) telephone survey
- Does not currently capture data elements related to bioterrorism
- Design lends itself to large-scale monitoring of population
- Annual with monthly replicates
- All States, D.C., Puerto Rico, and the Virgin Islands
- Facilitates oversampling

patients. Obtaining consent or stripping identifiers out of these surveillance systems would be time-consuming and would interfere with real-time information sharing and use.

- **Data quality/timeliness**. The quality of the data is often difficult to determine because of insufficient documentation, introducing the risk of false positives due to design artifacts. For example, few public health systems provide design reports, methods reports, quality profiles, or meta-data that would be useful in assessing these data for alternative applications. Furthermore, there is little evidence that public health or law enforcement systems draw on the established best practices from the survey methods and statistics fields.

- **Absence of data sharing regimes**. In general, surveillance systems do not provide public use files for secondary analysis. Furthermore, few procedures and protocols are defined and promulgated to guide researchers on methods for acquiring the data from the collecting agency.

- **Report dissemination**. Reports generated from the surveillance data are often disseminated within a field but not across fields. As a result, analysts from law enforcement or public health are generally unaware of the data collected by their counterparts and do not monitor these data on a routine basis.

- **Sample design issues**. Most of these surveillance systems are designed to capture as many reportable cases as possible with very limited budgets. As a result, most of the systems are not designed using representative samples or rigorous response procedures. In many cases, participation of a reporting unit is both self-selected and voluntary. This makes it difficult to combine data from different sources and to build complex statistical models.

- **Active vs. passive vs. sentinel**. An additional problem associated with data capture methods is that the burden of event reporting is often placed on the first responders. The first responders have many priorities higher than data reporting, and as a result, many of the reports are incomplete, late, or missing.

- **Distribution of systems.** The U.S. accounted for the majority of the identified systems (64.6%), followed by Canada (18.6%), and United Kingdom (11.5%). This is probably a function of the relative size and the organization structure of the bureaucracies. The relative size of the U.S. population permits more individual, topic specific, systems whereas smaller countries are likely to combine these topics within a system. Furthermore, the decentralization of the U.S. political system encourages the development of individual systems to meet the needs of one agency, whereas the centralized systems prevent parochialism through a central, mandated authority. The prevalence of multiple, agency levels, overlapping systems is an expected result of the coordination problem.

- **Mode of surveillance.** Most of the systems were sentinel (56.2% in U.S., and 51.3% overall). This provides a partial explanation for the data quality and sample design issues discussed above. Sentinel systems rely on observations and reports from front line responders, usually physicians or support staff. As a result, sentinel systems can produce very rich and informative data that reflects advanced professional knowledge. However, they are less likely to share the characteristics of a rigorous data collection design, relying more on volunteer reporting by busy professionals than on the systematic capture information by interviewers using a probability sample.

- **Syndromic and Influenza Surveillance.** A somewhat surprising result is the low count of syndromic (4.4% overall) and influenza surveillance systems (6.2% overall), both of which have the potential for dual-use as a bioterrorism detection systems. This would suggest that initiatives for dual-use systems for bioterrorism detection may want to focus on the more prevalent infectious disease (23.9%) systems. It should be noted, however, that these numbers reflect only the systems that were available for public review in the spring of 2004. It is possible that the increased interest in syndromic and influenza systems may not be captured by measures from this period, which could be considered a transitory period for bioterrorism detection and research.

3.2 Phase II: Stakeholder Interviews

To better understand the issues surrounding interagency coordination, RTI conducted interviews with stakeholders in key positions in public health and law enforcement agencies in the four countries. These individuals provided valuable information on current strategies for coordination, major barriers to coordination, and potential approaches for improving the ability of multiple agencies to work together in preparing for, detecting, and responding to terrorist events (exhibit 8).

As indicated in exhibit 9, interagency coordination can be hindered by a variety of barriers, including cultural differences, legal constraints on the sharing of classified information, and communication problems that stem from a lack of familiarity and trust among agencies. According to the social choice literature, interagency competition is an additional source of barriers to coordination and can inhibit efficient agency behavior. Many of the barriers identified during the stakeholder interviews can be attributed to the agency competition model, and certain barriers are second-order conditions or applied implications of competition among agencies. For example, one of the primary problems related to coordination is the reluctance to share a valued

Exhibit 8. Highlights of the Stakeholder Interviews

Completed Interviews

- United States (14)
- Canada (14)
- United Kingdom (8)
- Ireland (7)

Common Barriers

- Issue saliency
- Different agency structures
- Legal barriers
- Different approaches to core mission/different rules
- Lack of familiarity, appreciation, and trust
- Jurisdictional issues—who is in control
- Education and training systems initiate parochialism
- Lack of guidance at the Federal level

Promising Practices and Potential Solutions

- Controlling the message—information flow to the public and the media
- Must have high-level champion
- Personalities are key
- Formalize relationships and communication networks
- Public health and law enforcement must communicate pre-incident to establish understanding of other members' roles and trust among individuals
- Coordinating entity with the consensus of all stakeholders
- Joint training and planning—appreciating other roles, establishing trust, and asking difficult questions

resource. Other barriers result from a lack of shared terminology or the absence of preestablished relationships among operatives.

3.2.1 Assessment of Rational Choice Theory with Qualitative Research

Rational and social choice theory is a useful tool for developing hypotheses about individual and agency decision making. Its utility, though, is limited by its basis on the assumptions of rational actors and full information. Yet while it does not explain the enormous complexity of interagency relationships, it is a good starting point for research into a new field, such as preparedness coordination. Rational choice theory can assist in developing information,

Exhibit 9. Source of Identified Coordination Barriers

Agency Coordination (Social Choice)		Communication	Leadership	Cultural Differences	Legal and Structural Challenges
Unrealized shared interests				Collection and preservation of physical evidence	
No single mandated authority		Delivering a unified message to the media	Lack of guidance at the Federal level		Establishing chain of command in cross-jurisdictional incidents
Concerns with discretionary spending			1. Terrorism preparedness is not part of their core policy area 2. Terrorism is not as salient as other policy areas 3. Competition over use of new funding		
Single-purpose expenditures					
No sequential planning					
No cooperative regime		No established network of contacts across agencies			1. Lack of information-sharing protocols 2. Legal barriers to sharing information 3. No shared community of practice
				Different terminology	
					Different organizational structure and decision making authority
				Concerns with public trust	
					Increasing concerns with security and access hinder cooperation

structures, and processes that enhance rational behavior for these policies. In our interviews, it became clear that given the appropriate resources and incentives, most actors would make the rational choice necessary to facilitate interagency cooperation.

To reiterate, qualitative research is an effective tool for exploring new research topics. This methodology is particularly appropriate in developing the initial theoretical understanding of subtle policy issues that can become the foundation for subsequent standard quantitative research. Although we gathered information that is quantifiable, the number of completed interviews is insufficient for statistical analysis. We utilize social choice theory, however, to organize the results of these interviews.

3.3 Detailed Results

The notes from the stakeholder interviewers were coded by the PIs into categories of barriers and solutions based on the aforementioned criteria used to identify emerging themes (section 2.3.3). These emerging themes were then grouped into more general categories—cultural, legal and structural, communication, and leadership challenges—which were compared with the expectations of the social choice coordination theory in exhibit 9. Of the six social choice explanations identified in the literature, four corresponded with themes from the stakeholder interviews: unrealized shared interests, no single mandated authority, concerns with discretionary spending, and no cooperative regime (i.e., informal self-regulating relationships). Neither single purpose expenditure nor absence of sequential planning emerged as a theme in the interviews. This lack of complete overlap may suggest that the current theoretical social choice framework does not completely match our findings or, more likely, that the sample size was too small to capture sufficient variation on the themes. Furthermore, four categories within two of the themes (cultural and legal/structural) were not explained by the social choice theory. This

finding suggests that additional theoretical approaches may be useful in addressing the coordination problem. The detailed findings and observations of the stakeholders are grouped into emerging themes below.

3.3.1 Cultural Differences

Although law enforcement and public health agencies share the common goal of saving lives, they have very different approaches to training and organization, which makes it difficult to recognize shared interests, values, and perspectives when planning and responding to terrorist events. During the stakeholder interviews, multiple accounts were reported of an inability to coordinate between law enforcement and public health agencies. Cultural differences and goals between law enforcement and public health agencies contributed to a number of specific barriers to the interagency coordination process. These included (1) lack of mutual understanding about agency roles, (2) lack of appreciation among public health personnel for the importance of preserving the integrity of physical evidence, and (3) concern among public health personnel about violating the public trust.

Lack of understanding about agency roles. According to a U.S. public health expert who works with State law enforcement in preparedness planning, “There is a sense of distain between public health and law enforcement that goes both ways.” Public health stereotypically sees law enforcement as focused on “command and control,” whereas law enforcement sees public health as a roadblock to police/security investigations. A fundamental problem promoting negative feelings is that law enforcement and public health officials typically have limited daily interaction with one another. As a result, personnel are often unfamiliar with the roles of personnel from other types of agencies and fail to understand the strengths of interagency

partnership. This lack of understanding about each party's function can lead to a climate of fear and disrespect.

A U.S. public health official who frequently interacts with law enforcement officials on homeland security issues stated that there is a lack of understanding among law enforcement at all levels as to the role that public health agencies play in "disaster situations." In some instances, this lack has led to law enforcement's exclusion of public health officials from homeland security–based planning meetings and conferences. In one example provided, law enforcement were said to have held annual homeland security conferences excluding public health officials. Off the record, law enforcement indicated to public health officials that they saw nothing to learn from public health.

The collection and preservation of physical evidence. One of the principal goals for law enforcement is preserving the integrity of physical evidence (DOJ, Federal Bureau of Investigation, and U.S. Army Soldier Biological Chemical Command, 2003**{** XE "DOJ, Federal Bureau of Investigation, and U.S. Army Soldier Biological Chemical Command, 2003" **}**). Lack of understanding for the need to preserve evidence was one of the most common barriers listed by law enforcement stakeholders when discussing their first responder counterparts in public health and other areas. Priorities related to physical evidence are different across agencies. A law enforcement official involved in the Pentagon recovery following the September 11 attacks noted that, when he saw massive numbers of people being evacuated, all he could think was that "these people are all potential witnesses." In another example, local law enforcement officials in Canada noted that they had experienced a recurring problem in which the first action of emergency medical technicians and fire departments responding to apparent suicides by hanging was to immediately cut the victim down. The problem with these actions was that when law

enforcement arrived, the scene had been disturbed, making it difficult for them to confirm that the cause of death was suicide. However, law enforcement personnel working with these other agencies are educating them on the need to preserve physical evidence.

Concern among public health about violating the public trust. A common barrier cited by public health officials, especially in the United States, was the fear that working too closely with law enforcement agencies would negatively alter the general public's perception of public health agencies. Some public health officials strongly believed that by aligning themselves too closely with law enforcement officials and being considered their partners, they could potentially impair public health agencies to perform many of their core functions. The principal concern is how such negative perceptions by the general public, including criminals with whom they interact on a regular and confidential basis (e.g., drug users, prostitutes) would interfere with the delivery of health services. As a result, public health investigations have traditionally been kept separate from criminal investigations for both practical and legal reasons. A related issue that affects public trust is the public's perception of each agency's mission. According to a Canadian law enforcement official, public health and law enforcement officials are often held to different standards in terms of public scrutiny. The official noted that law enforcement officials are typically judged critically and evaluated using basic statistical indicators of success (e.g., crime rates, crime clearance rates), whereas public health officials are not held to same level of critical professional scrutiny. This difference may be because the public generally does not perceive the competency of public health agencies in terms of visible public outcomes, as is often the case with law enforcement and crime agencies. The public is also not as informed about the role of public health agencies, which receive less media attention.

Lack of protocols for proactive interagency information sharing. Agency differences can create a number of problems when attempting to build relationships and develop information-sharing protocols with nontraditional partners. A U.S. law enforcement official stated that a major impediment for his colleagues can be traced to the academy, where they are taught not to share information with outside agencies. This behavior is reinforced over time: "Law enforcement is still afraid to share intelligence with public health. Law enforcement is being trained not share intelligence or information." In particular, law enforcement officials are hesitant to share information with public health officials during the course of a criminal investigation because they fear putting confidential informants at risk or jeopardizing classified information or sources. Several U.S. law enforcement officials mentioned that information sharing can be advanced only if the concept is ingrained in new officers at the academy and reinforced subsequently.

Developing information-sharing protocols with public health officials can be particularly difficult when working with sensitive and difficult-to-interpret intelligence. For example, members of the Canadian intelligence community recognize that some sensitive information should be shared more widely with selected partners in public health. When attempting to share intelligence with such nontraditional partners, however, there was a lack of understanding among public health officials in assessing even regular intelligence threat briefs. Public health personnel were not accustomed to utilizing this type of information and were more likely to misinterpret the degree of the threat. In response to these issues, members of the Canadian intelligence community developed different briefing documents targeting specific types of agencies. These documents effectively customized information depending on the agency and security level.

An important example of this evolving protocol is the white powder incidents that affected many jurisdictions both in the United States and in other countries during 2001 and subsequently. Initially, these incidents were a major source of interagency conflict and confusion. A U.S. law enforcement official noted that during the original white powder incidents, high-ranking State police officials debated for hours over whether public health should even be involved in these investigations. This debate occurred while troopers in his State were refusing to respond to white powder scares because of their lack of expertise and misinformation about potential dangers posed to them. High-ranking law enforcement officials, however, wanted to use the State police forensic laboratory for testing and confirmatory analysis of all suspicious specimens, even though the public health laboratory was more appropriately equipped. Ultimately, a protocol was developed that provided the general public with a toll-free number used to dispatch State troopers to retrieve suspicious specimens and take them to the State public health laboratory for analysis. In turn, public health officials agreed to immediately share these results with their law enforcement counterparts.

Community of practice has not come together. A Canadian bioterrorism official noted that one of the key barriers impeding coordination is that the "community of practice" has not come together in the area of terrorism preparedness and response. Specifically, he was referring to the lack of an agreed protocol for evaluating potential methods or tools and an uncertainty regarding the types of feedback that agencies are requesting. The degree of urgency for moving scientific tools into the field is one of the key factors that make this issue unique in homeland security. There is often not enough time allowed for developing and testing technology before it is deployed in the field. As an example, metal detectors used immediately after the September 11 attacks had a high rate of false positives.

The Canadian official observed that, in many cases, law enforcement officials are not getting the types of feedback they need from public health officials and others in the scientific community. Ideally, law enforcement officials could describe their needs to scientists and, in return, receive constructive advice on specific tools or applications, as well as advice on potential next steps. Law enforcement officials want to know what tools are available now to help them do their job. As such, they will use available off-the-shelf technology, even if its effectiveness has not been proven. When asked to evaluate a particular scientific tool, the scientific community typically lists a range of problems with the prototype but fails to provide constructive advice for law enforcement officials.

3.3.2 Legal and Structural

Lack of clarity among Federal/State/local responders with respect to chain of command. A critical coordination barrier involved chain-of-command issues, including the delineation of agency roles and responsibilities following a terrorist incident. Most countries included in the study have directives in place that dictate Federal agency responsibilities and procedures following large-scale events. In the United States, the Lead Federal Agency (LFA) designation dictates that the Federal Bureau of Investigation (FBI) takes the role of Federal On-Scene Commander until the immediate crisis related to the incident subsides, at which time FEMA takes over as LFA to address consequence management issues. These types of Federal directives do not, however, eliminate all confusion regarding chain-of-command issues, especially when the incident involves multiple jurisdictions, including agencies from Federal, State/provincial, and local government, and when the incident is not clearly defined as a matter of national security.

Incidents involving multiple jurisdictions and agencies can create confusion regarding who is in charge, especially when all the facts pertaining to the case are not immediately known and a specific communication protocol is not already in place. Two recent examples of these types of breakdowns are as follows:

- In March 2005, an anthrax scare at the Pentagon's mail facility exposed gaps between the military's procedures and communication protocols for handling biohazards and those of the rest of the Federal government. One of the biggest problems was that Pentagon officials did not communicate effectively with all the necessary Federal and local agencies, including local public health officials (*Washington Post*, 2005**{** XE "*Washington Post*, 2005" **}**). "The takeaway for me is, the government hasn't learned too many lessons from the last few years," said Scott J. Becker, executive director of the Association of Public Health Laboratories. "The linkages to public health just didn't seem to be there. Clearly, things broke down." Congressional panel members asked to review the incident indicated that the Federal and local responses to the mailroom alerts at the Pentagon and in Fairfax County were impaired by an inability to determine the facts, communicate the risks to the public, and decide who was in charge.

- In 2004, there was a reported use of an unknown chemical on a public bus in Canada. According to Federal law enforcement officials, the response to this incident did not run smoothly, in part because of the gray area on whether Federal or local law enforcement has lead responsibility in issues that have not yet been clearly defined as matters of national security. Another law enforcement official believed that the response problems related to this incident were mainly a resource issue, as the dedicated Federal law enforcement personnel were not available to be deployed at the time of the incident. Yet the most apparent problem was the lack of a unified message to the public regarding the status of the situation. The provincial public health official in charge declared that the incident was not health related, while local law enforcement announced that no decision had been made regarding the nature of the incident and that a criminal investigation was ongoing.

One of the most difficult issues is determining when sufficient evidence is available to label an incident an act of terrorism that meets the criteria for national security. Although criminal intent often is assumed, defining events as either terrorism-related or local criminal matters is a key issue. In each of the countries studied, confusion resulted when national security–based responses were warranted versus more routine State or local responses. According one U.S. public health stakeholder, "There is currently no agreed method by which to

determine the 'suspicious threshold' of bioterrorism." As another recommended, "The key is to maintain good communication throughout and, until you have proof, to keep all potential causes open as possibilities, including natural occurring ones."

Legal barriers. Both law enforcement and public health stakeholders alike typically viewed legal issues as a coordination barrier. Law enforcement agencies were simply unable to share certain pieces of evidentiary information with public health agencies because of legal constraints. And, to a lesser extent, similar constraints exist for public health. According to public health officials, "national security" and "top secret" are the most common reasons given by law enforcement for not sharing information quickly. In the United States, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) regulations were cited by public health officials as an issue that makes it difficult to share some kinds of information with other agencies. Public health law can also affect response issues related to quarantine, isolation, and forced immunization.

On some level, the roles of public health and law enforcement agencies in terrorism preparedness and response are conflicting. The typical goal of public health agencies is to disseminate information as broadly as possible to minimize panic and ensure that clinicians are responding appropriately in the face of an outbreak. Nonetheless, during public health investigations, confidentiality is maintained to protect sensitive medical and patient information. In contrast, law enforcement agencies typically seek to keep information confidential to protect the procedural integrity of the investigation. For many criminal investigations, confidentiality is necessary, first to preserve the integrity of the case for prosecution and, second, to protect informants and witnesses. As discussed above, public health officials identified two primary concerns that affected their willingness to share sensitive information with law enforcement

officials: (1) such sharing causes negative impacts on public opinion toward public health, which reduces the effective delivery of services, and (2) sharing violates confidentiality issues associated with medical and patient information. As a U.S. public health stakeholder noted, "Public health has a burden of confidentiality." In effect, these two agency types are governed by fundamentally different laws and ethics, which inherently constitute a difficult barrier to sharing vital information.

Different agency structures. The ability to form strong interagency partnerships depends, in large part, on developing effective personal relationships. A number of officials from both law enforcement and public health noted that interagency coordination was facilitated when they knew one of their counterparts in the other type of agency. These personal relationships are especially important during a crisis. However, routine staff turnover can be a major impediment to maintaining such relationships; it was considered a problem among law enforcement in Canada and the United States, particularly for Federal law enforcement. Both the Royal Canadian Mounted Police (RCMP) and FBI agents move frequently as part of their job, and as a result, developing and maintaining strong ties to individuals in different agencies is difficult. A U.S. official maintained that staff turnover negatively affected continuity in some of the FBI-led Joint Terrorism Task Forces (JTTF). Another structural impediment noted in regard to the JTTFs was that they typically do not include public health or medical community officials, primarily because they are required to be deputized as U.S. marshals. In fact, we are aware of only one example in which a JTTF includes a public health expert or medical doctor. This individual provides information and analysis to the task force on threat assessment from a public health perspective.

Another fundamental structural difference in the United States is that public health agencies have no overarching or national authority similar to the FBI's. The FBI historically, and currently through the local JTTF, can coordinate law enforcement response at the Federal, State, and local levels. In contrast, for public health, State and local agencies traditionally have a more adversarial relationship with CDC. Equally important, there is no CDC equivalent to the JTTF. When a U.S. stakeholder who serves as a JTTF member was asked about potential interactions between the JTTF and the Metropolitan Medical Response System (MMRS), he suggested that too often interactions between these groups were based on the personalities of their members and the regions' leaders. Yet these task forces collaborated well when common goals were recognized and the threat was highly salient. Nonetheless, he also cautioned that neither the JTTF nor the MMRS is "a solution to the interagency coordination problem."

A related issue to chain of command issues is the lack of contingency plans for interagency communication before, during, and following events. One of the definitive recommendations from our study is that contacts with agency partners be established at the office level rather then among individuals. In other words, relationships should not be established only with one individual within an agency. A U.S. law enforcement official observed that in his JTTF, an FBI agent who was a designated task force member wanted to provide only his pager and cell numbers, not his office number. There were no 24-hour backup systems in place so that the system would continue to work regardless of the availability of a particular individual. One direct solution for this type of impediment is the use of agency-level points of contact with full-time backups.

3.3.3 Communication

Lack of common language. Another common barrier identified by law enforcement and public health officials alike was the use of different terminology across these agencies. A U.S. law enforcement official noted that, in his jurisdiction, the main coordination problem was related to "communication between the different groups due to the language of each group." For example, individuals from public health, law enforcement, industry, academia, and other scientific fields sometimes use different terms to refer to the same things. This barrier, not surprisingly, also affects international coordination efforts. Words identified as having different meanings depending on the agency user include *evidence*, *survey*, *index*, *investigation*, *case*, and *surveillance*.

Inability to develop a joint message through the media. Both law enforcement and public health stakeholders officials identified the media as a potential barrier to interagency coordination. For example, the media can harm interagency efforts with a single widespread release of information in advance of reviewing it with these key agencies. This release can seriously impede an ongoing joint investigation several ways. It can cause public unrest or panic and can compromise sensitive law enforcement information. Public confusion also can occur when multiple accounts or mixed messages are being released from different agencies supposedly working together in a coordinated fashion to address the event.

Even within an interagency partnership, the media can release sensitive information that affects the cohesiveness of the group, including the desire of individual partners to remain a part of the initiative. The media are in a unique position, since in today's global communication system, they have virtual presence immediately and everywhere. It is therefore critical that the media be coordinated with these agencies regarding terrorism response procedures. Given the media's traditional role as a "watch dog" for the public regarding government actions, tensions

with law enforcement and public health agencies are likely to emerge, especially when sensationalized issues are involved. Often, there are not clear guidelines to regulate rapidly evolving public incidents such as the recent London subway and bus bombings. The media can play a critical role in either assisting or hindering interagency response. For example, in one U.S. jurisdiction, the local media ran a story on agroterrorism and published information on key facility locations. This single incident nearly ended the entire partnership; significant effort from the leaders was required to regain the requisite trust to continue working together.

Establishing a joint-agency spokesperson for the media can facilitate consistent and timely release of information to the general public while avoiding the pitfalls described above. This approach was evident during the recent London bombings, when the London Metropolitan Police assumed the position of providing media liaisons. Its spokesmen provided the public with a constant stream of information that apparently both contributed to the identification of the bombers in the first set of terrorist incidents and calmed the public. Emergency phone numbers for hospitals and agencies were included in the police briefings so that family and friends could attempt to trace potential victims. Equally important, in contrast to the confused police and emergency response following the Madrid bombings, the London police utilized the media to minimize crowd and other disruptions of crime scenes, negative impact on public transit and business operations, and excessive fear among residents and tourists. In effect, it appears that interagency coordination was enhanced substantially through the use of a single agency spokesperson to the media.

3.3.4 Leadership

Many stakeholders reported that their funding and other agency organizational support was dependent on sustaining the commitment of key executive and legislative leaders. Although

terrorism preparedness and response issues became extremely salient in the aftermath of September 11, 2001, this political interest gradually waned, and key politicians shifted their attention toward other issues. This waning of interest was particularly prevalent at the State and local levels, where political success is more likely associated with nonsecurity issues, such as education and jobs. For example, one U.S. State law enforcement official reported that a senior-level position for preparedness was created immediately following the September 11 attacks and funded by the sitting governor, but that this governor was defeated in an election, and the new administration cut the funding for the new position. Agency leaders must provide key political leaders with information that will maintain the political saliency of terrorism response policy development, particularly when the immediate threat and media public interest have dissipated and the political responsibility has defaulted to the Federal political level. Often, the type of information useful to political leaders consists of linking terrorism preparedness to health and economic priorities. For example, the innovative terrorism preparedness evident in the Ford County Sheriffs Office in Dodge City, Kansas is, in large part, reflective of the local economy's near-total dependency on maintaining the massive cattle industry, which is a serious potential target for bioterrorism.

Lack of guidance at the Federal level. Stakeholders noted that there was insufficient national direction in the promotion of multiagency coordination from the Federal level. Guidance on jurisdictional issues (e.g., identifying the lead agency by region for specific types of events), funding for joint programs and initiatives, and updates to "best practices" from other State and local jurisdictions must be federally directed and coordinated according to resource capacities and legal mandates.

Unlike other areas of domestic defense, which are now centralized in DHS, biodefense is spread across multiple Federal agencies and is coordinated solely by a White House aide. This overlapping jurisdiction between DHS and the Department of Health and Human Services (DHHS) led to confusion agencies both inside and outside the government over who would be in charge of preparations for and response to biological attacks. Response to various types of terrorist attacks, biological incidents in particular, could benefit substantially from an immediate coordinated multiagency response that could reduce the spread of physical harm. Infectious diseases typically are spread by human contact; therefore, it is imperative to rapidly identify and quarantine carriers. Given the multiple forms of disease transportation, both internationally and domestically, an unambiguous chain of command is required to enhance local, State, Federal, and international responses to health incidents. The need for this command structure coordination was evident during the SARS crisis, in which countries trying to cope with the virus varied considerably, both in the nature and effectiveness of their containment strategies. It can be argued that countries with a clear command structure, such as Canada and Singapore, were able to respond most effectively. Command structure was an issue even in a small country such as Ireland where, for example, public health agencies were willing to have law enforcement agencies involved but were given no directive to include them. In addition, the national government gave no direction on the issue of which agency leads and which agencies participate, including specific roles by incident circumstances. Even if the chain of command varies by the type of terrorist incident, the key to effectiveness is establishing a hierarchy and, most importantly, a lead agency. This organizational issue must be clearly resolved, since it affects the related issue of interagency competition.

Interagency competition. Funding increases are a main source of interagency competition. In some U.S. jurisdictions, stakeholders identified the massive increase in funding after 2001 as a major barrier to interagency efforts. For example, the State Homeland Security Grant Program, administered by DHS, has distributed money from the Federal government to States and counties. Cities are required to go through county decision makers to receive funds supporting preparedness activities; given that counties usually consist of various cities and suburbs, this requirement can lead to program redundancy and unnecessary purchasing of equipment. The 50-State funding formula has resulted in the overfunding of States with small populations. Critical funding to larger and more vulnerable states, such as New York and California, must be prioritized over smaller states, such as Wyoming and Idaho, which have far fewer multiagency coordination resource needs. This inefficient distribution of funding can be partly attributed to the unwillingness of both the Federal executive and legislative braches to exercise the leadership required in the face of the traditional congressional norm regarding the distribution of large funds across all 50 States. It is far easer to avoid this funding coordination barrier in the more politically centralized parliamentary countries included in this project. A related leadership issue is funding and program accountability. In the United States, local police departments can request funds for their towns and cities, but the criteria for selecting programs for funding are not well defined. This ambiguity in funding criteria can lead to further barriers to program evaluation and accounting for expenditures. Several national media reports have raised the issue of expensive frivolous programs that have only remote links to terrorist incident preparedness and response coordination.

Finally, without a strong centralized leadership structure, unnecessary competition instead of coordination occurs among the numerous agencies seeking to enhance their funding.

Not only do law enforcement and police agencies at all levels of jurisdiction compete, but private organizations and universities compete as well. There is a stronger incentive not to support the efforts of those agencies seen as funding competitors than there is to enhance interagency coordination. Discrediting competing agencies therefore becomes more important than coordination and shared funding.

Emphasis on most proximate problems, not on terrorism response coordination. In many jurisdictions in the United States, as well as in the United Kingdom, Canada, and Ireland, terrorism is considered a low-base-rate or a rare event. Law enforcement and public health agencies consequently concentrate overwhelmingly on proximate issues affecting the public daily. Because terrorism is a rare event in these countries, most law enforcement and public health agencies at the State and local levels have little, if any, experience responding to actual terrorist incidents. More salient issues (e.g., natural emergencies, child protection, and domestic violence) are associated with more successful coordination across agencies. Not surprisingly, the instances of strongest interagency coordination occurred in areas with unique natural circumstances (e.g., prone to flooding or other natural disasters) and in areas with high-risk terrorist targets (e.g., nuclear power plant).

Communication channels formed between law enforcement and public health agencies during rare events are unlikely to be maintained. Even though law enforcement officials may be aware of and, in some cases, have received training on bioterrorism issues, coordination is problematic in the absence of more frequent training and education. As one U.S. law enforcement official indicated, even veteran law enforcement officers, with decades of experience investigating homicide and other violent crimes, have little or no experience with bioterrorist events.

3.4 Promising Practices

During the course of the study, a number of promising strategies and mechanisms were identified for improving interagency coordination in all or some of the countries included in the study. These strategies or mechanisms were grouped into four conceptual categories: cultural, legal and structural, communication, and leadership challenges.

3.4.1 Cultural

This concept focuses on establishing common values and shared experiences, not only among government agencies at all levels but also among private industries that might be targets for terrorism. Two models emerged from the interviews: liaisons and public-private partnerships.

The liaison model. The liaison model was reported to be successful in improving information sharing and interagency coordination in the United States and Canada. Cross-fertilization, gaining legitimacy in the partnering agency, and increased access and information sharing were among the benefits of this model listed by stakeholders. Cross-over training and assignments of public health personnel in law enforcement agencies facilitated information exchanges and provided on-site medical and public health consultation. The reverse also was evident for cross-assignments of law enforcement personnel to public health agencies. These individuals provided on-site expertise concerning criminal investigations, chain of custody, and related legal issues. Having a direct line of communication among law enforcement, public health, and other scientific staff further facilitated coordination on a case-by-case basis.

A Federal Canadian public health official listed a number of criteria necessary for success in a liaison-type position: (1) make liaison part of management team, (2) clearly define the position and its duties, (3) recruit persons with strong communication skills and diverse areas of experience, and (4) ensure full access of information in both agencies through top secret clearance and direct communication with headquarters.

Public-private partnerships. Given that potential terrorist targets cover a range of private industries, including airlines, nuclear plants, shipping, and food, it has become increasingly clear that these groups must be incorporated in interagency planning and response activities. The September 11 attacks underscored this need. By partnering with designated business representatives from relevant industries, law enforcement and public health agencies benefit from insider information about potential attacks and possible solutions. It is vitally important to establish such business partnerships in the planning phases of response strategies because representatives' compliance with new security measures depends partly on cost agreement. In effect, such costs cannot be solely borne by an industry whose profit viability is at stake. Airlines and airports, for example, could not implement the full range of post–September 11 security measures without shared costs among the numerous airlines, related companies, and governments. New security technology is often prohibitively expensive and may require widespread specialized training. The use of private versus government personnel for screening also illustrates the inherent difficulties such industries face in implementing new security measures. On an industry-by-industry basis, however, joint planning has been effective in deriving innovative solutions, including cost sharing.

One successful model for public-private partnerships is the agroterrorism initiative in Ford County, Kansas. Led by Undersheriff James Lane of the Ford County Sheriff's Department (Kansas), this initiative's planning committee represents a highly effective joint partnership among Federal, State, and local law enforcement officials, public health officials, veterinary scientists, university agricultural researchers, and local business members. It is tasked with coordinating the preparation for and response to any spread of foreign animal diseases in Ford County, Kansas. The partners understand that by actively working together, they can make a

significant difference in responding to and deterring these new threats. By establishing this broad spectrum of expertise and capabilities, the committee is able to receive and process a broad range of intelligence information and, through a multijurisdictional and multifaceted approach, develop effective and efficient processes for responding to specific threats.

Industry committee members are beef processing industry representatives, feeder industry representatives, local producers, and local sales representatives. These members serve as liaisons to their industries and help educate their peers about the committee's plans and objectives. Industry members can take on the additional roles of creating sentinel sites for reporting a bioterrorist attack on the industry; educating their peers about the basic characteristics of a biological attack; and providing consultation on information specific to their industry, both before and after such an attack. They provide a vital and direct communication channel to their peers and can assist the committee in securing resources from both businesses and governments to implement the joint plan. According to their business experiences, industry committee members can also provide management functions in executing plans. These members provide valuable assistance in the development and initiation of interagency response plans by ensuring that proposed security procedures accurately reflect industry capabilities and cost needs.

3.4.2 Legal and Structural

Adoption of the incident command structure. The incident command structure was developed in the 1970s to aid interagency response to catastrophic events. One of the benefits of joint training and education is that public health officials can be taught the value of using this structure. This type of approach can greatly facilitate interagency response and be applied to a range of events requiring joint response actions, including large-scale car accidents, serial crimes such as the D.C. sniper case, and terrorist attacks. One key is to recognize the common themes

regarding the best preparations for and responses to such diverse major events. Developing responses to various incident scenarios can help forestall disorientation in command responses to overwhelming incidents. Most importantly, pre-planned interagency responses to a wide variety of events can build on common relationships and strategies.

Joint training exercises and planning. Some stakeholders credited joint training with helping improve appreciation of other agencies and their roles, establishing trust among parties, bringing attention to details, and forcing participants to ask difficult questions that arise during crisis situations. Other noted benefits of joint training and planning were that it (1) provides actual testing of procedures, (2) assesses the capabilities of all individuals involved (including interagency response ability), (3) can include presentations to the community, (4) is structured so that all key participants interact, (5) helps agencies learn how to respond and react collectively (e.g., identify commonalities, reinforce personal contacts and relationships), (6) helps behavioral patterns involved in response to crises become automatic, (7) identifies gaps in and across agencies, and (8) increases familiarization with and appreciation for other partners.

For joint training to be effective, it should be done regularly and have set goals for improving performance over time. In many cases we examined, there was no evaluation of the effectiveness of the training, and there were no built-in improvement goals. As such, some stakeholders reported that it was not uncommon for the same problems to arise year after year. Some law enforcement and public health stakeholders reported that they were tired of joint exercises, mainly because they felt that these exercises were not truly joint. Instead, they believed that these trainings were useful only because they showed that every agency has its own protocol. A U.S. law enforcement official noted that in his experience, joint exercises were not

collectively carried out; rather, they were led by a single agency that happened to be the designated lead agency for a particular jurisdiction or situation.

There are a number of different perspectives on what characteristics constitute a successful joint training process. A training program supported by a Metropolitan Medical Response System (MMRS) in the western United States refers to a simulation training activity as a facilitated exercise. Based on a U.S. Marine Corps training model, a facilitated exercise is a method of adult learning through which learners must sequentially pass through stations led by local department heads. The facilitated exercise method stresses the correct way of doing things by stopping and correcting the learner if the response is incorrect.

Another U.S. law enforcement stakeholder observed that "there are a lot of problems with statewide exercises." One notable shortcoming is that crisis communication plays an ancillary role in the scenario development and enactment. Another deficiency is that although some roles are well defined in the script, others are completely missing. There is a lack of emphasis on creating fully integrated team approaches to these terrorism response exercises. For example, several groups are often omitted from the exercises, including risk communication groups, the media, epidemiologists, the Department of Agriculture, the Department of Transportation, and public health departments. Public health departments are often omitted because of their size and many facets; including them would make planning committees too large. Despite the enormous challenge of including a sufficient range of public health personnel, some of the key criteria for successful joint exercises include

- thorough debriefing for all participants;
- formal evaluation, including identifying gaps and assignments for correcting these gaps;
- mid-level supervisors as a way of practicing and preparing a succession plan;

- conducting the exercise and training on a systems level;
- attendance of all appropriate stakeholders (i.e., everyone involved in preparedness and response); and
- seriousness of the joint exercise.

A promising model for the joint training of law enforcement and public health officials is the CDC-led Forensic Epidemiology course. This course fosters an improved understanding of the investigative goals and methods specific to each discipline. Ideally, it can also help strengthen interdisciplinary collaborative responses to future attacks involving biological agents. In April 2003, DOJ sponsored a "train-the-course managers" workshop designed to equip attendees with the information, materials, and facilitation skills needed to conduct the Forensic Epidemiology course in their districts/regions (CDC, 2004**{** XE "CDC, 2004" **}**).

The events of fall 2001, including the anthrax cases and the thousands of biological threats and hoaxes, required law enforcement, other public safety, and public health agencies to work together in unprecedented ways. The concurrent responses to such threats affirmed the many similarities in the goals and investigative methods used by both law enforcement and public health officials but also highlighted salient differences in the different disciplines' approaches.

Developing mechanisms for secure information sharing. One promising solution for improving real-time communication is the development of a virtual Secure Classified Information Facility (SCIF). A SCIF is a place where relevant documents can be stored in a secure environment so that they do not mix with other operations. Personnel with access agree in advance to conditions of access, including the penalties for violating the SCIF security.

The concept of a virtual SCIF is a key component of the Strategic Medical Intelligence (SMI) initiative, which was developed by Dr. Michael Allswede in 1997. SMI comprises health

care workers from Pennsylvania and West Virginia who provide consultative services to law enforcement agencies, both as events arise and in response to requests for medical information that may be part of a law enforcement investigation. The primary purpose of SMI is to create an executable strategy for analyzing medical anomalies through processing and analysis of data and for assisting in the management of any needed responses.

SMI leadership has identified and trained new members to facilitate early reporting and evaluation of medical anomalies before a definitive diagnosis is made. SMI members provide medical and public health advising to the Pittsburgh Field Office of the FBI, which in turn provides security clearances and threat briefings to physicians. SMI physicians do not provide medical data but rather consultation to the FBI, focused exclusively on diseases that are required by State law to be reported to public health authorities. SMI members are bound by State laws and HIPAA and do not provide patient names, medical history, addresses, or other personal information to the FBI.

One of the key benefits of SMI has been the establishment of formalized relationships with MMRS, State police, medical systems, and local public health authorities. Another has been the development of a trained and credentialed network of mutually supporting physicians familiar with law enforcement, emergency management, and communications. These physicians serve as a source of human surveillance for identifying and reporting suspicious events in a timely manner. For example, during the anthrax events of 2001 and 2002, the system of consultation, information sharing, and joint decision making that emerged incorporated clinical medical representatives, public health officials, and law enforcement officials. SMI has increased awareness of physicians' integral role in detecting bioterrorist events and has enhanced

relationships between the FBI and the medical and public health communities in Pennsylvania and West Virginia.

The SMI team is led by a physician who receives information about anomalies of concern and evaluates them in response to requests by colleagues. Should an event of concern develop, SMI members, public health leaders, and law enforcement officials are brought together for a facilitated discussion. The SMI process is intended to serve as a coordinated, multisource center of information gathering and analysis (see exhibit 10). The SMI analysis process is composed of several stages intended to be inclusive, adaptive, and iterative. These stages are depicted in exhibit 11 and are as follows:

Exhibit 10. SMI Domains of Expertise and Information Flow

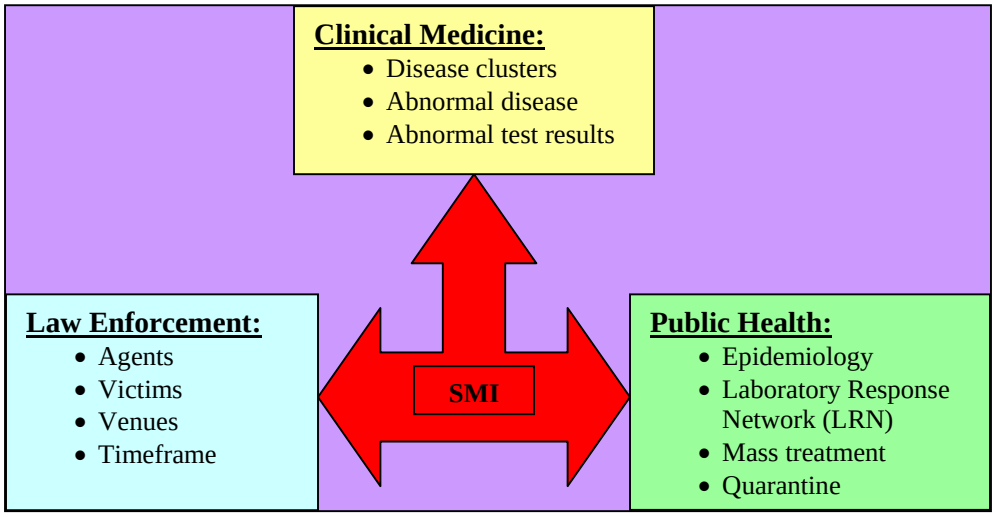
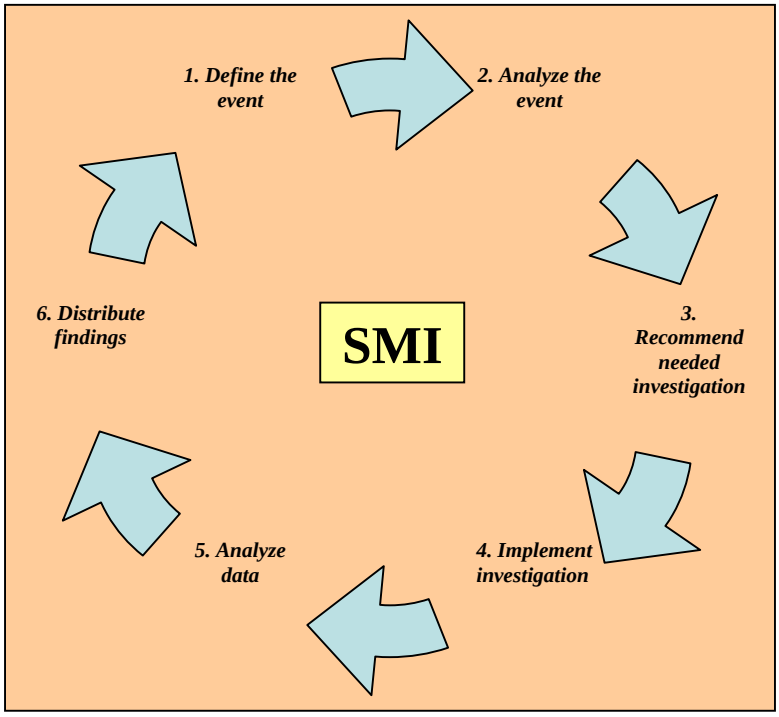


Exhibit 11. SMI Analysis Process



1. *Define the event*—The beginning phase may be initiated by any stakeholder. Known information that could point to an event of concern is shared according to obligations and restrictions in State public health laws and HIPAA. This information is used and shared among stakeholders to assemble a complete set of the known information about an anomaly. The product of this phase is collaborative information sharing to the fullest extent possible.
2. *Analyze the event*—The analysis phase is used to quantify and interpret the anomaly in terms of what it might represent in the best and worst cases. The certainty of available medical findings, the potential impact of the event, and the probability of the event being caused by a group known to pose a threat to public safety are considered in combination. The product of this phase is a range of possible scenarios to explain the anomaly. These scenarios can range from a national security emergency to a criminal/negligent occurrence to an emerging disease.

3. *Recommend needed investigations*—Based on the agreed scenarios, unknown information needed to further evaluate the threat can be obtained from sources such as laboratory findings, intelligence sources, medical sources, or public health surveillance systems. By categorizing a scenario into one of three possibilities, appropriate legal mechanisms may be used to obtain specific data for specific uses. The product of this phase is a collaborative strategy to legally obtain needed data.
4. *Implement investigations*—Information is collected by each domain and shared with other domains in a safeguarded process developed in step 3. The product of this phase is additional information on the unknowns that would help interpret the initial report of an anomaly.
5. *Analyze data*—Public health officials take the lead on analysis relating to an emerging infectious disease scenario. Law enforcement officials take the lead on bioterrorism scenarios. Cooperative investigation is necessary for criminal/negligence scenarios. The product of this phase is an agreed assessment of the threat and next steps for possible action.
6. *Distribute findings*—Should an anomaly or event be determined to be a national security concern, higher authorities are contacted, and key information is shared. If the information points to a criminal act, law enforcement officials take charge. If emerging infection is the concern, public health officials take charge. Regardless of which domain serves as the primary investigator, cooperative data sharing continues as permitted by law, roles for domain collaborators are defined and agreed on, and media statements are coordinated.

3.4.3 Communication

Establishing relationships and communication networks before the event. As a leading law enforcement official who heads the antiterrorism branch for his department noted, “You don’t want to learn how to dance at the party.” The goal must be to build and cultivate

interagency relationships now, not when a crisis occurs. Informal relationships are essential, as they establish trust, mutual respect, contacts, and an understanding of collaborating agency roles. A municipal police chief in Canada, who has a strong record of working with nontraditional partners in public health and other areas, noted that it is "very difficult to dislike the other side once you get to know them and understand their point of view." This chief sits on multiple panels with public health officials and also frequently makes media appearances and attends public meetings with these partners. As a result of these experiences, the chief noted that public health and law enforcement officials know each other better and engage in more joint agency activities. He also stated that the methods used by both types of agencies for responding to the press and the public have become more similar. Often, the most effective examples of coordination were found in areas that had been forced to work together on issues related to natural disasters (e.g., flooding), high-risk facilities (e.g., nuclear power plants), or public safety (e.g., child abuse). A detailed coordination and response plan can help formalize relationships and networks, as can regular participation in interagency exercises. Other factors that facilitated successful coordination included (1) strong written mutual aid agreements, (2) a strong history of collaborating, and (3) a good operations center.

For example, a U.S. public health official noted that law enforcement and public health agencies worked well together in a county in his State largely because it has a nuclear power plant. He indicated that in this area, the local police know each other well and collaborated well with public health officials. Their shared history of responding to events led to a trusting, team-based relationship. Overall, this type of relationship between jurisdictions was more prevalent in States and countries where circumstances had forced agencies to work together.

A Canadian law enforcement official involved in the Project Northstar initiative listed a number of recommendations for institutionalizing strong coordination processes:

- Hold regular structured meetings and discuss best practices, networking, and issues of concern.
- Have strong leadership in resource sharing, regular personal communications (regular e-mails and phone calls), full briefings, structured meetings, and good management.
- Disseminate meeting minutes via e-mail and communicate to partners the message that things are getting done.
- Engage partners early in the process.
- Have a high-level champion(s).

A final observation involved the personalities of individuals involved in interagency coordination. As a Canadian official noted, "Not everyone has the right mindset or personality to work collaboratively with other agencies." As such, when building programs or initiatives and selecting members from different agencies, it is a good idea to hand-pick people to ensure success. This careful attention is also critical when selecting liaisons to other agencies.

The Cops & Docs program is a novel approach developed by the Richmond Police Department (Virginia) and local health care providers. It brings together law enforcement and medical professionals to address the entire cycle of violence by combining the strengths and resources of diverse professional groups affected directly by the problem. The program makes an array of tools available to death investigators through nontraditional partnerships with their health care colleagues. These tools include victim interviews, forensic evidence, and meaningful narcotics surveillance data—common sources of conflict between law enforcement and health care providers. By working "handcuff-in-glove" to reduce violent crime, "cops" and "docs" cross traditional professional boundaries and work together to identify overlapping or even conflicting programming, while developing creative solutions to common problems. Ultimately, each

participating group learns to do its job better and helps colleagues from other groups achieve success.

Actionable alerts. Because most agencies are not equipped to handle raw data from other agencies, most prefer to receive actionable alerts, which can be used to quickly develop operational responses. As an example, law enforcement officials inform public health officials to be on the lookout for unexplained or unusual symptoms in a certain geographic area. The use of actionable alerts alleviates the need to receive sensitive information on patients or on law enforcement investigations. Furthermore, neither public health nor law enforcement officials have the time or training to regularly view raw data from other agencies. Another benefit of this approach is that it can prevent misinterpretation and confusion surrounding the analysis of raw data, especially data that are not familiar to the agency in question.

3.4.4 Leadership

Strong leadership at the agency or department level. Strong personalities in leadership positions are behind almost all examples of successful preparedness and response coordination. Some partnerships exist in large part because a high-level champion (or champions) forged a relationship with other agencies. It is clear from our study that champions can have significant effects on promoting interagency efforts.

One example of strong leadership is law enforcement officials who bridge gaps with nontraditional partners in public health and develop personal contacts. Other examples include leaders who can speak different domain languages and individuals who focus on promoting coordination. According to one of the leaders of a U.S.-based interagency initiative, “I see my role as being a coordinator, as making sure that the different voices are heard, and then working to make changes in plans over time.” He explained, “We leave our egos at the door and just seek

to understand and develop the best plans we can to meet the needs. One of the main reasons our programs have worked so well is that key leaders in our jurisdiction have been open and flexible. They have shown a great deal of leadership taking issues forward to make policy decisions."

3.5 Implications and Recommendations

Terrorism is not *just* a law enforcement problem or *just* a public health problem. It is a multidisciplinary problem that requires multidisciplinary solutions. Meaningful, long-lasting solutions rely on cooperation and collaboration among all professions affected directly by the problem, including those in law enforcement and public health. This NIJ-funded project, "A Cross-national Comparison of Interagency Coordination Between Law Enforcement and Public Health," illustrates the importance of conducting cross-national, interdisciplinary comparative studies in terrorism research. A number of key themes emerged during the study regarding the need to improve interagency coordination and communication and the obstacles that must be overcome.

We were struck by the international impact that the September 11 attacks had on interagency coordination. Stakeholders from every country we examined reported that these attacks had a sizable effect on interagency preparation and response. In Canada, the SARS epidemic had a similar effect. A public health official from Ontario noted that the September 11 attacks increased awareness and set the stage for improving interagency responses but that the SARS epidemic actually put multiagency initiatives (mainly at the provincial level) into action.

It became clear during the course of the project that the coordination problem transcends subject areas (e.g., response to natural disasters versus response to acts of terrorism) as well as borders: the countries experienced a number of similar problems and successes. Past collaborative experience was a key factor in interagency coordination. Agencies in areas that had

been forced to respond jointly in the past, whether in response to natural disasters/acts of terrorism, or criminal activities on a larger scale (e.g., child abuse), were generally better positioned to work together, in large part because they knew one another's roles. Other factors also influenced interagency coordination. For example, limited budgets, though burdensome, increased coordination by forcing agencies to work together to solve problems, particularly in Canada. The same issue was credited with improving coordination in certain U.S. jurisdictions. We also found that the size of a country or jurisdiction affected coordination. Ireland, the United Kingdom, and even Canada all have the benefit of a smaller number of agencies requiring coordination. In contrast, the United States must coordinate responses not only across law enforcement agencies, public health agencies, and other first responders but also at Federal, State, and local levels.

Despite these variations, we feel that the comparative methods used in this study are helpful in drawing on the experiences of countries that have similar political structures but different experiences with terrorism and collective violence. Other, less similar countries such as Israel, France, Spain, and Columbia have developed terrorism response procedures under constraints different from the United States' (e.g., political, financial, social). Although these procedures are not completely transferable, they still provide valuable lessons and are excellent sources for improving our knowledge of both the characteristics and dynamics of terrorism.

We found a number of promising models and mechanisms for interagency coordination. One of the basic principles of successful models is that communication among Federal, State, and local agencies (both across and within disciplines) is a two-way street, from the top down and the bottom up. The Federal government spent millions of dollars and hundreds of labor hours attempting to locate Eric Rudolph, the Atlanta Olympics bomber, over a span of 5 years; in spite

of these efforts, however, it was two local police officers from a small department who apprehended Rudolph in the course of their daily activities. Likewise, Timothy McVeigh was arrested by a State trooper who noticed a suspicious vehicle with an improper registration plate. It is clear that to create a truly integrated coordination strategy, information must flow up and down channels at every level of government.

One potential solution for improving the sharing of sensitive information is to give key individuals in public health a top secret security clearance. This measure can help eliminate the excuse often used by law enforcement agencies, intelligence agencies, and homeland security officials that information cannot be shared with public health agencies because it is classified.

Another recommendation for improving communication is for public health agencies to develop written agreements with law enforcement agencies that facilitate discussions in compliance with confidentiality laws and HIPAA. This measure may be accomplished simply by not using individuals' names, ages, and other identifiers, a practice already in place without official agreements in many States. In many States, physicians regularly report gunshot injuries, injuries resulting from explosions, and suspected domestic violence and child abuse injuries to the police. An agreement could be put in place that allows HIPAA and confidentiality laws to be violated in certain cases in the interest of preventing, destructing, impeding, or minimizing terrorism.

A third recommendation is to establish a common language for law enforcement officials, public health officials, and other first responders in interagency planning and response development. As stated previously, terms that appear to mean the same thing (e.g., *case*, *surveillance*) may actually mean significantly different things in the fields of law enforcement

and public health. This common response language should be developed internationally, as terrorist events and investigations are increasingly crossing national borders.

Future research in a number of areas could continue to develop our understanding of interagency coordination. We must apply multiple theoretical perspectives, including the social choice theory, which is certainly useful in understanding multiagency coordination and in developing hypotheses about individual and agency decision making. For example, the theory provides insight as to why SMI is a promising model: the initiative recognizes shared interests, supports cooperative regimes, and provides mutual rewards to participants from diverse backgrounds. Yet social choice theory does not adequately explain several outstanding issues, such as how Federal, State, and organizational political factors dominate individual choices in a crisis context. In other words, social choice theory alone cannot explain the full complexity of multilevel interagency relationships. Other policy theories must be utilized to understand the unique crisis contexts that were the theoretical and policy focus of this project. Any future research projects should address this pressing need for further theoretical development.

We must improve both the quality and quantity of data that can be used to support interagency efforts. This measure includes more rigorous reporting of methods and procedures used in information capture and mechanisms used for data quality assurance and data dissemination. In addition, we should carry out research in the form of both large and small studies. The large studies would be extensions of the qualitative method and would, through larger sample sizes, produce more robust statistical results. This research could include a reevaluation of the results from this study using the same research questions, but with a larger sample survey of agency staff in numerous countries. This design would allow us to examine interactions among the coordination barriers, additional country-level characteristics, and the

rank or position of responders. Another large study could address the nature and effectiveness of preparedness training exercises. This study would include a training exercise inventory that would measure the extent of coordination in planning and implementation, the extent of information dissemination following the training, and the extent to which the findings from the training were executed. The training study would be conducted cross-nationally to facilitate information sharing and to identify new methods for coordinated training.

In addition to the large studies, several smaller projects should be conducted to explore the coordination problem and to maintain the strong networks and interest generated by this project. First, many of the stakeholders and area experts invited the principal investigators to participate in meetings, trainings, and planning sessions held by their terrorism response teams. These meetings are an ideal opportunity to verify the findings in this study against observations of coordination (or lack of it) in practice. Furthermore, these sessions could lead to subsequent research by expanding our international network and increasing communication with interested parties.

Finally, a relatively inexpensive and approachable solution to the coordination problem is to engage as many concerned actors in the joint discussions as possible. This process could be facilitated by adding a standing panel or round table presentation at key scientific meetings that address topics relevant to preparedness and response. For example, the Public Health Information Network (PHIN) meeting hosted annually by CDC would be an excellent opportunity for law enforcement and public health researchers to gather and present problems and solutions related to information capture, storage, dissemination, and sharing. Another example is the NIJ Research and Evaluation conference, which brings together a mix of researchers and practitioners from law enforcement. This meeting would be an excellent

opportunity for networking and information sharing if the same groups from public health were to attend.

Understanding the roles of all first responders is a critical component of preventing and planning for a terrorist event. Communities must understand that the intentional or even the accidental introduction of chemical or biological agents would have a significant impact on all of us. Mobilizing resources at all levels of government rapidly and effectively is not an easy task and requires the establishment of new partnerships. Although significant communication and coordination gaps still exist in many places, practicing and working together builds partnerships and promotes an understanding of each group's requirements.

References

Bendor, J. (1988). "Review Article: Formal Models of Bureaucracy." *British Journal of Political Science*. 18: 353–395.

Bendor, J., and Moe, T. (1985). "An Adaptive Model of Bureaucratic Politics." *The American Political Science Review*. 79: 755–774.

Bendor, J., Taylor, S. and Van Gaalen, R. (1987). "Stacking the Deck: Bureaucratic Missions and Policy Design." *The American Political Science Review*. 81(3): 873–896.

Bravata, D., McDonald, K., Owens, D. et al. (2002). *Bioterrorism Preparedness and Response: Use of Information Technologies and Decision Support Systems (Evidence Report/Technology Assessment No. 59)*. Prepared by University of California San Francisco–Stanford Evidence-based Practice Center under Contract No. 290-97-0013. AHRQ Publication No. 02-E028. Rockville, MD: Agency for Healthcare Research and Quality.

Brehm, J. and Gates, S. (1999). *Working, Shirking, and Sabotage*. Ann Arbor: The University of Michigan Press.

Butler, J., Cohen, M., Friedman, C. et al. "Collaboration between Public Health and Law Enforcement: New Paradigms and Partnerships for Bioterrorism Planning and Response." *Emerging Infectious Diseases*. 8(10): 1152–1156.

Calvert, R., McCubbins, M., and Weingast, B. (1989). "A Theory of Political Control and Agency Discretion." *American Journal of Political Science*. 33(3): 588–911.

Campbell, A. (2004). "The SARS Commission Interim Report: SARS and Public Health in Ontario. Executive Summary." *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*. 2(2): 118–126.

Centers for Disease Control and Prevention (CDC). (2004). *Forensic Epidemiology: Joint Training for Law Enforcement and Public Health Officials on Investigative Responses to Bioterrorism*. CDC. http://www.publichealthlaw.info/forensicepi-more.htm

Department of Homeland Security (DHS). *Strategic Plan. http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0413.xml*

Downs, A. (1966). *Inside Bureaucracy*. Boston: Little, Brown, and Company.

Fine and Layton. (2001). Lessons from the West Nile Viral Encephalitis Outbreak in New York City, 1999: Implications for Bioterrorism Preparedness. *Clinical Infectious Diseases.* 32: 277–282.

Goodman, R., Munson, J., Dammers, K., Lazzarinin, Z., and Barkley, J. (2003). "Forensic Epidemiology: Law at the Intersection of Public Health and Criminal Investigations." *Journal of Law, Medicine & Ethics*. 31: 684–700.

Gwartney, J. and Stroup, R. (1995). *Economics: Private and Public Choices*. 7th Edition. New York: The Dryden Press.

Hearne, S., Segal, L., Earls, M. et al. (2004). *Ready or Not? Protecting the Public's Health in the Age of Bioterrorism*. Trust for America's Health. http://healthyamericans.org/reports/bioterror04/BioTerror04Report.pdf

Heinrich, J. (2001, October 5). *Bioterrorism: Coordination and Preparedness*. GOA testimony.

Inglesby, T., Grossman, R., and O'Toole, T. (2001). A Plague on Your City: Observations from TOPOFF. *Clinical Infectious Diseases.* 32: 436-445.

Levy, P., B. Burke, J. Eyerman, D. Banks, B. Schwartz, and P. Wortley. (2004). "Statistical Methods Applicable to Bioterrorism Prevention and Damage Control." *Proceedings of The First Sino-International Symposium on Probability, Statistics, and Quantitative Management*.

Miles, M.B., and Huberman, A.M. (1994). An Expanded Sourcebook: Qualitative Data Analysis (2nd ed.). Thousand Oaks, CA: Sage Publications.

Miller, G., and Moe, T. (1983). "Bureaucrats, Legislators, and the Size of Government." *The American Political Science Review*. 77: 297–322.

Morrow, J. (1994). *Game Theory for Political Scientists*. Princeton, NJ: Princeton University Press.

National Research Council (1999). *Chemical and Biological Terrorism: Research and Development of Improved Civilian Medical Response*. Washington, D.C.: The National Academies Press.

National Research Council. (2002). *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism*. Washington, D.C.: The National Academies Press.

Niskanen, William A., Jr. (1971). *Bureaucracy and Representative Government*. Chicago: Aldine-Atherton, Inc.

Ordeshook, P. (1986). *Game Theory and Political Theory: An Introduction*. New York: Cambridge University Press.

Peters, B. (1981). "The Problem of Bureaucratic Government." *The Journal of Politics*. 43: 56–82.

Prezeworski, A., and Teune, H. (1970). *The Logic of Comparative Social Inquiry*. Malabar, FL: Robert E. Krieger Publishing Company, Inc.

Reuland, M., and Davies, H.J. (September 2004). Protecting your community from terrorism: The strategies for local law enforcement series. Vol. 3: Preparing for and responding to bioterrorism. Washington, D.C.: Police Executive Research Forum.

Snidal, D. (1985). "Coordination versus Prisoners' Dilemma: Implications for International Cooperation and Regimes." *The American Political Science Review*. 79: 923–942.

Teutsch, S. (2000). "Considerations in Planning a Surveillance System." in *Principals and Practice of Public Health Surveillance.* Volume 2. S. Teutsch and R. Churchill, eds. Oxford University.

Tullock, G. (1965). *The Politics of Bureaucracy*. New Jersey: Public Affairs Press.

U.S. Department of Justice, Federal Bureau of Investigation, U.S. Army Soldier Biological Chemical Command (2003). Criminal and Epidemiological Investigation Handbook (2003 ed.). Available at http://www.edgewood.army.mil/downloads/mirp/ECBC_ceih.pdf

U.S. Department of Justice, Public L. No. 108-199, and Centers for Disease Control, Cooperative Agreement U90/CCU324200-02 (2005).

U.S. General Accounting Office. (2000, April 7). *Combating Terrorism: How Five Foreign Countries Are Organized to Combat Terrorism* (GAO/NSIAD-00-85). Washington, DC: U.S. Government Printing Office.

U.S. General Accounting Office. (2004, June). *Border Security Agencies Need to Better Coordinate Their Strategies and Operations on Federal Land.* (GAO-04-590). Washington, DC: U.S. Government Printing Office.

U.S. General Accounting Office. (2005 June). *Information Technology: Federal Agencies Face Challenges in Implementing Initiatives to Improve Public Health Infrastructure*. (GAO-05-308). Washington, DC: U.S. Government Printing Office.

Washington Post. (2005). "Anthrax Alarm Uncovers Response Flaws." Downloaded from http://www.washingtonpost.com/ on March 17, 2005.

Wood, B. and Waterman, W. (1991). "The Dynamics of Political Control of the Bureaucracy." *The American Political Science Review*. 85(3): 801–828.

Appendix A. Phase I Protocol: Surveillance System Inventory (SSI)

Appendix B. Phase II Protocol: Stakeholder Interviews

Appendix C. Phase III Protocol:

Expert Consultant Panel

Research on Terrorism: A Cross-National Comparison of Interagency Coordination Between Law Enforcement and Public Health

Study Protocol for Phase 1 Surveillance System Inventory

1. Overview

1.1 Project Overview

In the post-9/11 world, public health and law enforcement are required to assume new and overlapping roles in response to terrorism and the threat of terrorism. This project examines strategies for interagency coordination in the United States, the United Kingdom (Northern Ireland, Scotland, Wales, and England), and Canada. The project's primary goal is to produce a set of promising practices that will help U.S. agencies improve cross-agency coordination.

The project will proceed in three phases. In Phase 1, the Surveillance System Inventory (SSI), RTI will catalog surveillance systems related to public health and public safety in each of the three countries. In Phase 2, RTI will interview stakeholders from public health and law enforcement in the three countries to assess the potential and realized coordination across agencies. In Phase 3, RTI will share the results of the SSI and the stakeholder interviews with an expert panel. This panel will use information collected during Phases 1 and 2 to help identify promising practices for improving interagency coordination in the United States.

1.2 Rationale for Surveillance System Inventory (SSI)

Public health and public safety surveillance systems serve as valuable tools for planning for, detecting, and responding to population-based health hazards and criminal activity, respectively. Understanding the range of surveillance systems in these two categories across the countries of the United States, the United Kingdom, Canada, and the Republic of Ireland may play a role in advancing interagency coordination between public health and law enforcement in the United States. The SSI will then serve as a descriptive repository for coordination-related data on public health and public safety surveillance systems. In addition, the SSI will support the stakeholder interviews during Phase 2 of the project by identifying potential or current mechanisms for interagency coordination.

Overall, the SSI will:

- Attempt to provide a comprehensive list of public health and public safety surveillance systems that could be applied for terrorism planning, detection, and response.
- Provide a set of existing surveillance systems that have relevance to stakeholders.
- Serve as a point of reference and information for the stakeholder interviews.

1.3 Purpose of this Document

This document describes the data collection and reporting procedures to be used to collect and report information about surveillance systems in the United States, Canada,

and the United Kingdom.[1] It will be used during the project as a guide for data collection and reporting and as a project record. Appendices to this protocol are *Appendix A: Definitions from the Surveillance System Inventory (SSI)* and *Appendix B: Coding Instructions*.

2. Methodology

This section describes the specific procedures that will be used to identify and collect information about the surveillance systems. Systems will be identified through a systematic search of several information sources. Once identified, data elements will be extracted from websites, published documents and reports, and other appropriate sources.

2.1 Criteria for Inclusion and Exclusion

Surveillance systems will be included if they are:

- operational and ongoing
- systematically collecting, analyzing, and interpreting public health and/or public safety–related information to plan, implement, or evaluate actions
- collecting data that could potentially be used to prepare, recognize, or respond to a terrorist incident.

2.2 System Identification

Systems will be identified through searches of published literature and the Internet. The published literature searches will include a review of relevant peer-reviewed articles, government reports, system documents and manuals, and other relevant documents. The Internet searches will examine both government and private websites for surveillance information. These searches will be iterative, with follow-up searches based on information gained during the initial search, such as document citations and references.

2.3 Literature Search

The literature will be searched using keyword searches on relevant terms in five databases:[2]

- MEDLINE/PubMed
- the University of North Carolina at Chapel Hill's online book catalog
- TOXLINE
- the National Technical Information Service (NTIS) database
- the U.S. Government Printing Office (GPO) Monthly Catalog database.

2.4 Internet Searches

Internet searches will use the Google general search engine. Initial searches will use a general keyword search.[4] This information will be augmented with targeted searches of both government agency websites and nongovernment sites. The government search

[1] The initial design called for just these three countries. The design has been modified to include the Republic of Ireland. Subsequent documents and reports will be adjusted to include the Republic of Ireland.

[2] Initial keyword searches will include each type of surveillance system listed in Section 3.1 and the following terms: public health surveillance, law enforcement, agency cooperation, and foodborne, waterborne, vectorborne, injury-related, and infectious diseases. Subsequent searches will be expanded using information collected during the initial searches.

will use the full range of agencies likely to fund, develop, or use public health or public safety surveillance systems. For the United States these include the following:

- Centers for Disease Control and Prevention (CDC)
- Department of Defense (DOD)
- Department of Energy (DOE)
- Department of Veteran Affairs (VA)
- Environmental Protection Agency (EPA)
- Federal Bureau of Investigation (FBI)
- Federal Emergency Management Agency (FEMA)
- Public Health Service (PHS)
- National Technical Information Service (NTIS)
- Lexis-Nexis general news and legal review search
- Dissertation search.

International government agency sites include:

- Canadian Security Intelligence Service
- Criminal Intelligence Service Canada
- Eurosurveillance
- Health Canada
- National Criminal Intelligence Service (UK)
- National Public Health Service for Wales
- Royal Canadian Mounted Police (RCMP)
- UK Police Portal
- World Health Organization (WHO).

2.5 Data Collection and Abstraction

The project staff will use published materials found during the search activities to code both basic and detailed information on each of the surveillance systems. Basic data elements will be captured during the system identification stage. Project staff will extract detailed data elements during subsequent reviews of the information identified in the literature and Internet searches. The data elements will be keyed into a data capture form and stored in an Access database.

Basic elements:

- Sponsoring and cooperating agencies
- Primary purpose of the surveillance system
- Source of data used in the surveillance system
- Population being tracked by the system

- Reports and data generated by the system
- Distribution, schedule, and availability of the reports and data
- Reports and summary statistics about data quality
- System stakeholders
- Data processing procedures and schedule
- System duration.

More detailed elements will be captured at later stages of the project if schedule and resources permit. The detailed elements will be useful for assessing the value of each system for counterterrorism. These elements may include the following:

Detailed elements:

- Periodicity of the data collected for the system
- Data format, software platforms, and storage type
- Usability of the data and reports for public health and law enforcement first responders, decision makers, and researchers
- Current users of the system, including any current or potential application for preparing for or responding to terrorist incidents
- Timeliness of the data for response, decision making, and research
- Analysis and reporting methods and tools used for the systems.

2.6 Surveillance System Typology

A typology was developed for the SSI to facilitate coding and analysis of the systems. Our typology builds on previous surveillance classification systems such the one used by Bravata et al., 2002. The dimensions used for the typology are: (1) the topic or problem studied via the system; (2) the reporting agent who provides data to the surveillance system; and (3) the mode of information capture. These dimensions were selected to best classify the systems for their potential use for counter-terrorism research.

2.6.1 Topic

The most critical dimension for describing surveillance systems is the topic or problem studied via the system (e.g., foodborne illness). The topics coded for the SSI are listed below. This does not include all the topics of surveillance systems—it includes only systems with topics that may have a dual use for counterterrorism.[3]

- **Anti-microbial resistance –** Collects data on emerging infectious disease human outbreak patterns featuring pathogens that are resistant to conventional antibiotic treatment or that are introduced to humans through the application of anti-microbial agents into the food supply.
- **Foodborne illnesses[4] –** Collects data from health officials or clinical laboratories to track the incidence of foodborne illnesses.

[3] This topic list is evolving. As we add cases to the SSI and further analyze the data, we will add new topics and collapse others into combined categories.
[4] This system category is based on the Bravata et al. typology.

- **Incident/suspect-based –** Utilizes records of crimes reported to law enforcement containing information on incidents, suspects, and victims in order to investigate, track, analyze, and prosecute criminal offenders.
- **Infectious disease –** Collects and reports on communicable diseases (i.e., viruses, bacteria, fungi, and protozoa) that can be transmitted through person-to-person, airborne, or fecal/oral contact. Includes both notifiable and nonnotifiable reports of communicable diseases and conditions reported to state or local health departments.
- **Influenza**[2] **–** Collects and reports influenza data from multiple sources, including sentinel clinicians and laboratories.
- **Injury-related –** Monitors nonfatal and fatal injuries, most commonly using hospital emergency department records. Includes both intentional and unintentional injuries.
- **Nosocomial**[2] **–** Uses surveillance to detect infections or exposures that occur as a result of hospitalization or from working in a hospital setting.
- **Other classification** – Any surveillance system topic that could not be classified using our typology.
- **Software/technology (not a surveillance system) –** Software or technology that may serve as a tool for collecting, sharing, and organizing surveillance or other health-related data but that is not a surveillance system in its own right.
- **Syndromic**[2] **–** Uses health-related data that precede diagnosis and signal a sufficient probability of a case or an outbreak to warrant further public health response. Syndromic surveillance is characterized by organizing data into syndromic categories (e.g., respiratory illness) as a way of detecting subtle exposures or disease outbreaks within populations.
- **Zoonotic/animal disease**[2] **–** Collects, processes, and disseminates information on zoonotic and animal diseases.

2.6.2 Reporting Agent

A second key dimension for the SSI typology is the reporting agent, who provides the data to the data collector. This dimension provides information about the type of data being collected and the potential for dual use of the data. For example, a system based on data from a health care provider may provide more accurate clinical detail than a system based on self-reports by patients. However, it may be more difficult to modify the health care provider–based system for counterterrorism purposes because changes may increase the study burden on an already busy and stressed medical staff. The types of reporting agents used in the SSI typology are listed below.

- **Emergency room –** includes disease or injury data as reported by emergency room personnel or as a result of data abstraction of emergency room records.
- **Health care provider –** Includes disease and injury data as provided by private health care providers such as group physician primary care practices, specialist care practices, and urgent care facilities where the reporting agent may be a physician, nurse, or physician's assistant.
- **Hospital (nonemergency/nonlaboratory) –** Includes disease or injury data as reported by hospital staff in nonemergency or nonlaboratory areas.

- **Laboratory**[2] **–** Includes clinically confirmed cases of disease submitted to laboratories for analysis as reported by hospital laboratories (emergency and nonemergency data), public health laboratories, health care provider laboratories, and other laboratories.
- **Law enforcement –** Any individual or organization within a governmentally sanctioned body whose purpose is to protect public safety, enforce statutory and criminal law, and apprehend and incarcerate individuals suspected of criminal activity.
- **Other classification** – Any reporting agent that could not be classified using our typology.
- **Self-reported** – Relies on self-reported data to gather information on various behaviors and health conditions. An example would be the Behavioral Risk Factor Surveillance System (BRFSS).
- **Secondary data analysis** – Relies on and uses previously collected data for the purpose of analyzing a related or possibly different purpose from which it was originally collected for.

The SSI will also be used to summarize the types of surveillance information being collected, the collection methods and technologies, analysis and reporting tools, and primary and secondary consumers of the data. In addition, it will summarize the available surveillance data in the three countries and call attention to potential enhancements to the methods used in the United States. It should also be useful for other researchers interested in the coordination problem, as well as researchers interested in analyzing the data collected by the surveillance systems summarized in the report. The full set of fields coded for the SSI is listed in *Appendix A*.

2.6.3 Mode

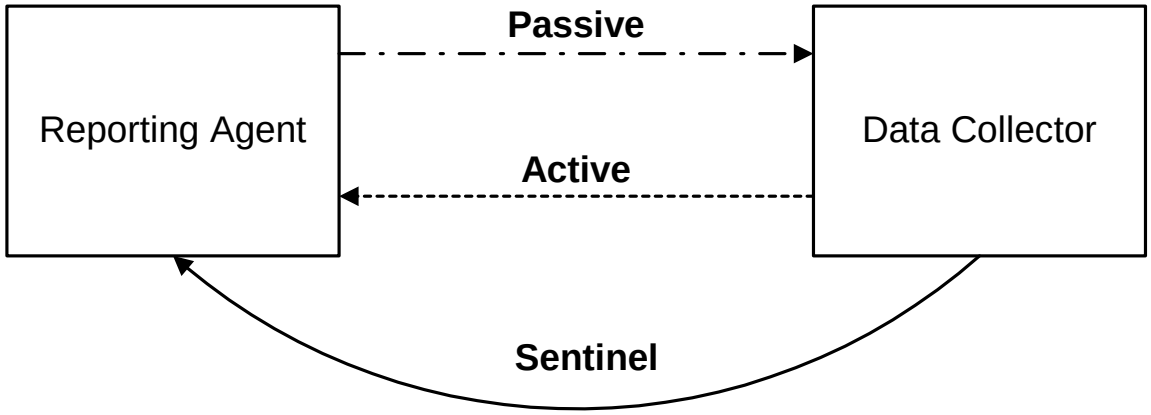
As illustrated in *Exhibit 1*, the mode describes the general data capture process based on which party (data collector or data provider) initiates the collection of the data. This is useful for the present study because the mode has direct effects on the data collection costs, data quality, and the usability of the data for counterterrorism purposes. In general, the more involved the data collector is with the process, the higher the costs, quality, and usability of the data. The three modes identified in the current study are:[5]

- **Active** – Includes all systems in which the data collector initiates the data collection process and is responsible for managing the capture of the surveillance data. Some examples of this include population surveys (e.g., BRFSS) and active laboratory surveillance (e.g., FoodNet laboratory surveys).
- **Passive** – Includes all systems in which a reporting agent initiates the data collection process, either voluntarily or as required by law. This includes most routine notifiable-disease systems (Teutsch, 2000). For example, in the National Notifiable Diseases Surveillance System (NNDSS), state public health departments provide reports to the CDC on a select set of notifiable diseases.
- **Sentinel Surveillance** – This is a special class of the active and passive modes and includes all systems in which the data collector establishes a data collection protocol with a set of key reporting agents in advance. Data are then collected

[5] Future work on the SSI will further refine the mode to include paper, web-based, telephone-based, fax-based, and other forms of information capture.

according to protocol, by the data collector in the active sentinel systems and by the reporting agent in the passive sentinel systems. The goal of sentinel surveillance is to quickly identify possible epidemics by relying more on site-based data instead of case-based data. For example, the United States Influenza Sentinel Physician Surveillance Network collects weekly reports from a network of physicians throughout the country.

Exhibit 1. Data Flows by Modality: Active, Passive, Sentinel



3. Reporting

A significant component of this project will be the collection, presentation, and dissemination of information obtained from the SSI. To enhance dissemination of important information, two reports will be produced, each targeting different audiences: (1) the Full SSI Report and (2) the Short SSI Report (i.e., the "Short Report"). We envision that the intended audience for both reports will include the NIJ–RTI project team, the stakeholders, the expert panel, public health and law enforcement first responders, government officials tasked with domestic preparedness, and researchers.

The primary purpose of the Full SSI Report will be to provide a comprehensive description of the methodology and results of the SSI. The Full SSI Report will also be included as an appendix to the final project report and will serve as a summary of Phase 1 activities. The Short Report will provide stakeholders with a resource document that will serve as a "primer" for reviewing surveillance systems in their respective countries. Both reports will serve as tools to disseminate the study's findings to public health and law enforcement researchers and practitioners. A full and short report will be prepared for each country included in the SSI.

3.1 Organization and Format

The Full SSI Report will consist of the following components:

- Executive Summary
- Methodology
- Literature Review
- Data Abstraction Results

- Discussion/Findings
- Conclusions/Recommendations
- References.

The Short Report will consist of the following components:

- Executive Summary
- Discussion/Findings
- References.

3.2 Dissemination

The Full SSI Report will be disseminated to the project team, the NIJ Project Officer, stakeholders, the expert panel, and researchers and practitioners in public health and law enforcement. Dissemination will include hardcopy, electronic (MS Word and PDF), and publicly accessible website posting of the reports, as appropriate. *Exhibit 2* presents the intended audience groups for the reports, as well as the information needs the reports will serve.

Exhibit 2. Audiences for the SSI Reports

Audience	Report Type	Information Need
NIJ–RTI Project Team	Full SSI Report SSI Short Report	• Data collection and reporting guide • Project archive
Stakeholders	Full SSI Report SSI Short Report	• Examples of systems for potential coordination • Memory cue for interviews
Expert Panel	Full SSI Report SSI Short Report	• Source document for expert recommendations
Public Health and Law Enforcement Researchers	Full SSI Report SSI Short Report	• Impetus for further research • Cases for analysis of public health/law enforcement coordination
Public Health and Law Enforcement Practitioners	SSI Short Report	• Reference for surveillance systems • Mechanism for information sharing between public health and law enforcement • Potential targets for application of preferred practices for public health/law enforcement coordination

4. References

Bravata D, McDonald K, Owens D, et al. *Bioterrorism Preparedness and Response: Use of Information Technologies and Decision Support Systems (Evidence Report/Technology Assessment No. 59)*. Prepared by University of California San Francisco–Stanford Evidence-based Practice Center under Contract No. 290-97-0013. AHRQ Publication No. 02-E028. Rockville, MD: Agency for Healthcare Research and Quality. June 2002.

Teutsch, S. (2000). “Considerations in Planning a Surveillance System.” in *Principals and Practice of Public Health Surveillance.* Volume 2. S. Teutsch and R. Churchill, eds. Oxford University.

Appendix A: Definitions from the Surveillance System Inventory (SSI)

Active Surveillance – Refers to data collection in which the data collector initiates the data collection process, collects the data from the reporting agent (e.g., a cross-sectional survey), and is responsible for capturing and managing surveillance data.

Data Collector – Refers to the individual or group who plans, organizes, and carries out data collection to gather surveillance data.

First Responders – Include the agencies that are the first to be called to the scene of an emergency, such as police, fire, emergency medical technicians, and public health officials.

Foodborne Illnesses – Caused by consuming contaminated foods. Many different disease-causing toxins and microbes, or pathogens, can contaminate foods. An example of a foodborne illness includes diarrhea acquired as a result of eating food contaminated with *E. coli*.

Infectious Disease – Disease caused by pathogenic organisms—including bacteria, viruses, fungi, and protozoa—that can be transmitted through person-to-person, airborne, or fecal/oral contact. Includes both notifiable and nonnotifiable communicable diseases.

Law Enforcement – Refers to policing, including criminal intelligence operations. Also, a police, security, or administrative investigation, including the complaint that gave rise to the investigation that leads or could lead to a penalty or sanction being imposed.

Passive Surveillance – Refers to data collection in which a reporting agent initiates the data collection process and reports data to a data collector either voluntarily or as required by law.

Pathogen – A disease-causing organism. Pathogens can include bacteria, viruses, protozoa, helminths, and blue-green algae.

Public Health – Refers to a population-based, multidisciplinary approach to preserving, protecting, and promoting community health through the use of applied and social sciences, including epidemiology, environmental health, biostatistics, health policy, and social and behavioral health.

Retrospective Surveillance – Going back into the past and collecting historical data on individuals' exposures or diseases.

Real-time Surveillance – Data that are collected directly into a computer-based system, usually at a hospital or clinic, and are immediately available to be monitored and analyzed for unusual occurrences or trends.

Reporting Agent – Refers to the individual or group recruited by a data collector for the purpose of providing passive surveillance data to the data collector.

Sentinel Surveillance – Refers to data collection in which the data collector recruits a reporting agent to collect site-based data. The reporting agent then delivers this data to the data collector.

Surveillance – The ongoing and systematic collection, management, analysis, interpretation, and dissemination of data to describe the health and safety of populations over time.

Vector-borne – Transmission of a pathogenic microorganism from an infected individual to another individual by an arthropod or other agent, sometimes with other animals serving as

intermediary hosts. Examples of vector-borne diseases include malaria, dengue fever, West Nile virus, and yellow fever.

Waterborne – Waterborne disease is caused by consuming water contaminated with an infectious or chemical agent. Examples of different pathogens that can cause waterborne disease include the Norwalk virus, *Vibrio cholerae*, *Giardia lamblia*, and *Cryptosporidium*.

Appendix B: Coding Instructions for Surveillance System Inventory (SSI)

Field	Instructions
ID	No change required. New cases can be initiated with the arrow/star key at the bottom of the form. Numbering will automatically adjust.
Surveillance System Name	Include the name of the surveillance system and its acronym (if applicable).
Nation of Origin	Location of sponsoring agency. Should only include US, UK, and Canada. All others should be coded as "Problems" in the Comments field.
Surveillance Type	Select from the drop-down menu (see definitions in the Protocol). Any questionable cases should be coded as "Other classification" with an explanation in the Comments field.
Intended Use	List the primary purpose of the system. Please be specific (e.g., "Track Salmonellosis and Vero cytotoxin in the general population to identify clusters and provide a network for responding to new and emerging foodborne diseases of national importance, monitoring the burden of foodborne diseases, and identifying the sources of specific foodborne diseases.")
Coded By	Final coder.
Initial Coding Complete	Date case is finalized.
Coding Verified By	Verification includes a review of all of the fields and resolution of all problems identified in the Comments section. Insert name of person performing verification.
Final Coding Completed	Date case is verified.
System URL	Base web page for the system. If not available, include the best possible URL for finding the system. Secondary reference pages or other supporting pages should be listed in the Comments field with a short (one sentence) description of the content of the page.
Sponsoring Agency	Primary funding agency. Include center or division if appropriate.
Cooperating Agency	Include any agency, center, division, program or other entity that provides financial support, data, labor, or technical support.
Primary System Stakeholders	Specific groups that will benefit from the collection and/or reporting of the data.
Source of the Surveillance Data	Origin of the data elements. This could include physician reports for sentinel systems, pharmacy receipts for syndromic systems, lab reports for laboratory surveillance, etc.
Method of Data Collection	How are the data captured and reported by the original reporting agent? How are these data sent to and entered into the central agency or database? For example, a sentinel physician system could be coded as "Physician records data on a paper form, office staff fax the form to the CDC for keying into the main database."

Field	Instructions
Population Tracked	This is the full population eligible to be captured by the system. For example, a syndromic system may track all people who visited emergency rooms in Atlanta, Charlotte, and Raleigh who reported a respiratory complaint. If a population is sampled, provide a general description of the sample process here (e.g., every third person who visited the emergency room…).
Reporting	This should capture all analytical and text reports that present the results of the surveillance to the stakeholders. This could include any immediate alerts, daily reports, weekly, monthly, etc. This could include web, e-mail, fax, phone, hard copy publications, or otherwise.
Distribution/Availability of Reports/Data	How widely are the above reports disseminated? Who receives them and when are they provided?
Data Quality Documentation	List any documentation, reports, publications, or other information that summarizes the data quality. This could include information about coverage, item or unit missingness, data collection design reports, instrument development or testing reports, verification studies, etc.
Data Processing Procedures	How are the data processed after they are received by the central database or agency (e.g., “Data are received by fax, keyed into a database, edited, and merged with master data file.”)?
Start/Stop	When did system begin collecting data? When did it stop, or it is current?
How Frequently Are the Data Delivered to the Central Database?	Are the data sent to the central database or agency in real time, at the end of the day, once a week, annually?
Secondary users/ Applications	List any known secondary applications or consumers of the data (other than the sponsoring agency and the primary purpose).
Data Lag	How long does it take the central database or agency to receive and process forms once they are sent by the primary data provider?
Analysis/Reporting Methods Used	What statistical procedures are used to report the aggregate data (e.g., frequencies, cross tabs, logits, graphs, etc.)?
Comments	Insert any relevant or additional information. Use to identify problem cases. (For problem cases, begin this field with the text: “Problem:” followed by a description of the problem. For example, “Problem: system is sponsored by an agency outside of our three countries (the Costa Rican Department of Health).

Notes

1. Do not code questionable cases. Insert the word “Problem” in the Comments field followed by a description of the problem or confusion.
2. Changes to any field are stored in the database. As a precaution, save when you exit the database, but you do not need to save while you are in the database.

Research on Terrorism: A Cross-National Comparison of Interagency Coordination Between Law Enforcement and Public Health

Study Protocol for the Phase 2 Stakeholder Interviews

1. Overview

1.1 Project Overview

In the post-9/11 world, public health and law enforcement are required to assume new and overlapping roles in response to terrorist threats. This project examines strategies for interagency coordination in Canada, the United Kingdom (Northern Ireland, Scotland, Wales, and England)[1] and the United States (US). Collaboration between public health and law enforcement agencies in counterterrorism prevention, detection, and preparedness planning could contribute to the common goals of producing dual-use systems that inform both groups. The project's primary goal is to yield a set of promising practices that will help US agencies improve cross-agency preparation and response to terrorist threats.

The project will proceed in three phases. In Phase 1, the Surveillance System Inventory (SSI), RTI will catalog surveillance systems in each of the three countries to determine their potential for informing cross-agency coordination. In Phase 2, RTI will interview stakeholders from public health and law enforcement agencies in the three countries to gain insight on the potential application of these surveillance systems as well as related issues concerning cross-agency coordination. In Phase 3, RTI will share the results of the SSI and the stakeholder interviews with an expert panel. This panel will use information collected during Phases 1 and 2 to help identify promising practices for improving interagency coordination in the United States.

1.2 Rationale for the Stakeholder Interviews

Interagency coordination can be hindered by a wide variety of barriers including inadequate budgets, excessive bureaucracy, political forces, lack of interest in sharing information between agencies, communication problems, lack of usable data, planning difficulties, and legal constraints. To better understand the issues surrounding interagency coordination, RTI will conduct interviews with stakeholders in key positions within public health and law enforcement agencies. It is believed that these individuals will provide valuable information on current strategies for coordination, major barriers to coordination, and potential approaches for improving the ability of multiple agencies to detect, respond to, and plan for terrorist events.

The primary objectives of the stakeholder interviews in Phase 2 are to:

- Review stakeholder background and interagency experience with law enforcement and public health

[1] This project also plans to conduct interviews with stakeholders in the Republic of Ireland. Although this was not part of the original design, we have been able to recruit stakeholders from the Republic of Ireland and believe that their input on the topic will be valuable to the project. Data will be collected from interviews with stakeholders in the Republic of Ireland following the same protocol as with the other interviews and will be included as a supplement to the Phase 2 report.

- Collect information on coordination mechanisms and strategies being used in Canada, the United Kingdom (UK), the Republic of Ireland, and the U.S.
- Assess the barriers inhibiting more effective interagency coordination
- Identify examples of successful interagency coordination
- Assess potential methods for integrating law enforcement and public health coordination
- Identify enhancements to the current coordination environment
- Increase our knowledge of public health surveillance capabilities, including their intersection with law enforcement information systems as well as criminal justice policies and strategies
- Identify recommendations for communication and coordination between public health and law enforcement.

1.3 Purpose of this Document

This document describes the procedures to be used in identifying, recruiting, and interviewing law enforcement and public health stakeholders in Canada, the UK, and the US. It will be used during the project as a guide for conducting stakeholder interviews and will also serve as a record of project activities.

In addition to describing the stakeholder interview process, this document provides copies of all materials related to data collection and data management. *Appendix A* contains a glossary of terms relevant to the project. *Appendix B* contains a list of the consulting area experts who will provide support for this project. *Appendix C* contains a copy of the study information sheet and informed consent agreement. *Appendix D* contains the lead letters from RTI, NIJ, and the US Embassy that will be provided to stakeholders. *Appendix E* contains a copy of the guidelines for the identification and recruitment of participants for the stakeholder interviews. Finally, *Appendices F* and *G* contain copies of the interview guides for conducting interviews with public health and law enforcement stakeholders, respectively.

2. Methodology

The stakeholder interview process (Phase 2) will consist of five basic steps: identification of stakeholders, recruitment of stakeholders, data collection, data management, and the analysis and reporting of findings.

2.1 Identification of Stakeholders

The RTI team will work with a team of area experts to identify a list of potential stakeholders in each country, with the goal of recruiting and interviewing a minimum of 8 stakeholders per country. The area experts are members of the project team (consultants) with specific knowledge of the public health or law enforcement systems in the United States, Canada, the United Kingdom, and the Republic of Ireland (see *Appendix B*). To maximize the chance that the team will be able to successfully recruit and interview the necessary number of participants, area experts will be encouraged to identify at least 2 stakeholders per country for each of the 8 categories (n = 16). In addition, stakeholders will also be recruited from participation in professional meetings

and conferences that feature practitioners in public health, law enforcement, and emergency management.

From this list of identified stakeholders, at least 1 stakeholder will be recruited from each of the 8 categories (4 in public health and 4 in law enforcement). If resources allow, the team will interview all or most of the identified stakeholders. This may exceed the initial target of 8 stakeholder interviews per country. Instructions that will be provided to the area experts for stakeholder identification are in *Appendix E*.

The breakdown of the required public health stakeholders includes the following:

- ***Federal Decision-Maker:*** This type of stakeholder is defined as a person working in a federal position who is in a decision-making role regarding public health surveillance, planning or response to terrorist events. An example of someone who might qualify for selection in the U.S. would be a director or deputy director of the Centers for Disease Control and Prevention Office of Emergency Preparedness.
- ***Epidemiologist:*** This type of stakeholder is defined as a state or regional epidemiologist involved in surveillance, planning, or response to terrorist events. The ideal participant would have some experience with cross-agency planning and response, possibly in the area of syndromic surveillance.
- ***State or Regional First Responder:*** This type of stakeholder is defined as a state or regional medical first responder or emergency planner (e.g., emergency medical technician, emergency room medical personnel) to potential or actual terrorist events. The ideal participant would have some experience in interacting with law enforcement and have received continuing education training (or have other experience) in dealing with mass emergency response. The candidate should also have training or experience in dealing with major hazards—training in bioterrorism would be helpful but is not required.
- ***State or Regional Bioterrorism Coordinator:*** This type of stakeholder is defined as a state or regional coordinator for bioterrorism surveillance, planning, or response to terrorist events. Like the federal decision-maker, an ideal participant is someone who is responsible for setting policy for an agency, a program, or department at the state or regional level. An example of someone who might qualify for selection in the U.S. would be a director or deputy director of the North Carolina Office of Public Health, Preparedness, and Response.

The breakdown of the required law enforcement stakeholders includes the following:

- ***Federal Decision-Maker:*** This type of stakeholder is defined as a person working in a federal position who is in a decision-making role regarding law enforcement planning or response to terrorist events. An example in the US would be someone from the Federal Bureau of Investigation (FBI) who works with the Joint Terrorism Task Force (JTTF) and is responsible for building partnerships with state and local agencies including counterterrorism planning and response.
- ***State or Local Law Enforcement:*** This type of stakeholder is defined as a person in state or local law enforcement who is involved in the surveillance, planning or response to terrorist events. An ideal participant would be a state or

local task force member of the JTTF or the Metropolitan Medical Response Systems (MMRS).

- ***State or Local Decision-Maker:*** This type of stakeholder is defined as a person working for a state or regional law enforcement agency in a decision-making role (e.g., state attorney general, sheriff, or police chief). Stakeholders in these positions should be involved in strategic activities related to the surveillance, planning, or response to terrorist events at the state or local level.
- ***Federal Terrorism Analyst:*** This type of stakeholder is defined as a person working in a federal position who serves as a terrorism analyst involved in the surveillance of potential or actual terrorist events. The ideal participant would be a consumer of current surveillance systems but who may not know about all of the possible public health data or systems that provide information on health threats.

2.2 Recruitment of Stakeholders

2.2.1 Initial Contact by the Area Experts

Once the team has reviewed and refined the lists, the area experts will seek to initiate contact with the stakeholders by telephone or in person. Where this is not possible, area experts will use e-mail to make the initial contact with stakeholders. During this initial contact, the area experts will describe the study and ask the potential stakeholder if he or she is interested in participating. The area experts will then set up in-person meetings to discuss the project further with those who express an interest in participating. At this meeting, the area experts will provide the potential stakeholders with a number of documents describing the purpose and basic elements of the project, including the following:

- **Study Information and Informed Consent Agreement:** The study information and informed consent agreement provides an overview of the project, including the sponsorship, methods, and expected outcomes. This document provides a brief description of the study and supports the goal of informing potential stakeholders of what to expect if they participate. In addition, this document allows the research team to record that the stakeholder has been informed of his or her rights and has agreed to participate in the research project. A copy of this document can be found in *Appendix C*.
- **RTI Lead Letter:** This is a personalized letter from the project co-principal investigators (co-PIs) that detail the study's goals, objectives, and importance. The letter provides details on what potential stakeholders can expect to do in the process of participating in the study. In addition, the letter describes the expected outcomes of the study, including all expected reports and other deliverables. A copy of the proposed text for this letter can be found in *Appendix D*.
- **NIJ Lead Letter:** This is a letter from the National Institute of Justice (NIJ) detailing the goals, objectives, and importance of the study and its sponsorship by the Department of Justice (DOJ). The letter also explains why NIJ and DOJ are interested in the surveillance practices of public health and law enforcement of other countries. Finally, the letter details confidentiality and privacy assurances to promote a greater level of comfort on the part of potential stakeholders. This letter will be signed by a representative of the NIJ who is involved in the project

and will contain contact information for this person. A copy of the proposed text for this letter can be found in *Appendix D*.

- **Embassy Letter**: This supporting letter verifies the legitimacy of the project and provides details regarding the objectives, sponsorship, and contact information for follow-up questions. A copy of the proposed text for this letter can be found in *Appendix D*.

Many of the stakeholders will be recruited from the professional network of the area experts. Therefore, the recruiting protocol may be tailored by the area experts as appropriate to facilitate stakeholder cooperation. As a matter of documentation, any modifications to the materials developed for recruiting stakeholders will be documented by the RTI team and consulting area experts. These modifications will appear as an appendix in the final report on the methodology and results of this phase of the research.

2.2.2 Follow-up Contact and Recruitment by the RTI Team

Once the area experts have secured agreement from stakeholders to participate in the interviews, the RTI team will make contact via telephone. E-mail may also be used as a backup contact method in the event that stakeholders are unavailable during the initial attempts to follow up with them. The primary purpose of these contacts is to make a smooth transition between the initial contacts made by the area experts and the RTI team members. In some cases, it is expected that some stakeholders may feel uncomfortable talking directly to the RTI team without the area expert present in some form; in these cases, the RTI team will make every effort to include the area expert in all contact with these stakeholders. An additional important task to be completed during this contact is the scheduling of the formal interview with the stakeholder. At this stage, the RTI team will provide the stakeholders with project materials to inform them of the nature and purpose of the study. This will include the preliminary report from the SSI, a copy of this protocol, and any other information requested by the stakeholders.

2.3 Data Collection

The RTI team will make every attempt to conduct interviews in a location that is convenient for the stakeholder. In the process of talking with each stakeholder during the follow-up contact, the RTI team will determine the best location for conducting the interview. Two suggested locations for the interviews include the stakeholder's office or a neutral location such as a hotel meeting room. Other locations may also be acceptable; however, interviewers should keep in mind that it is important to obtain a room that is quiet, private, and free from outside distractions. If the stakeholders are not available for the complete interview during the visit, the RTI team will use the initial visit to establish rapport and follow up with a full interview over the phone at a later date.

2.3.1 Interview Structure

The interview will be conducted in person and will last approximately 2 hours, following a semi-scripted interview guide. In most cases, the Co-PIs will lead these interviewers. If necessary to gain stakeholder cooperation, the area experts will lead the interviews with potentially reluctant stakeholders. Prior to the interview stage, RTI will conduct two or more practice interviews with selected persons in the field, including possibly our area experts or members of the expert panel.

The stakeholder interviews will cover a number of topics related to public health and law enforcement surveillance, planning, and response to terrorist events. In particular, these interviews will focus on the information technology and computer database solutions

used to track potential terrorist or public safety threats. An overview of some of the topics that will be discussed during the interviews is presented below:

- Assessment of the SSI report for completeness and accuracy
- Current applications of public health surveillance systems for any topic by law enforcement practitioners or researchers
- Potential applications of public health surveillance systems for terrorism preparedness and response by law enforcement practitioners or researchers
- Suggested enhancements or additions to the current system that may benefit law enforcement practitioners or researchers
- Feasibility of these enhancements, given the primary function of the surveillance systems
- Recommendations for communication and coordination between public health and law enforcement in the development and management of public health surveillance systems
- Known or expected barriers to cooperation
- Coordination mechanisms currently in place or planned to facilitate interagency cooperation.

The guides for conducting the interviews with public health and law enforcement stakeholders can be found in *Appendices F* and *G*.

Finally, before beginning each interview, stakeholders will be asked to review and sign a copy of the study information and informed consent form. In this way the team can document that the stakeholders understand their rights and have agreed to participate in the study. In addition, this point in the interview will be used to assure respondents that the information they provide the RTI will be protected and kept confidential. As a precaution against possible repercussions against the individuals, their organizations, or their country, the RTI team will only use the stakeholder descriptors (see section 2.2.1 of this document) and the country of origin when discussing the results of the interviews from each country. This will allow the team to set some context for who made the response, while still protecting the identity of the respondent. This information on the procedures for holding discussions with stakeholders appears in the Study Information and Informed Consent Agreement (*Appendix C*) and in Section A of the interview protocols for public health (*Appendix F*) and law enforcement (*Appendix G*) stakeholders.

2.3.2 Recording of Interview Responses

While verbatim transcript methods are frequently used with focus groups, interviews, and other qualitative data collection methods, this approach does not seem to be appropriate for the needs of this study. The focus of this study is on describing and assessing the available surveillance systems used in each country to aid in the detection of, preparation for, and response to terrorist events, which is naturally a sensitive topic. In addition, this is a relatively new research area in which little is known about the topic. The RTI team has selected the common practice (Edmunds, 1999; Merton, Fiske, & Kendall, 1990; Morgan & Krueger, 1998) of relying on interviewer notes to record the response of stakeholder interviews. This approach allows for more privacy for participants while still allowing the interviewers to note observations and capture the

primary themes of respondent answers. Thus, data from the stakeholder interviews will be recorded by the interviewers in written note form. All interviewers will keep notes of the comments and themes of the discussion for each interview.

A debriefing session will occur immediately following the interview, in which the interviewers (and area experts, if in attendance) will discuss the notes collected during the interview. The focus of this debriefing is to arrive at a consensus about the responses given to all of the questions asked. Debriefing will consist of reading the questions, reviewing the notes containing the interviewee's responses, clarifying response terms/meaning, and arriving at a consensus on the content of the response. The notes from the interviewers and area experts participating in the discussion (and debriefing session) will be combined and keyed into a MS Word file. All notes and observations made by the participants will appear in the text of this file along with the questions that were being asked at that time.

2.3.3 Follow-up Calls with Stakeholders

The RTI team will follow up each stakeholder by telephone (or e-mail if not accessible by telephone) approximately 2 to 4 weeks after the interview is completed. The follow-up contacts will be used to update the stakeholders on the project activities and ask any additional questions that have arisen since the interview, and ask if they have any questions for the RTI team. In addition, the RTI team may ask additional questions to clarify issues discussed during the interview. Finally, the calls will be used to update stakeholders as to when they can expect to receive a report from the project team on the findings of the study. Any additional data captured during the follow-up calls to stakeholders will be recorded by the RTI team and be appended to the end of the MS Word file containing the notes of the interview with that stakeholder.

2.4 Data Management

2.4.1 Document Naming and Handling Guidelines

To ensure proper documentation and traceability of project files, the RTI team will follow the procedure discussed below.

- When naming a file, include the name of the document and the version (i.e., Protocol v1.0).
- Change version numbers on files when any procedural or other major change has been made to the document.

All old documents or previous versions of documents will be moved into a separate folder (the "Boneyard" folder) on the RTI project share. This will ensure they are available if needed but will eliminate problems with version control.

2.4.2 Storage

Electronic files will be stored on the RTI project share in folders according to the respective tasks. Hard copies of reports from the stakeholder interviews will be stored in a central location in a locked cabinet.

2.4.3 Privacy Protections

In an effort to maintain the confidentiality and privacy of persons participating in the stakeholder interviews, all written or printed files associated with the project will be maintained in a locked file cabinet. In addition, all electronic files containing information on stakeholder responses to any questions regarding study variables will be coded using

a randomly generated 4-digit number string. Each stakeholder will have a unique 4-digit number string that will identify his or her data in all electronic files containing data from the interviews. A master list matching the 4-digit number stings with the names and contact information for each stakeholder will be maintained by the Co-PIs in a locked location.

As mentioned in Section 2.3.1, as a precaution against possible repercussions against the individuals, their organizations, or their country, the RTI team will only use the stakeholder descriptors (see Section 2.2.1 of this document) and the country of origin when discussing the results of the interviews from each country. This will allow the team to set some context for who is making the response, while still protecting the identity of the respondent. As indicated above, this will be documented in the Study Information and Informed Consent Agreement, which will be reviewed and signed by all study participants.

2.5 Analysis and Reporting of Findings

Once the stakeholder interviews have been completed, the RTI team will conduct qualitative analyses of the data collected throughout the interview process. The analysis of interview data will be an iterative process. Responses to the questions from each country will be categorized into units of meaning using the method of constant comparison (Glaser & Strauss, 1967). In this method, the interviewers will take notes and observations at the time of the interview. Later, the interviewers will reexamine, challenge, amend, and/or confirm themes within those notes using notes from the interview. Review of each interviewer's notes will allow for a second level of review to examine, analyze, and evaluate the data gathered from the notes. Finally, members of the research team will participate in a review and interpretation (i.e., the debriefing session), in which the assembled data are again reexamined, analyzed, evaluated, and confirmed.

In the end, this review will develop a set of common themes in the stakeholders' responses to questions about the detection of, preparation for, and response to terrorist events. In particular, the analyses will focus on the effectiveness of current surveillance systems, current applications of dual-use or shared surveillance systems, and the potential for additional sharing of current surveillance systems. In addition, the review will assess the feasibility of making enhancements to current surveillance systems, including improved communication, new content, computer interface changes, system interoperability, and other enhancements. Finally, the review of the data will focus on identifying known or expected barrier to change so that recommendations can be focused on overcoming these problems.

At the conclusion of the review of the qualitative data, a written Stakeholder Interview Report will be produced that will outline the study methodology, findings, and recommendations for change. This report will be available for review by the stakeholders on request. The report will also be reviewed by the area experts and members of the expert consultant panel. Comments from each of these groups will be addressed in the final draft of the report.

3. References

Edmunds, H. (1999). The Focus Group Research Handbook. Chicago: NTC Business Books.

Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* Chicago: Aldine Publishing Company.

Merton, R., Fiske, M., & Kendall, P. (1990). *The Focused Interview: A manual of problems and procedures (Second edition).* New York: Free Press.

Morgan, D., & Krueger, R. (1998). *The focus group kit*. Thousand Oaks, CA: Sage.

Appendix A

Glossary of Terms as Used for This Project

Appendix A: Glossary of Terms as Used for This Project

Active Surveillance – Refers to data collection in which the data collector initiates the data collection process, collects the data from the reporting agent (e.g., a cross-sectional survey), and is responsible for capturing and managing surveillance data.

Data Collector – Refers to the individual or group who plans, organizes, and carries out data collection to gather surveillance data.

First Responders – Include the agencies that are the first to be called to the scene of an emergency, such as police, fire, emergency medical technicians, and public health officials.

Foodborne Illnesses – Caused by consuming contaminated foods. Many different disease-causing toxins and microbes, or pathogens, can contaminate foods. An example of a foodborne illness includes diarrhea acquired as a result of eating food contaminated with *E. coli*.

Infectious Disease – Disease caused by pathogenic organisms—including bacteria, viruses, fungi, and protozoa—that can be transmitted through person-to-person, airborne, or fecal/oral contact. Includes both notifiable and nonnotifiable communicable diseases.

Law Enforcement – Refers to policing, including criminal intelligence operations. Also, a police, security, or administrative investigation, including the complaint that gave rise to the investigation, that leads or could lead to a penalty or sanction being imposed.

Passive Surveillance – Refers to data collection in which a reporting agent initiates the data collection process and reports data to a data collector either voluntarily or as required by law.

Pathogen – A disease-causing organism. Pathogens can include bacteria, viruses, protozoa, helminths, and blue-green algae.

Public Health – Refers to a population-based, multidisciplinary approach to preserving, protecting, and promoting community health through the use of applied and social sciences, including epidemiology, environmental health, biostatistics, health policy, and social and behavioral health.

Retrospective Surveillance – Going back into the past and collecting historical data on individuals' exposures or diseases.

Real-time Surveillance – Data that are collected directly into a computer-based system, usually at a hospital or clinic, and are immediately available to be monitored and analyzed for unusual occurrences or trends.

Reporting Agent – Refers to the individual or group recruited by a data collector for the purpose of providing passive surveillance data to the data collector.

Sentinel Surveillance – Refers to data collection in which the data collector recruits a reporting agent to collect site-based data. The reporting agent then delivers this data to the data collector.

Surveillance – The ongoing and systematic collection, management, analysis, interpretation, and dissemination of data to describe the health and safety of populations over time.

Vector-borne – Transmission of a pathogenic microorganism from an infected individual to another individual by an arthropod or other agent, sometimes with other animals serving as intermediary hosts. Examples of vector-borne diseases include malaria, dengue fever, West Nile virus, and yellow fever.

Waterborne – Waterborne disease is caused by consuming water contaminated with an infectious or chemical agent. Examples of different pathogens that can cause waterborne disease include the Norwalk virus, *Vibrio cholerae*, *Giardia lamblia*, and *Cryptosporidium*.

Appendix B

Consulting Area Experts and Expert Panel Members

Appendix B: Consulting Area Experts

Area Experts (International)

Name	Position	Country	Specialty Area	Contact Information
Ken Pease, Ph.D.	Professor of Criminology at University of Huddersfield	United Kingdom	Criminal Justice	19 Withypool Dr. Stockport SK2 6DT, UK
Sue Frost, Ph.D.	Dean of Human and Health Services University of Huddersfield	United Kingdom	Public Health	University Of Huddersfield Queensgate Huddersfield HD1 3DH
Raymond R. Corrado, Ph.D.	Professor of Criminology at Simon Fraser University	Canada	Criminal Justice	408-1868 5th Ave. West Vancouver, British Columbia V6J 1P3 Canada
Parminder S. Raina, Ph.D.	Associate Professor/ Director, University-Evidence-based Practice Centre at McMaster University	Canada	Public Health	McMaster University Faculty of Health Sciences Evidence Based Practice Centre DTC, Room 306 1280 Main Street West Hamilton, ON L8S 4L8

Expert Panel Members (United States)

Name	Position	Specialty Area	Contact Information
Michael P. Allswede, D.O.	Chief, Special Emergency Medical Response Section University of Pittsburgh	Emergency Medicine	Quantum One, Second Floor 2 Hotmetal Street Pittsburgh, PA 15203 TEL: 412-432-5288 FAX: 412-432-7777
Geoffrey P. Alpert	Professor and chair, Department of Criminology and Criminal Justice at the University of South Carolina	Criminal Justice	University of South Carolina Dept. of Criminology & Criminal Justice Columbia, SC 29208 TEL: 803-777-7097 FAX: 803-777-9600
Ronald Fichtner	Director for Business Development Operations, RTI	Public Health	TEL: 770-234-5017 FAX: 770-234-5030
Pam Lattimore	Professor, Department of Criminology and Criminal Justice at the University of South Carolina	Criminal Justice	212 Winding Oak Way Blythewood, SC 29016 TEL: 803-754-5965
Steven Marshall	Bioterrorism Preparedness Program Coordinator for Wisconsin Division of Health and Family Services	Public Health – Bioterrorism Preparedness	Department of Health and Family Services Division of Public Health 1 West Wilson St., Room 250 Madison, WI 53701-2659 TEL: 608-266-9783 FAX: 608-267-2832
Lucy Savitz	Senior Health Research Analyst, RTI	Health Systems	TEL: 919-316-3301 FAX: 919-541-7384
Margaret Zahn	Director, Crime, Justice, Policy, & Behavior Program, RTI	Criminal Justice	TEL: 919-485-7767 FAX: 919-485-7700

Appendix C

Study Information and Informed Consent Agreement

Appendix C: Research on Terrorism: A Cross-National Comparison of Interagency Coordination Between Public Health and Law Enforcement

Study Information and Informed Consent Agreement

What is the purpose of this study? In the post-9/11 world, public health and law enforcement are required to assume new and overlapping roles in response to terrorist threats. This project will examine strategies for interagency coordination in Canada, the United Kingdom, and the United States emphasizing technological mechanisms that can be used to facilitate communication, such as public health surveillance systems. Collaboration across public health and law enforcement agencies in the design and implementation of these systems could contribute to the common goals of producing dual-use systems that inform both groups.

The project's primary goal is to yield a set of promising practices that will help US agencies improve preparation and response to terrorist threats. This will include identifying successful methods and technological tools used to coordinate efforts, as well as barriers to coordination and data quality issues that impact the utility of information systems. As part of this effort, the research team will seek to develop a catalogue of surveillance systems in each country to determine their potential for informing cross-agency coordination. Key law enforcement and public health stakeholders from each country are also being interviewed to gain insight on the potential application of these systems as well as related issues impacting cross-agency coordination.

Who is conducting this study? The study is being conducted by RTI International and is funded by the National Institute of Justice (NIJ) in the United States. The RTI team is supported by expert consultants in law enforcement and public health from Canada and the United Kingdom. The study is also supported by an expert panel with extensive experience in terrorism incident response, bioterrorism preparedness, public health surveillance, and law enforcement operations from Canada, the United Kingdom, and the United States.

Why was I chosen? You have been identified as a key stakeholder who can provide information on interagency coordination issues in your country. One of our consultants has likely already contacted you about your potential role in this research project. If possible, we would like to interview you on your understanding of antiterrorism preparation, including knowledge of interagency coordination and perceived value of information sharing and integrated systems.

What will happen during the study? We will be conducting interviews with various anti-terrorism stakeholders in the United States, the United Kingdom, and Canada. The main purpose of these interviews is to gain a better understanding of what is available for public health and law enforcement agencies to monitor and respond to terrorist threats. Specifically, we are interested in your ideas about what is functioning well, what can be improved, and what new coordination opportunities need to be explored to improve the ability to detect, plan for, and respond to terrorist events. We plan to conduct the interviews at your office or in some other convenient location, such as a hotel conference room. The interview should take approximately 90-120 minutes of your time.

Following the interview, RTI will provide you with a draft of the report on our research findings and ask for your feedback, including comments on the accuracy and comprehesiveness of the documentation. This will occur prior to the release of the final report. We will also make the final report available to you upon its completion.

Are there risks? We do not expect any risks to you from being in this study. Since we are talking about topics related to the detection, preparation for, and response to terrorist events, it is possible that some of the things we discuss could make you feel uneasy. In addition, we understand that there may be things that you may not be able to talk about due to the sensitive nature of your job. Other than the possibility of you revealing something that should otherwise be kept secret, we do not anticipate that there will be any risk to you by participating in this study.

Will this be kept private? The project will not use your name in any written reports. The reports will put together what we learn from all of the interviews and other data collected by this study. To allow for a better contextual understanding of the results, we plan to provide generic descriptions of sources of some of the data. For instance, we are likely to use generic descriptors such as “a federal law enforcement stakeholder in the UK reported…” or “a Canadian epidemiologist reported….” We believe that this approach will both protect your identity and help readers understand the results of the data collected.

Everything we learn will be kept confidential by the RTI team. We will keep what you tell us in a locked file cabinet or a secure computer file. Only project team members will be allowed access. At the end of the study, we will destroy all records that could in any way be linked back to any of the participants in this study.

Can I talk to others about this study? Since this study only involves interaction with the research team, it is unlikely that you will learn anything from the project team that is private or confidential in nature. You are free to talk about the study with others if you wish.

Do I have to participate? You are free to join the study or not. You can stop the interview at any time or refuse to answer any questions. If you decide later that you do not want to be included, we will not use your comments. Your choice to take part will not have any impact on your connection with this project.

Whom do I call if I have questions? If you have any questions about the study, you can call either Dr. Joe Eyerman or Dr. Kevin J. Strom. Both Drs. Eyerman and Strom are serving as co-principal investigators on this project. Dr. Eyerman’s telephone number is (919) 541-7139, and Dr. Strom’s telephone number is (919) 485-5729. You may also call either of them if you decide later that you do not want to be in this study. If you have any questions about your rights in taking part of this study, or if you feel you have been harmed, you can call RTI's Office of Research Protection and Ethics at 1-866-214-2043 (*a toll-free call*).

By signing below, you are saying it is your choice to participate in this study. You are also saying that you understand how the project team plans to describe the results of the study by use of generic descriptors and that you agree to this. If there is any part of this form that is not clear to you, be sure to ask about it prior to signing. Sign here only when you have received answers to all of your questions and you are ready to be a part of this study.

_____ _____

Signature - Participant Date

_____ _____

Signature - Witness Date

Appendix D

Lead Letters from RTI, NIJ, and the US Embassy

Letter from RTI

To whom it may concern:

We are contacting you regarding RTI International's research project entitled "Research on Terrorism: A Cross-National Comparison of Interagency Coordination Between Law Enforcement and Public Health." The study is examining approaches to interagency coordination in the United Kingdom, Canada, the Republic of Ireland, and the United States with the goal of identifying promising strategies for improving communication, planning, and response to terrorist events as well as other public health emergencies. Working with RTI are public health and law enforcement consultants from the United Kingdom, Canada, the Republic of Ireland, and the United States.

You have been identified as a key stakeholder who can inform the interagency coordination issue in your country. One of our consultants has likely already contacted you about your potential role in this research project. If possible, we would like to interview you on your experiences, including knowledge of interagency coordination and perceived value of information sharing and integrated systems. If you wish, your identify will be kept confidential. In addition, RTI will provide you with a draft of the final report on our research findings and allow for your comments prior to its release. We will also make the final report available to you upon its completion.

We would like to stress to you that the goal of this project is to identify useful strategies for interagency coordination that can be replicated and built upon. This research will not be a critical assessment of the operations or activities in your country. We feel that the study's findings will benefit all participants by helping develop improved methods for interagency coordination and response.

If you have any questions or concerns, please contact one of the Co-Principal Investigators below. Thank you in advance for your participation in this important project.

Sincerely,

Joe Eyerman, Ph.D.
Political Scientist
(919) 541-7139

Co-Principal Investigator

Kevin J. Strom, Ph.D.
Criminologist
(919) 485-5729

Co-Principal Investigator

Letter from NIJ

U.S. Department of Justice

Office of Justice Programs

National Institute of Justice

Washington, D.C. 20531

June 15, 2004

To whom it may concern:

I am writing to advise you that Research Triangle Institute (RTI) is conducting a study entitled "Research on Terrorism: A Cross-National Comparison of Interagency Coordination between Law Enforcement and Public Health." This project is being conducted on behalf of the National Institute of Justice (NIJ), the research, development, and evaluation agency of the U.S. Department of Justice. NIJ is dedicated to providing objective, independent, and evidence-based knowledge and tools that meet the challenges of crime and justice. This study will produce much-needed information on interagency coordination by identifying and examining promising interagency coordination strategies in the United Kingdom, Canada, and the United States. The Principal Investigators conducting this study for RTI are Dr. Joe D. Eyerman and Dr. Kevin Strom.

RTI has asked us to assure you that the core objective of this research is to identify useful strategies for interagency coordination that can be replicated and built upon. This research will not be a critical assessment of the operations or activities in your agency or your country. Ulitimately, we feel that the study's findings will benefit all participants by helping develop improved methods for interagency coordination and response.

If you have any questions or concerns, please contact me at 202-307-2949 or email me at thomas.feucht@ojp.usdoj.gov. On behalf of NIJ, I would like to thank you in advance for your participation in this important project.

Sincerely,

Thomas E. Feucht
Acting Assistant Director
National Institute of Justice

Embassy Letter (Placeholder)

To whom it may concern:

This letter is to acknowledge that the project entitled “Research on Terrorism: A Cross-National Comparison of Interagency Coordination Between Law Enforcement and Public Health” is being fully supported by the United States Government…..

Text….

Text….

Text….

Text….

If you have any questions or concerns, please contact me. On behalf of the United States Embasy, I would like to thank you in advance for your participation in this important project.

Sincerely,

Name
Position title

Appendix E

Instructions for Identification of Stakeholders

Instructions for Identification of Stakeholders

We will need to identify and interview at least 8 stakeholders from each of the countries represented in this study (i.e., Canada, the UK, and the US). To maximize the chance that we will be able to successfully identify and recruit the needed number of participants, we are asking that you identify at least 2 stakeholders in each of the 8 different job categories of public health and law enforcement personnel listed below. Four of the stakeholders representing the different job categories in each country will be recruited from public health agencies, while the remaining 4 will be recruited from law enforcement agencies.

The breakdown of the required **public health stakeholders** is as follows:

- ***Federal Decision-Maker:*** This type of stakeholder is defined as a person working in a federal position who is in a decision-making role regarding public health surveillance, planning, or response to terrorist events. An example of someone who might qualify for selection in the US would be a director or deputy director of the Centers for Disease Control and Prevention Office of Emergency Preparedness.
- ***Epidemiologist:*** This type of stakeholder is defined as a state or regional epidemiologist involved in surveillance, planning, or response to terrorist events. The ideal participant would have some experience with cross-agency planning and response, possibly in the area of syndromic surveillance.
- ***State or Regional First Responder:*** This type of stakeholder is defined as a state or regional medial first responder (e.g., emergency medical technician; emergency room medical personnel) to potential or actual terrorist events. The ideal participant would have some experience in interacting with law enforcement and have received continuing education training (or have other experience) in dealing with mass emergency response. The candidate should also have training or experience in dealing with major hazards—training in bioterrorism would be helpful but is not required.
- ***State or Regional Bioterrorism Coordinator:*** This type of stakeholder is defined as a state or regional coordinator for bioterrorism surveillance, planning, or response to terrorist events. Like the federal decision-maker, an ideal participant is someone who is responsible for setting policy for a state or regional agency, program, or department. An example of someone who might qualify for selection in the US would be a director or deputy director of the North Carolina Officer of Public Health, Preparedness, and Response.

The breakdown of the required **law enforcement stakeholders** is as follows:

- ***Federal Decision-Maker:*** This type of stakeholder is defined as a person working in a federal position who is in a decision-making role regarding law enforcement planning or response to terrorist events. An example in the US would be someone from the Federal Bureau of Investigation (FBI) who works with the Joint Terrorism Task Force (JTTF) and is responsible for building partnerships with state and local agencies including counterterrorism planning and response.
- ***State or Local Law Enforcement:*** This type of stakeholder is defined as a person in state or local law enforcement who is involved in the surveillance, planning, or response to terrorist events. An ideal participant would be a state or local task force member of the JTTF or the Metropolitan Medical Response Systems (MMRS).

- ***State or Local Decision Maker:*** This type of stakeholder is defined as a person working in a position for a state or regional law enforcement agency in a decision-making role (e.g., state attorney general's office, sheriff, or police chief). Stakeholders in these positions should be involved in strategic activities related to the surveillance, planning, or response to terrorist events at the state or local level.
- ***Federal Terrorism Analyst:*** This type of stakeholder is defined as a person working in a federal position were he or she serves as a terrorism analyst involved in the surveillance of potential or actual terrorist events. The ideal participant would be a consumer of current surveillance systems but may not know about all of the possible public health data or systems that provide information on health threats.

Please use the table on the next page to help you keep track of the people you recommend to be included as stakeholders. There are 16 spaces marked for your primary recommendations for each of the 8 different job categories. In addition, we have provided an additional 8 spaces for you to write in names of others who you feel may be important in providing key stakeholder opinions on topics related to public health and law enforcement detection of, preparation for, or response to terrorist events. Once you have completed your list, please contact the RTI team to discuss your recommendations before contacting any stakeholder. As a team, we will refine these lists to ensure that we are able to obtain the necessary number of interviews. If resources allow, we will interview all or most of the identified stakeholders. This may exceed the initial target of 8 stakeholder interviews per country.

Please indicate below which country this list represents:

- ☐ Canada
- ☐ United Kingdom
- ☐ United States

Use the table below to write in your recommendations for stakeholders to be interviewed in your country. There are 16 spaces reserved (white space) for your primary recommendations for each of the 8 different job categories. In addition, we have provided an additional 8 spaces for you to write in names of others who you feel may be important in providing key stakeholder opinions on topics related to public health and law enforcement detection of, preparation for, or response to terrorist events.

	Public Health Stakeholders				**Law Enforcement Stakeholders**			
Name of Potential Stakeholder	Federal Decision-Maker	Federal Epidemiologist	State or Regional First Responder	State or Regional Bioterrorism Coordinator	Federal Decision-Maker	State or Local Law Enforcement	State or Local Decision-Maker	Federal Crime Analyst
1.								
2.								
3.								
4.								
5.								
6.								
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10.								
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23.								
24.								

Appendix F

Stakeholder Interviewer Guide – Public Health

National Institute of Justice Terrorism Project

Stakeholder Interview Guide: Public Health

(Estimated Interview Duration: 120 minutes)

Instructions: Please use the following instructions when conducting the interviews to ensure that each is conducted using a standard approach. Below are recommendations on the recruitment of participants, location(s) for interviews, and format of the questions to be covered.

Recruiting Stakeholders: Members of the expert panel assembled by the RTI team will recruit stakeholders to participate in the interviews by using their personal network of contacts within the fields of public health and law enforcement. The RTI team will provide recruitment documents such as a lead letter from RTI, a letter of support from the Department of Justice, and a copy of the study information and informed consent agreement describing the project goals and objectives. After expressing initial interest in the project, stakeholders will be contacted by the RTI team to secure their participation and schedule an interview.

Interview Setting: The RTI team will determine the best location for conducting the interview when making initial contact with stakeholders. Two suggested locations for the interviews are 1) the stakeholder's office or 2) a neutral location such as a hotel meeting room. Other locations may also be acceptable; however, interviewers should keep in mind obtaining a room that is quiet, private, and free from outside distractions.

Interview Guide: Interviewers are expected to follow this guide; however, as the situation dictates, it may be necessary to deviate onto other topics or a longer discussion than planned on any one topic. When conducting interviews, it is more important to stay engaged with the interviewee and to understand what feedback he or she is providing than to stick to the Interview Guide as a rule. Use your judgment to deviate as needed. Please make a notation on this form or in your notes about any major deviations from the protocol. Also note that a copy of the Study Information and Informed Consent form should be completed by each stakeholder prior to beginning the interview.

The Interview Guide uses standard notation throughout to indicate instructions to interviewers, introductions to be read, section headers, and others. A sample of the major elements of this are listed below for your convenience:

READ: *Text…* = Introductory text to be read to the respondent

1. Text…? = Question to be read to the respondent

Probes:
a. Text… = Follow-up or clarification question for the respondent

_____ **(ENTER…)** = Instruction for the interviewer within a question or READ statement

NOTE: TEXT… = Instructions for the interviewer

A. STUDY BACKGROUND

READ: *Before we begin, I wanted to tell you a little about the project we are conducting and why we wanted to talk to you today. This project is designed to examine strategies for interagency coordination in Canada, the United Kingdom (UK), and the United States, emphasizing technological mechanisms that can be used to facilitate communication in antiterrorism surveillance systems. Specifically, we are interested in the working relationship between public health and law enforcement in the detection of and response to possible terrorist events. Collaboration between public health and law enforcement agencies in designing and implementing surveillance systems could contribute to the common goals of producing systems that inform both groups and better enable agencies to plan for counterterrorism prevention, detection, and preparedness.*

The project's primary goal is to yield a set of promising practices that will help US agencies improve cross-agency preparation and response to terrorist threats. This will include identifying successful methods and technological tools used to coordinate efforts, as well as barriers to coordination and data quality issues that impact the utility of information systems. As part of this effort, RTI researchers are cataloging surveillance systems in each of the three countries to determine their potential for informing cross-agency coordination. This is being achieved by use of a survey tool called the Surveillance System Inventory (SSI), which is being administered to key stakeholders in each of the countries. In addition, key law enforcement and public health stakeholders from each country are being interviewed to gain insight on the potential application of these systems as well as related issues impacting cross-agency coordination. We believe the results of the project will also be helpful to agencies in Canada and the UK.

The RTI team is supported by area consultants in law enforcement and public health from Canada and the UK. The study is also supported by an expert panel from the US that has extensive experience in terrorism incident response, bioterrorism preparedness, public health surveillance, and law enforcement operations. This project is funded by the US National Institute of Justice (NIJ).

The discussion will be led today by _____ **(ENTER AND READ FACILITATORS' NAMES).** *We are going to ask you a number of questions about your knowledge of and involvement with the public health and law enforcement surveillance systems available in* _____ **(ENTER AND READ THE NAME OF HIS/HER COUNTRY)**. *We will both ask questions and take notes throughout the discussion to make sure that we fully understand your answers to our questions. We encourage you to raise other issues or questions throughout the discussion if you feel that there are additional issues related to the topics being discussed today.*

As a way of documenting our interaction, we will be keeping notes from our discussion today and any subsequent communication. This is done to ensure that we have accurate information from each of the stakeholders on what types of surveillance and other antiterrorism activities are being pursued. The project will not use your name in any written reports. The reports will put together what we learn from all of the interviews and other data collected by this study. To allow for a better contextual understanding of the results, we plan to provide generic descriptions of sources of some of the data. For instance, we are likely to use generic descriptors such as "a federal law-enforcement stakeholder in the UK reported…" or "a Canadian epidemiologist reported…." We believe that this approach will both protect your identity and help readers of the final report understand the findings of this study. No identifying information will be used in our notes,

so comments will not be able to be tracked back to you. Your participation is completely voluntary; if at any time you feel uncomfortable, you can end this discussion without any consequences to you.

B. STAKEHOLDER BACKGROUND

READ: *The next few questions ask about your background or personal characteristics. These questions will help us understand who you are and what kind of work you do. This will help to put your answers in context with others in your country's public health and law enforcement communities.*

1. **What is your background? We are interested in such things as the agency/department you work for, your position, and your involvement with the larger public health and/or law enforcement system.**

   Probes:
   a. What agency or department of the government do you work for?
   b. What is your position?
   c. What kind of involvement with the public health and law enforcement system do you have?
   d. What is the basic structure of the public health and law enforcement agencies in your country?

2. **What is your experience with public health and law enforcement databases and surveillance systems? Here we are interested in such things as the databases or surveillance systems your department currently has and your involvement with them.**

   Probes:
   a. What databases or surveillance systems does your department currently have to track potential threats?
   b. What kind of involvement have you had with these databases or surveillance systems?

C. THE COORDINATION PROBLEM

READ: *The next few questions ask about coordination issues you may be aware of regarding shared use of public health and law enforcement databases or surveillance systems.*

1. **How would you describe the current level of coordination between public health and law enforcement agencies in your country?**

   Probes:
   a. Is there a great deal of coordination or is information shared on a more informal basis?
   b. What type of information is coordinated between public health and law enforcement agencies?
   c. How much of this information is shared between public health and law enforcement agencies?
   d. Is only high-level information shared, or do they share the details as well?

2. Broadly speaking, what coordination mechanisms are currently in place to facilitate interagency coordination? Here we are interested in the agency rules, laws, or other guidelines that require (or encourage) the sharing of databases, reports, and other information between agencies.

Probes:

a. What kind of coordination mechanisms do you have? Legal, interagency agreement, informal, etc…?
b. Who is responsible for coordinating these information exchanges?
c. What steps are taken to coordinate or share this information between agencies?
d. Are there review processes or other mechanisms in place to ensure that information is shared between agencies as either agreed upon or required?

3. Keeping in mind the budget constraints and political environment that you face, what can or should be done now in your country to improve coordination between public health and law enforcement agencies?

> **NOTE: THIS REPRESENTS THE "LOW HANGING FRUIT" TYPE OF RESPONSE. BASICALLY WE WANT TO KNOW WHAT TYPES OF PRACTICAL AND LOW-COST OPTIONS ARE AVAILABLE TO IMPROVE COORDINATION.**

Probes:

a. What are some of the major steps that can be taken to achieve better coordination?
b. Which of these would be the most practical and cost effective steps to take?
c. Are any of these steps being taken now by any of your country's public health and law enforcement agencies?

4. If you had unlimited budget, time, and resources, what policies or systems would you implement to better coordinate public health and law enforcement for terrorist events?

> **NOTE: THIS REPRESENTS THE "BLUE SKY WISH LIST" TYPE OF RESPONSE. BASICALLY WE WANT TO KNOW WHAT THEY WOULD DO TO IMPROVE COORDINATION IF THEY HAD NO LIMITS.**

Probes:

a. What would you do to improve detection?
b. What would you do to improve preparedness?
c. What would you do to improve response?

5. What are the barriers to better coordination that you see in your country?

Probes:

a. What are some of the major barriers that you have seen?
b. How are they resolved?
c. How could they be better resolved?
d. How much emphasis is placed on overcoming these barriers by your leaders?
e. Are these unique to the current situation, or do they apply to all agencies?

6. In your tenure, how have things changed in terms of interagency coordination?

Probes:

a. In what ways has interagency coordination improved?
b. In what ways has interagency coordination declined?

7. What represents the biggest challenge for interagency coordination? For instance, would you say that your biggest coordination challenge comes from a particular threat (e.g., infectious diseases, environmental pollution, electronic warfare, etc.) or from other issues such as politics, limited budgets, etc.?

Probes:

a. What are the major challenges to interagency coordination?
b. Why are they such challenges?
c. What are the barriers to better coordination to meet these threats?

D. INFORMATION TECHNOLOGY SOLUTIONS TO COORDINATION PROBLEM

READ: *The next few questions ask about the information technology or computer database solutions that you use to track potential terrorist or public health threats. We recently completed a data collection project, the Surveillance System Inventory (SSI), that focused on cataloguing the surveillance systems related to public health, public safety, and law enforcement in Canada, the United States, and the United Kingdom. One of the goals of the SSI was to understand what was currently available in each of the countries. However, just because a surveillance system is available in a country does not always mean that it is available to all agencies that might find it useful. This final part of our interview will focus on reviewing the report we have compiled on the SSI results for* _____ **(ENTER AND READ THE NAME OF HIS/HER COUNTRY)**, *as well as a discussion about both the potential and realized coordination of surveillance information among agencies.*

We would like to start by first talking about the report we sent you on the results of the SSI completed by stakeholders in _____ **(ENTER AND READ THE NAME OF HIS/HER COUNTRY)**. *Here are the major findings of the SSI for* _____ **(ENTER AND READ THE NAME OF HIS/HER COUNTRY; HAND RESPONDENT A COPY OF THE SSI REPORT FOR HIS/HER COUNTRY AND REVIEW THE MAJOR FINDINGS).** *I have a few questions about these findings and a few others about how coordination might be improved.*

1. Now that we have reviewed the major findings, do you think that this report accurately describes what is available in _____ (ENTER AND READ THE NAME OF HIS/HER COUNTRY)?

Probes:

a. Are there public health or law enforcement databases or surveillance systems that are not described accurately?
b. Are there any databases or surveillance systems that are not covered?
c. Where should we look to obtain information on additional databases or surveillance systems?

2. Do you know of any current public health databases, surveillance systems, or other reporting procedures that are currently being used by law enforcement in your country?

Probes:
a. What public health databases or other surveillance systems are currently shared with law enforcement agencies?
b. Who currently controls these databases or other surveillance systems?

3. Is there a potential for dual-use or sharing of public health databases or other surveillance systems with law enforcement agencies?

Probes:
a. What are the most important pieces of information that public health agencies can share with law enforcement agencies?
b. What public health databases or other surveillance systems could be shared that are not currently being shared?
c. Who currently controls these databases or other surveillance systems?

4. What enhancements would you suggest to the current public health databases or other surveillance systems to facilitate dual use or better sharing between agencies?

Probes:
a. What steps would need to be taken to help facilitate better sharing of public health databases or other surveillance systems with law enforcement agencies?
b. Are there changes to the way the data is stored or other things that could be done to facilitate better sharing?

5. What are the major barriers preventing these enhancements?

Probes:
a. What are the major barriers to better sharing of public health databases or other surveillance systems with law enforcement agencies?

> **NOTE: IF RESPONDENT HAS TROUBLE ANSWERING THIS QUESTION, SUGGEST SOME COMMON BARRIERS SUCH AS BUDGET, BUREAUCRACY, POLITICS, LACK OF INTEREST, LACK OF KNOWLEDGE, COMMUNICATION, PLANNING, LEADERSHIP, TIME, AND LEGAL ISSUES.**

6. How likely is it that current public health databases or other surveillance systems will be shared with law enforcement agencies to aid in the detection of, response to, or planning for terrorist events?

7. Are there more promising areas for coordinating databases or other surveillance systems used for detection of, response to, or planning for terrorist events between public health and law enforcement agencies? For example, there are a number of potential types of data that could be shared, including communication systems, public education/outreach, training/simulations, professional meetings, and others.

Probes:
a. What are the most likely public health databases or other surveillance systems to be shared with law enforcement agencies in the future?
b. What are the most unlikely public health databases or other surveillance systems to be shared with law enforcement agencies in the future?

8. Do you have any final comments on how databases or other surveillance systems could be improved to better enable public health and law enforcement agencies to detect, respond, or plan for terrorist events?

READ: *Before we end today, I'd like to ask you a final question.*

9. Is there anything you would like to add or clarify from our discussion today?

E. WRAPPING UP

READ: *Thank you very much for talking with us today. Your input on this topic has been invaluable and will help us provide recommendations to public health and law enforcement agencies in Canada, the United Kingdom, and the United States on ways to improve interagency coordination of surveillance systems. This information should also be very valuable in helping each of our countries to be better prepared to detect, track, and respond to terrorist threats. We will be finishing our study over the next few months and plan to get back to you with our findings by approximately* _____ *(***ENTER AND READ THE APPROXIMATE DATE***). Thanks again for your help. We appreciate your time and input on this important matter.*

NOTE: AFTER THANKING HIM/HER, POLITELY WRAP UP THE INTERVIEW. FIND A NEUTRAL LOCATION WITHIN THE NEXT HOUR TO CONDUCT THE DEBRIEFING WITH THE INTERIVEW TEAM. ALLOW FOR AT LEAST 60 MINUTES TO REVIEW AND DISCUSS THE INTERVIEW RESPONSES.

Appendix G

Stakeholder Interviewer Guide – Law Enforcement

National Institute of Justice Terrorism Project

Stakeholder Interview Guide: Law Enforcement

(Estimated Interview Duration: 120 minutes)

Instructions: Please use the following instructions when conducting the interviews to ensure that each is conducted using a standard approach. Below are recommendations on the recruitment of participants, location(s) for interviews, and format of the questions to be covered.

Recruiting Stakeholders: Members of the expert panel assembled by the RTI team will recruit stakeholders to participate in the interviews by using their personal network of contacts within the fields of public health and law enforcement. The RTI team will provide recruitment documents such as a lead letter from RTI, a letter of support from the Department of Justice, and a copy of the study information and informed consent agreement describing the project goals and objectives. After expressing initial interest in the project, stakeholders will be contacted by the RTI team to secure their participation and schedule an interview.

Interview Setting: The RTI team will determine the best location for conducting the interview when making initial contact with stakeholders. Two suggested locations for the interviews are 1) the stakeholder's office or 2) a neutral location such as a hotel meeting room. Other locations may also be acceptable; however, interviewers should keep in mind obtaining a room that is quiet, private, and free from outside distractions.

Interview Guide: Interviewers are expected to follow this guide; however, as the situation dictates, it may be necessary to deviate onto other topics or a longer discussion than planned on any one topic. When conducting interviews, it is more important to stay engaged with the interviewee and to understand what feedback he or she is providing than to stick to the Interview Guide as a rule. Use your judgment to deviate as needed. Please make a notation on this form or in your notes about any major deviations from the protocol. Also note that a copy of the Study Information and Informed Consent form should be completed by each stakeholder prior to beginning the interview.

The Interview Guide uses standard notation throughout to indicate instructions to interviewers, introductions to be read, section headers, and others. A sample of the major elements of this are listed below for your convenience:

READ: *Text…* = Introductory text to be read to the respondent

1. Text…? = Question to be read to the respondent

Probes:
a. Text… = Follow-up or clarification question for the respondent

_____ **(ENTER…)** = Instruction for the interviewer within a question or READ statement

NOTE: TEXT… = Instructions for the interviewer

A. STUDY BACKGROUND

READ: *Before we begin, I wanted to tell you a little about the project we are conducting and why we wanted to talk to you today. This project is designed to examine strategies for interagency coordination in Canada, the United Kingdom (UK), and the United States, emphasizing technological mechanisms that can be used to facilitate communication in antiterrorism surveillance systems. Specifically, we are interested in the working relationship between public health and law enforcement in the detection and response to possible terrorist events. Collaboration between public health and law enforcement agencies in designing and implementing surveillance systems could contribute to the common goals of producing systems that inform both groups and better enable agencies to plan for counterterrorism prevention, detection, and preparedness.*

The project's primary goal is to yield a set of promising practices that will help US agencies improve cross-agency preparation and response to terrorist threats. This will include identifying successful methods and technological tools used to coordinate efforts, as well as barriers to coordination and data quality issues that impact the utility of information systems. As part of this effort, RTI researchers are cataloging surveillance systems in each of the three countries to determine their potential for informing cross-agency coordination. This is being achieved by use of a survey tool called the Surveillance System Inventory (SSI), which is being administered to key stakeholders in each of the countries. In addition, key law enforcement and public health stakeholders from each country are being interviewed to gain insight on the potential application of these systems as well as related issues impacting cross-agency coordination. We believe the results of the project will also be helpful to agencies in Canada and the UK.

The RTI team is supported by area consultants in law enforcement and public health from Canada and the UK. The study is also supported by an expert panel from the US that has extensive experience in terrorism incident response, bioterrorism preparedness, public health surveillance, and law enforcement operations. This project is funded by the US National Institute of Justice (NIJ).

The discussion will be led today by _____ **(ENTER AND READ FACILITATORS' NAMES).** *We are going to ask you a number of questions about your knowledge of and involvement with the public health and law enforcement surveillance systems available in* _____ **(ENTER AND READ THE NAME OF HIS/HER COUNTRY)**. *We will both ask questions and take notes throughout the discussion to make sure that we fully understand your answers to our questions. We encourage you to raise other issues or questions throughout the discussion if you feel that there are additional issues related to the topics being discussed today.*

As a way of documenting our interaction, we will be keeping notes from our discussion today any subsequent communication. This is done to ensure that we have accurate information from each of the stakeholders on what types of surveillance and other antiterrorism activities are being pursued. The project will not use your name in any written reports. The reports will put together what we learn from all of the interviews and other data collected by this study. To allow for a better contextual understanding of the results, we plan to provide generic descriptions of sources of some of the data. For instance, we are likely to use generic descriptors such as "a federal law-enforcement stakeholder in the UK reported…" or "a Canadian epidemiologist reported.…" We believe that this approach will both protect your identity and help readers of the final report understand the findings of this study. No identifying information will be used in our notes,

so comments will not be able to be tracked back to you. Your participation is completely voluntary; if at any time you feel uncomfortable, you can end this discussion without any consequences to you.

B. STAKEHOLDER BACKGROUND

READ: *The next few questions ask about your background or personal characteristics. These questions will help us understand who you are and what kind of work you do. This will help to put your answers in context with others in your country's law enforcement and public health communities.*

1. **What is your background? We are interested in such things as the agency/department you work for, your position and your involvement with the larger public health and/or law enforcement system.**

   Probes:
   a. What agency or department of the government do you work for?
   b. What is your position?
   c. What kind of involvement with the public health and law enforcement system do you have?
   d. What is the basic structure of the public health and law enforcement agencies in your country?

3. **What is your experience with law enforcement and public health databases and surveillance systems? Here we are interested in such things as the databases or surveillance systems your department currently has and your involvement with them.**

   Probes:
   a. What databases or surveillance systems does your department currently have to track potential threats?
   b. What kind of involvement have you had with these databases or surveillance systems?

C. THE COORDINATION PROBLEM

READ: *The next few questions ask about coordination issues you may be aware of regarding shared use of law enforcement and public health databases or surveillance systems.*

1. **How would you describe the current level of coordination between law enforcement and public health agencies in your country?**

   Probes:
   a. Is there a great deal of coordination or is information shared on a more informal basis?
   b. What types of information is coordinated between law enforcement and public health agencies?
   c. How much of this information is shared between law enforcement and public health agencies?
   d. Is only high-level information shared, or do they share the details as well?

2. Broadly speaking, what coordination mechanisms are currently in place to facilitate interagency coordination? Here we are interested in the agency rules, laws, or other guidelines that require (or encourage) the sharing of databases, reports, and other information between agencies.

Probes:

a. What kind of coordination mechanisms do you have? Legal, interagency agreement, informal, etc…?
b. Who is responsible for coordinating these information exchanges?
c. What steps are taken to coordinate or share this information between agencies?
d. Are there review processes or other mechanisms in place to ensure that information is shared between agencies as either agreed upon or required?

3. Keeping in mind the budget constraints and political environment that you face, what can or should be done now in your country to improve coordination between public health and law enforcement agencies?

> **NOTE: THIS REPRESENTS THE "LOW HANGING FRUIT" TYPE OF RESPONSE. BASICALLY WE WANT TO KNOW WHAT TYPES OF PRACTICAL AND LOW-COST OPTIONS ARE AVAILABLE TO IMPROVE COORDINATION.**

Probes:

a. What are some of the major steps that can be taken to achieve better coordination?
b. Which of these would be the most practical and cost effective steps to take?
c. Are any of these steps being taken now by any of your country's law enforcement and public health agencies?

4. If you had unlimited budget, time, and resources, what policies or systems would you implement to better coordinate public health and law enforcement for terrorist events?

> **NOTE: THIS REPRESENTS THE "BLUE SKY WISH LIST" TYPE OF RESPONSE. BASICALLY WE WANT TO KNOW WHAT THEY WOULD DO TO IMPROVE COORDINATION IF THEY HAD NO LIMITS.**

Probes:

a. What would you do to improve detection?
b. What would you do to improve preparedness?
c. What would you do to improve response?

5. What are the barriers to better coordination that you see in your country?

Probes:

a. What are some of the major barriers that you have seen?
b. How are they resolved?
c. How could they be better resolved?
d. How much emphasis is placed on overcoming these barriers by your leaders?
e. Are these unique to the current situation, or do they apply to all agencies?

6. In your tenure, how have things changed in terms of interagency coordination?

Probes:

a. In what ways has interagency coordination improved?
b. In what ways has interagency coordination declined?

7. What represents the biggest challenge for interagency coordination? For instance, would you say that your biggest coordination challenge comes from a particular threat (e.g., infectious diseases, environmental pollution, electronic warfare, etc.) or from other issues such as politics, limited budgets, etc.?

Probes:

a. What are the major challenges to interagency coordination?
b. Why are they such challenges?
c. What are the barriers to better coordination to meet these threats?

D. INFORMATION TECHNOLOGY SOLUTIONS TO COORDINATION PROBLEM

READ: *The next few questions ask about the information technology or computer database solutions that you use to track potential terrorist or public safety threats. We recently completed a data collection projects, the Surveillance System Inventory (SSI), that focused on cataloguing the surveillance systems related to public health, public safety, and law enforcement in Canada, the United States, and the United Kingdom. One of the goals of the SSI was to understand what was currently available in each of the countries. However, just because a surveillance system is available in a country does not always mean that it is available to all agencies that might find it useful. This final part of our interview will focus on reviewing the report we have compiled on the SSI results for* _____ **(ENTER AND READ THE NAME OF THEIR COUNTRY)**, *as well as a discussion about both the potential and realized coordination of surveillance information among agencies.*

We would like to start by first talking about the report we sent you on the results of the SSI completed by stakeholders in _____ **(ENTER AND READ THE NAME OF HIS/HER COUNTRY)**. *Here are the major findings of the SSI for* _____ **(ENTER AND READ THE NAME OF HIS/HER COUNTRY; HAND RESPONDENT A COPY OF THE SSI REPORT FOR HIS/HER COUNTRY AND REVIEW THE MAJOR FINDINGS).** *I have a few questions about these findings and a few others about how coordination might be improved.*

1. Now that we have reviewed the major findings, do you think that this report accurately describes what is available in _____ (ENTER AND READ THE NAME OF HIS/HER COUNTRY)?

Probes:

a. Are there law enforcement or public health databases or surveillance systems that are not described accurately?
b. Are there any databases or surveillance systems that are not covered?
c. Where should we look to obtain information on additional databases or surveillance systems?

2. Do you know of any current law enforcement databases, surveillance systems, or other reporting procedures that are being used by public health agencies in your country?

Probes:
a. What law enforcement databases or other surveillance systems are currently shared with public health agencies?
b. Who currently controls these databases or other surveillance systems?

3. Is there a potential for dual-use or sharing of law enforcement databases or other surveillance systems with public health agencies?

Probes:
a. What are the most important pieces of information that law enforcement agencies can care with public health agencies?
b. What law enforcement databases or other surveillance systems could be shared that are not currently being shared?
c. Who currently controls these databases or other surveillance systems?

4. What enhancements would you suggest to the current law enforcement databases or other surveillance systems to facilitate dual use or better sharing between agencies?

Probes:
a. What steps would need to be taken to help facilitate better sharing of law enforcement databases or other surveillance systems with public health agencies?
b. Are there changes to the way the data is stored or other things that could be done to facilitate better sharing?

5. What are the major barriers preventing these enhancements?

Probes:
a. What are the major barriers to better sharing of law enforcement databases or other surveillance systems with public health agencies?

> **NOTE: IF RESPONDENT HAS TROUBLE ANSWERING THIS QUESTION, SUGGEST SOME COMMON BARRIERS SUCH AS BUDGET, BUREAUCRACY, POLITICS, LACK OF INTEREST, LACK OF KNOWLEDGE, COMMUNICATION, PLANNING, LEADERSHIP, TIME, AND LEGAL ISSUES.**

6. How likely is it that current law enforcement databases or other surveillance systems will be shared with public health agencies to aid in the detection of, response to, or planning for terrorist events?

7. Are there more promising areas for coordinating databases or other surveillance systems used for detection of, response to, or planning for terrorist events between law enforcement and public health agencies? For example, there are a number of potential types of data that could be shared, including communication systems, public education/outreach, training/simulations, professional meetings, and others.

Probes:
a. What are the most likely law enforcement databases or other surveillance systems to be shared with public health agencies in the future?
b. What are the most unlikely law enforcement databases or other surveillance systems to be shared with public health agencies in the future?

8. Do you have any final comments on how databases or other surveillance systems could be improved to better enable law enforcement and public health agencies to detect, respond, or plan for terrorist events?

READ: *Before we end today, I'd like to ask you a final question.*

9. Is there anything you would like to add or clarify from our discussion today?

E. WRAPPING UP

READ: *Thank you very much for talking with us today. Your input on this topic has been invaluable and will help us provide recommendations to public health and law enforcement agencies in Canada, the United Kingdom, and the United States on ways to improve interagency coordination of surveillance systems. This information should also be very valuable in helping each of our countries to be better prepared to detect, track, and respond to terrorist threats. We will be finishing our study over the next few months and plan to get back to you with our findings by approximately* _____ *(***ENTER AND READ THE APPROXIMATE DATE***). Thanks again for your help. We appreciate your time and input on this important matter.*

NOTE: AFTER THANKING HIM/HER, POLITELY WRAP UP THE INTERVIEW. FIND A NEUTRAL LOCATION WITHIN THE NEXT HOUR TO CONDUCT THE DEBRIEFING WITH THE INTERIVEW TEAM. ALLOW FOR AT LEAST 60 MINUTES TO REVIEW AND DISCUSS THE INTERVIEW RESPONSES.

Research on Terrorism: A Cross-National Comparison of Interagency Coordination Between Law Enforcement & Public Health

Study Protocol for the Phase 3 Expert Consultant Panel

1. Overview

1.1 Project Overview

In the post-9/11 world, public health and law enforcement are required to assume new and overlapping roles in response to terrorist threats. This project examines strategies for interagency coordination in Canada, the United Kingdom (Northern Ireland, Scotland, Wales, and England) and the United States (US). The project also collected data regarding interagency coordination Ireland. Although this was not part of the original design, the project team believed that input from officials in Ireland would be valuable to the project. Collaboration between public health and law enforcement agencies in the prevention, detection, and preparedness planning for terrorist events could contribute to the common goals of producing dual-use systems that inform both groups. In addition, coordintation of information and response on potential or actual threats is becoming a more significant concern for both public health and law enforcement agencies.

To answer these concerns, the project will seek to yield a set of promising best practices that will help agencies in each country improve interagency preparation and response to terrorist threats. The project is being conducted by RTI International (RTI) and is supported by a grant from the National Institute of Justice (NIJ).

The project will proceed in three phases. In Phase 1, the Surveillance System Inventory (SSI), RTI will catalog surveillance systems in each of the four countries to determine their potential for informing interagency coordination. In Phase 2, RTI will interview stakeholders from public health and law enforcement agencies in the four countries to gain insight into the interagency coordination difficulties and successes experienced by public health and law enforcement. In Phase 3, RTI will share the results of data collected during Phases 1 and 2 with an expert panel. This expert panel will review this information and seek to identify possible best practices for improving interagency coordination in the United States in the detection of, preparation for, and response to terrorist threats and/or actions.

1.2 Rationale for the Expert Consultant Panel

Due to the exploratory nature of this study, it will be important to review the findings of Phases 1 and 2 to ensure that they accurately describe the breadth of public health and law enforcement coordination issues. There are a wide variety of factors that may either facilitate or hinder coordination including budgets, bureaucracy, politics, level of interest, communication processes, usability of data/surveillance systems, the type of data/information being utilized, and legal constraints. Since this represents a broad array of different types of information that require both subject matter expertise and

experience to fully understand and critique current practices, RTI will assemble an Expert Consultant Panel (ECP).

The ECP will be comprised of subject matter experts (SMEs) from a variety of different types of positions within public health and law enforcement agencies. The SMEs will provide both knowledge and experience with the major coordination issues within the field and help to ensure that the project is both adequately capturing the available information, as well as fully understanding the contextual coordination issues within these government agencies. Working with the project team, the ECP will review the findings of the project and provide feedback on recommendations for future coordination practices that may be useful to U.S. Agencies that are involved in the detection, preparation, and response to terrorist activities.

1.3 Purpose of this Document

This document describes the process and procedures for convening the ECP to review the information and recommendations that has been compiled by the project team from data collected in Phases 1 and 2. The document will be used as a guide for the project team to follow when setting up and later consulting with the ECP. This document will also serve as a record of the activities engaged in by the project team.

Finally, in addition to describing the processes related to the ECP, this document provides copies of all materials related to data collection and data management. *Appendix A* contains a list of the area experts and subject matter experts (SMEs) that have been used by the project to collect data and review study-related materials. *Appendix B* contains a list of the people that are expected to serve on the ECP. This list includes individuals who served as SMEs as well as additional experts from public health and law enforcement in each of the four countries involved in the study. *Appendix C* contains an example of the type of review forms that will be provided to the ECP to facilitate their feedback.

2. Methodology

The following provide a description of how the project team will assemble, manage, and utilize the ECP for Phase 3 of the project. The project team plans to utilize the ECP to review the findings of the research and to help in the process of generating best practice recommendations for U.S. agencies to follow to improve coordination in the detection of, preparation for, and response to terrorist activities.

2.1 The Expert Consultant Panel (ECP)

The ECP will comprise both area experts and subject matter experts with domain and technical expertise related to the project goals of understanding ways to improve interagency coordination of steps taken to prepare and/or respond to terrorist-related events. Areas of expertise will include domestic and international terrorism, public health policy, infectious disease control, foreign policy, law enforcement operations and reporting systems, emergency management, geographic information systems (GIS), and systems integration.

2.1.1 Composition of the ECP

The membership of the ECP will be comprised of SMEs from a variety of different types of positions within public health and law enforcement agencies. As in Phase 2 of the project, the RTI team will work with the area experts to identify a list of potential SMEs in each country that would be willing to serve on the ECP (see Appendix A). It is expected that many of the SMEs recruited will be individuals that were involved in Phase 2 of the project where they served as stakeholders (see Appendix B).

The types of public health SMEs needed for the ECP include the following:

- *Federal Decision-Maker:* This type of SME is defined as a person working in a federal position who is in a decision-making role regarding public health surveillance, planning, or response to terrorist events. An example of someone who might qualify for selection in the U.S. would be a director or deputy director of the Centers for Disease Control and Prevention Office of Emergency Preparedness.
- *Epidemiologist:* This type of SME is defined as a state or regional epidemiologist involved in surveillance, planning, or response to terrorist events. The ideal participant would have some experience with interagency planning and response, possibly in the area of syndromic surveillance.
- *State or Regional First Responder:* This type of SME is defined as a state or regional medical first responder (e.g., emergency medical technician, emergency room medical personnel) to potential or actual terrorist events. The ideal participant would have some experience in interacting with law enforcement and have received continuing education training (or have other experience) in dealing with mass emergency response. The candidate should also have training or experience in dealing with major hazards—training in bioterrorism would be helpful but is not required.
- *State or Regional Bioterrorism Coordinator:* This type of SME is defined as a state or regional coordinator for bioterrorism surveillance, planning, or response

to terrorist events. Like the federal decision-maker, an ideal participant is someone who is responsible for setting policy for an agency, a program, or department at the state or regional level. An example of someone who might qualify for selection in the U.S. would be a director or deputy director of the North Carolina Office of Public Health, Preparedness, and Response.

The types of law enforcement SMEs needed for the ECP include the following:

- *Federal Decision-Maker:* This type of SME is defined as a person working in a Federal position who is in a decision-making role regarding law enforcement planning or response to terrorist events. An example in the U.S. would be someone from the Federal Bureau of Investigation (FBI) who works with the Joint Terrorism Task Force (JTTF) and is responsible for building partnerships with state and local agencies including counterterrorism planning and response.
- *State or Local Law Enforcement:* This type of SME is defined as a person in state or local law enforcement who is involved in the surveillance, planning, or response to terrorist events. An ideal participant would be a state or local task force member of the JTTF or the Metropolitan Medical Response Systems (MMRS).
- *State or Local Decision-Maker:* This type of SME is defined as a person working for a state or regional law enforcement agency in a decision-making role (e.g., state attorney general, sheriff, or police chief). Stakeholders in these positions should be involved in strategic activities related to the surveillance, planning, or response to terrorist events at the state or local level.
- *Federal Terrorism Analyst:* This type of SME is defined as a person working in a federal position where they serve as a terrorism analyst involved in the surveillance of potential or actual terrorist events. The ideal participant would be a consumer of current surveillance systems who may not know about all of the possible public health data or systems that provide information on health threats.

Selection of the SMEs that will participate in the ECP will be conducted by the project team (including the area experts). The project team will seek to select SMEs to participate in the review on the basis of the following criteria:

1. Recognized knowledge and experience with coordination issue between agencies in the detection, preparation, and response to terrorist activities.
2. Representation of a diversity of different types of roles in public health and law enforcement agencies.
3. Understanding of the political, social, and practical barriers and facilitators that may interfere with effective detection, preparation, and response to terrorist activities.
4. Willingness to participate in the review process of the ECP.

2.1.2 Role of the ECP

Due to the first-hand experience with coordination issues, the ECP will provide an in-depth understanding of the problems faced by agencies involved in the detection, preparation, and response to terrorist activities. To better understand the issues surrounding the availability of surveillance information and the quality of interagency coordination, RTI will review the results of the data collected in Phases 1 and 2 with the ECP. It is believed that these individuals will provide valuable information on current

strategies for coordination, major barriers to coordination, and potential approaches for improving the ability of multiple agencies to detect, respond to, and plan for terrorist events.

The primary objectives of the ECP in this phase of the research are to:

1. Review the findings of data collection in Phases 1 and 2 of the project
    a. Verify the accuracy of the coverage and content of the SSI
    b. Assess the barriers inhibiting more effective interagency coordination
    c. Identify potential methods for improving interagency coordination and use of surveillance systems
2. Critique the working recommendations and strategies generated by the project for better interagency coordination of antiterrorism activities
3. Produce a final set of recommendations and working strategies for use by U.S. agencies to improve coordination of detection, response, and planning for terrorist events

2.1.3 Responsibilities of the ECP Members

Those who are selected for service on ECP will be contacted the project team and asked to participate in the process. At that time, prospective ECP members will be informed of the responsibilities for participation and asked if they will be able to fulfill this role. The responsibilities of the ECP members will consist of the following:

Pre-meeting review: Prior to the ECP meeting, members of the panel will receive a package of materials for their review. The package will contain a copy of the findings from the Phase 1 surveillance system inventory, the Phase 2 stakeholder interviews regarding interagency coordination, a copy of the best practice recommendations generated by the project team, and a set of feedback forms. Panel members will be expected to review the materials and complete the feedback forms prior to the ECP meeting (see Appendix C). Panel members will be asked to bring all of these materials with them to the ECP meeting to help facilitate the discussion.

Attendance of the ECP meetings: To serve as a panel member in this project, proposed members of the ECP will be asked to attend one meeting at the RTI main campus in Research Triangle Park, NC. The meeting will consist of one day of discussions and review by the members of the ECP and the project team. The proposed timeframe of the meeting is mid April (*to be determined*). Members of the panel will be expected to participate in the discussion and provide feedback on each element of the project under discussion. The project will provide airline transportation, hotel accommodations, and local transportation for the ECP. In some cases, the requirement for attendance may be waived if the proposed panel member is unable to attend and the project directors deem it necessary to obtain their feedback. In these cases, the project directors will obtain feedback from these individuals via telephone interview and e-mail document exchange.

Post-meeting review: Following the ECP meeting, the project team will update the information that was under discussion at the panel meeting. The primary outcomes of these revisions will be the development of a final set of best practice recommendations for U.S. agencies to follow to improve coordination in the preparation for, detection of,

and response to terrorist activity. Members of the panel will be expected to read and provide feedback on the final set of recommendations developed by the project.

In addition, ECP members will be asked to disclose any conflict of interest that may arise as a result of their participation in the project. ECP members will be asked to disclose this information to the project directors. If any conflict of interest issues are raised, the project team will consult the RTI corporate ethics office for guidance.

2.1.4 Primary Review Tasks

The ECP will seek to fulfill two main tasks including, review of the study findings (Phases 1 and 2) and critique the working recommendations and strategies generated by the project team for improving interagency coordination in the detection, preparation and response to terrorist-related actions. The panel will be asked to offer feedback on these potential approaches as they apply to each individual's area of expertise. This information can then be used to inform short- and long-term strategies for improving coordination and communication among public health and law enforcement agencies. As result of work with the ECP, the project team will be able to generate a final set of recommendations that can be used to improve the ability of public health and law enforcement agencies in the U.S. to improve detection, response, and planning for terrorist events.

The panel will be asked to review the findings from the study on two global dimensions:

1. ***Coverage***: Was the study successful in capturing data on the majority of public health and law enforcement surveillance systems?
2. ***Depth of Understanding***: Was the study successful in developing a good understanding of the coordination issues faced by agencies? Have the strengths and weaknesses of the existing system been adequately described?
    a. ***Description:*** Does the project describe the major elements of interagency coordination and surveillance in enough depth to demonstrate a good understanding of the particular situation?
    b. ***Barriers:*** Does the project describe the current barriers to increasing the level of coordination between public health or law enforcement agencies?
    c. ***Facilitators:*** Does the project describe the current facilitators that may help other public health or law enforcement agencies achieve better information and response coordination?

In addition, the panel will be asked to provide feedback regarding the best practice generated by the project across four dimensions:

1. ***Effectiveness***: Is the proposed strategy likely to increase and improve interagency communication and coordination prior to, during, and after terrorist events?
2. ***Feasibility***: How likely is it that the proposed strategy or practice can be implemented effectively in the U.S.? This dimension will include a detailed list of potential barriers for implementation, as well as potential solutions to these barriers.
3. ***Technical soundness***: Are there major technical issues that are not currently being considered? These factors may range from information technology issues (e.g., inability to electronically link certain systems) to "real-world" issues in the medical and law enforcement communities (e.g., staff resources).

4. ***Benefits/Costs***: If such a strategy were incorporated, how, specifically, would it benefit public health, law enforcement, and other related agencies tasked with domestic preparedness? What are the potential costs of this particular recommendation?

2.2 Meeting of the ECP Summit

Members of the ECP will be asked to attend a one-day summit meeting at the RTI main campus in Research Triangle Park, NC. The proposed timeframe of the meeting is mid April (*to be determined*). The ECP will meet to discuss the study findings and provide feedback on the proposed best practice recommendations. Prior to this meeting, panel members will be provided with copies of the country-specific case studies, which include both collected information on coordination issues, surveillance systems, and other study-related information collected during interaction with project stakeholders. At the meeting, RTI project staff will brief the ECP on the study goals as well as the case study results. The goal of this meeting will be to discuss the best practices that can be drawn from cross-national approaches and the plausibility for implementing these approaches in the United States. Following the completion of a draft of the final report, the ECP will be asked to review the draft report and provide any final revisions and recommendations.

At the one-day summit, the ECP will review the project findings and work as a group towards the development of a final set of best practices that can be adopted by U.S. agencies to improve the detection of, preparation for, and response to terrorist activities. The format of the meeting is expected to include both presentations by project staff and moderated discussions between ECP members. The proposed schedule of events for the ECP summit is the following:

8:30-9:00 AM	Registration and continental breakfast
9:00-9:15 AM	Introduction of the project team and ECP members
9:15-9:30 AM	Project overview
9:30-10:45 AM	Review of the project methods and findings 1. Phase 1: Surveillance System Inventory 2. Phase 2: Stakeholder interviews 3. Case studies of successful interagency coordination/cooperation
10:45-11:00 AM	Break
11:00-12:00 AM	Presentation of the best practice recommendations
12:00-1:15 PM	Lunch break
1:15-3:00 PM	Discussion of feedback regarding each phase of the project and best practice recommendations

1. Phase 1: Surveillance System Inventory
2. Phase 2: Stakeholder interviews
3. Case studies of successful interagency coordination/cooperation
4. Best practice recommendations

3:00-3:15 PM Break

3:15-5:00 PM Facilitated discussion on revision needs of best practice recommendations

1. Review of feedback
2. Revision of best practice recommendations
3. Voting for acceptance of revised best practice recommendations

6:00-8:00 PM Dinner (optional)

In some cases, members of the ECP may not be able to attend the meeting due to schedule conflicts or other reasons. However, the project team may wish to obtain similar feedback from these non-attending members. In these cases, a video conference link may be established to allow these non-attending members to participate in the discussions. Where this is not possible, the project team will obtain feedback from these individuals via telephone interview and/or e-mail document exchange.

2.2.1 Recording of the proceedings from the ECP Summit

Throughout the ECP summit, the project team will provide staff to maintain a record of the events and interaction that takes place. This will include:

- a roster of those in attendance
- presentations made by the project team
- copies of the feedback forms completed by each member of the ECP
- notes on the comments made by each ECP member.

In addition, data will be collected on all votes taken regarding changes or acceptance of best practice recommendations. All of the members of the project team present for the summit will participate in the documentation of this information when they are not leading or facilitating discussions. This data will later be compiled by the project team and will be used to document the ECP summit in any project-related reports.

2.3 Follow-up with the ECP

Approximately 6-8 weeks after the ECP summit, the project team will contact all members of the panel. At this time, the project team will provide a draft of the project report that will include documentation of the ECP summit meeting, as well as final draft versions of the country-specific case study summaries and best practice recommendations for U.S. agencies. Within a week of sending these materials, each member will be contacted by telephone or e-mail to request any feedback or changes

that are recommended to the report. In addition, the project team may contact ECP members to ask questions regarding specific issues related to feedback or country-specific situations. Finally, these follow-up contacts will also be used to update the ECP member on the project activities and schedule for completing the project.

2.4 Data Management

2.4.1 Document Naming and Handling Guidelines

To ensure proper documentation and traceability of project files, the RTI team will follow the procedure discussed below.

1. When naming a file, include the name of the document and the version (i.e., Protocol v1.0).
2. Change version numbers on files when any procedural or other major change has been made to the document.

All old documents or previous versions of documents will be moved into a separate folder (the "boneyard" folder) on the RTI project share. This will ensure they are available if needed but will eliminate problems with version control.

2.4.2 Storage

Electronic files will be stored on the RTI project share in folders according to the respective tasks. Hard copies of reports from the stakeholder interviews will be stored in a central location in a locked cabinet.

2.4.3 Privacy Protections

In an effort to maintain the confidentiality and privacy of those participating in the ECP, all written or printed files associated with the project will be maintained in a locked file cabinet. In addition, all electronic files containing information on ECP member responses to any questions regarding study variables will be coded using a randomly generated 4-digit number string. Each ECP member will have a unique 4-digit number string that will identify his or her data in all electronic files containing data from the interviews. A master list matching the 4-digit number stings with the names and contact information for each ECP member will be maintained by the co-PIs in a locked location.

As a precaution against possible repercussions against the individuals, their organizations, or their country, the RTI team will only use the ECP member descriptors and the country of origin when discussing the results of the interviews from each country. This will allow the team to set some context for that is making the response, while still protecting the identity of the ECP member.

2.5 Documentation of Project Findings

Following the ECP summit, the project team will produce a number of research products to document both the methods and results of the project. These documents will incorporate both previously developed project documents, as well the case studies and

best practices that are finalized as a result of the ECP summit. Below we provide some details on the anticipated results and products that the project team will produce.

Final Project Report: The project will produce a comprehensive final report that details applied strategies and best practices for improving coordination for U.S. law enforcement and public health agencies responding to terrorist activities/events. The report will also summarize the country-specific case studies developed in phase 2 (full versions of both the case studies and the surveillance system census will be provided in an appendix). In addition, the report will describe the methods used to collect and analyze the data-specific case studies, lessons learned from the cross-national comparisons, and possible extensions for future terrorism research.

Country Case Study Summaries: The report will include a number of 1-page case studies summaries that were generated in Phase 2, with the complete country-specific case studies provided in the appendix. For each country, these case study summaries will identify current surveillance and related information technology capabilities; the strengths and weaknesses of each country's approach to public health and law enforcement coordination; the current level of coordination; current uses of surveillance systems by public health and law enforcement; and potential barriers to successful interagency coordination. As mentioned, the case studies will incorporate any revisions and recommendations presented by the Expert Consultant Panel.

Best Practice Recommendations for U.S. Agencies: This section will describe best practice strategies for improving coordination and communication among law enforcement and public health agencies in the United States—specifically, how these agencies can use agency mechanisms to improve communication and response prior to, during, and after terrorist events. Recommendations will be provided on both short-term and long-term strategies that should help to improve interagency cooperation and response. Short-term goals will describe how existing policies, surveillance systems, and coordination mechanisms can be used, while longer-term goals will reflect research and development strategies over the next 5 to 10 years.

We will also seek to identify new opportunities for increased coordination between law enforcement and public health agencies that may help provide both better surveillance, and as well as secondary benefits such as increased crime and disease detection. This section will include an overview of the lessons learned from cross-national evaluations, similarities and differences between the comparison countries and the U.S., the potential effect of these factors on specific implementation strategies, and common problems experienced among the countries.

Appendix A

Consulting Area Experts

Area Experts

Name	Position	Country	Specialty Area	Contact Information
Ken Pease, Ph.D.	Professor of Criminology at University of Huddersfield	United Kingdom	Criminal Justice	19 Withypool Dr. Stockport SK2 6DT, UK
Sue Frost, Ph.D.	Dean of Human and Health Services University of Huddersfield	United Kingdom	Public Health	University Of Huddersfield Queensgate Huddersfield HD1 3DH
Raymond R. Corrado, Ph.D.	Professor of Criminology at Simon Fraser University	Canada	Criminal Justice	408-1868 5th Ave. West Vancouver, British Columbia V6J 1P3 Canada
Parminder S. Raina, Ph.D.	Associate Professor/ Director, University-Evidence-based Practice Centre at McMaster University	Canada	Public Health	McMaster University Faculty of Health Sciences Evidence Based Practice Centre DTC, Room 306 1280 Main Street West Hamilton, ON L8S 4L8

Subject Matter Experts

Name	Position	Specialty Area	Contact Information
Michael P. Allswede, D.O.	Chief, Special Emergency Medical Response Section University of Pittsburgh	Emergency Medicine	Quantum One, Second Floor 2 Hotmetal Street Pittsburgh, PA 15203 TEL: 412-432-5288 FAX: 412-432-7777
Geoffrey P. Alpert	Professor and chair, Department of Criminology and Criminal Justice University of South Carolina	Criminal Justice	University of South Carolina Dept. of Criminology & Criminal Justice Columbia, SC 29208 TEL: 803-777-7097 FAX: 803-777-9600
Ronald Fichtner	Assistant Director for Business Development Operations RTI	Public Health	TEL: 770-234-5017 FAX: 770-234-5030
Pam Lattimore	Professor, Department of Criminology and Criminal Justice University of South Carolina	Criminal Justice	212 Winding Oak Way Blythewood, SC 29016 TEL: 803-754-5965
Steven Marshall	Bioterrorism Preparedness Program Coordinator for Wisconsin Division of Health and Family Services	Public Health (Bioterrorism Preparedness)	Department of Health and Family Services Division of Public Health 1 West Wilson St., Room 250 Madison, WI 53701-2659 TEL: 608-266-9783 FAX: 608-267-2832
Lucy Savitz	Senior Health Research Analyst RTI	Health Systems	TEL: 919-316-3301 FAX: 919-541-7384
Margaret Zahn	Director, Crime, Justice, Policy, & Behavior Program RTI	Criminal Justice	TEL: 919-485-7767 FAX: 919-485-7700

Appendix B: Expert Consultant Panel

Expert Consultant Panel (ECP) ***[This will be updated as information is available to the team]***

Name	Position	Stakeholder	SME	AE	ECP
Michael P. Allswede, D.O.	Chief, Special Emergency Medical Response Section, University of Pittsburgh				●
Geoffrey P. Alpert	Chair, Department of Criminology and Criminal Justice, University of South Carolina				●
Gregory Button, Ph.D.	University of Michigan	●			
Michael F. Byrne	Former Department of Homeland Security	*possible*			
Naresh Chada	Senior Medical Officer, Northern Ireland	●			
Raymond R. Corrado, Ph.D.	Professor of Criminology at Simon Fraser University			●	
Frances Edwards, Ph.D.	City of San Jose, Office of Emergency Management	●			
Ronald Fichtner	Assistant Director for Business Development Operations, RTI				●
Sue Frost, Ph.D.	University of Huddersfield, United Kingdom			●	
Lise Gauthier, M.Sc.	Health Canada, Montreal Regional Coordinator for Emergency Preparedness and Response	*possible*			
Pam Lattimore	Professor, Department of Criminology and Criminal Justice, University of South Carolina				●
Steven Marshall	Bioterrorism Preparedness Program Coordinator, Wisconsin Division of Health and Family Services				●
Jim McCauley			●		
Name	**Position**	**Stakeholder**	**SME**	**AE**	**ECP**
Paul McKeown		●			
Gilles Monvoisin	Health Canada,	●			

	Public Safety and Emergency Preparedness				
Tony Moulton, Ph.D.					
Ken Pease, Ph.D.	Professor of Criminology at University of Huddersfield			●	
Parminder S. Raina, Ph.D.	Director, Evidence-based Practice Centre, McMaster University			●	
Jason Roach		●			
Bob Shea	Department of Homeland Security/Federal Emergency Management Agency	*possible*			
Mark J. Smith	North Carolina Division of Emergency Management	●			
Anthony Staines			●		
Lucy Savitz	Senior Health Research Analyst, RTI				●
Margaret Zahn	Director, Crime, Justice, Policy, & Behavior Program, RTI				●

Legend:

- *Stakeholder "possible"*: Requires more follow-up before we designate as SH
- *SME:* Subject matter expert (Not all SMEs will participate in ECP)
- *AE*: Area expert (all AEs will be invited to ECP)
- *ECP:* Expert consulting panel (ECPs will be made up of SMEs and AEs)

Appendix C:

Expert Consultant Panel Pre-meeting Feedback Forms

National Institute of Justice Terrorism Project

Expert Consultant Panel Pre-meeting Feedback Forms

Instructions: Please complete the following forms to provide feedback to the project team regarding project findings and recommendations. As a member of the Expert Consultant Panel (ECP), you are being asked to provide feedback to the project team on two factors:

1. The coverage of information on surveillance systems and interagency coordination collected by the project team
2. Evaluation of appropriateness and feasibility of best practice recommendations proposed by the project team to facilitate increased interagency coordination.

You will be asked to complete a rating form to provide feedback on the data collected in phases 1 and 2 of the project. Phase 1 of the project included the collection of data on surveillance systems used by public health and law enforcement to detect potential terrorist threats or activity. Phase 2 of the project followed up this effort with interviews of stakeholders from the public health and law enforcement communities focused on issues related to interagency coordination. You will be asked to rate the coverage of issues and the depth of understanding the project team was able to achieve in this effort. Next, you will be asked to provide feedback on each of the proposed best practices generated by the project team from the data collection activities in Phases 1 and 2 of the project.

To provide feedback to the project team, please complete the forms below and write any additional comments in the spaces provided. If you have additional comments that go beyond the space provided, please attach this feedback to the forms and clearly mark which issue is being addressed by your comment.

Please bring these rating/feedback forms with you to the ECP meeting in mid April (*to be determined*). We will be using these forms during our discussion to facilitate the review of the project findings and to generate a final set of best practice recommendations.

If you have any questions about how to fill out these forms, please contact the project methodologist, Murrey Olmsted. His number is (919) 485-5506. If you have questions about the project in general, please contact the project directors Joe Eyerman (919-316-3867) or Kevin Strom (919-485-5729). Thank you.

Feedback on the Surveillance System Inventory and Interagency Coordination Coverage

	Strongly agree	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly Disagree**
The study was successful in capturing data on the **majority** of public health and law enforcement surveillance systems.					
The study was successful in developing a **good understanding** of the surveillance system.					
The **strengths** and **weaknesses** of the surveillance system been adequately described.					
The project describes the major elements in enough depth to demonstrate a **good understanding** of the particular surveillance system.					
The project describes the current **barriers** to utilizing this surveillance system more widely to support other public health or law enforcement needs.					
The project describe the current **facilitators** that may help other public health or law enforcement agencies use the data to meet their needs.					
Additional Feedback: (Are there systems that are missing? Inaccuracies in the data? Other concerns that you have about the information from this component of the research?)					

Feedback on Proposed "Best Practices"

Proposed Best Practice X. **[Prepare a separate rating sheet for each best practice and insert here before the rating scale…]**
Are there major technical issues that are not currently being considered? These factors may range from information technology issues (e.g., inability to electronically link certain systems) to "real-world" issues in the medical and law enforcement communities (e.g., staff resources, training, etc.).
If such a strategy were incorporated, how, specifically, would it benefit public health, law enforcement, and other related agencies tasked with domestic preparedness?
What are the potential costs of this particular recommendation?

	Strongly agree	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly Disagree**
The proposed strategy is **likely to increase or improve** interagency communication and coordination prior to, during, and after terrorist events.					
It is likely that the proposed strategy or practice **can be implemented effectively** in the U.S.					

Additional Feedback:

If needed, what alternative best practice recommendation do you think the project should make?

United Kingdom Counter-terrorism Strategy

To reduce the threat:
Prevent terrorism by tackling its underlying causes – Work together to resolve regional conflicts, to support moderate Islam and reform, and to diminish support for terrorists in hearts and minds

Pursue terrorists and those that sponsor them – Improve our understanding of terrorist networks, track the terrorists down, disrupt them and, where we can, bring them to justice

To reduce vulnerability:
Protect the public and national interests – Make ourselves a harder target at home and abroad through better protective security

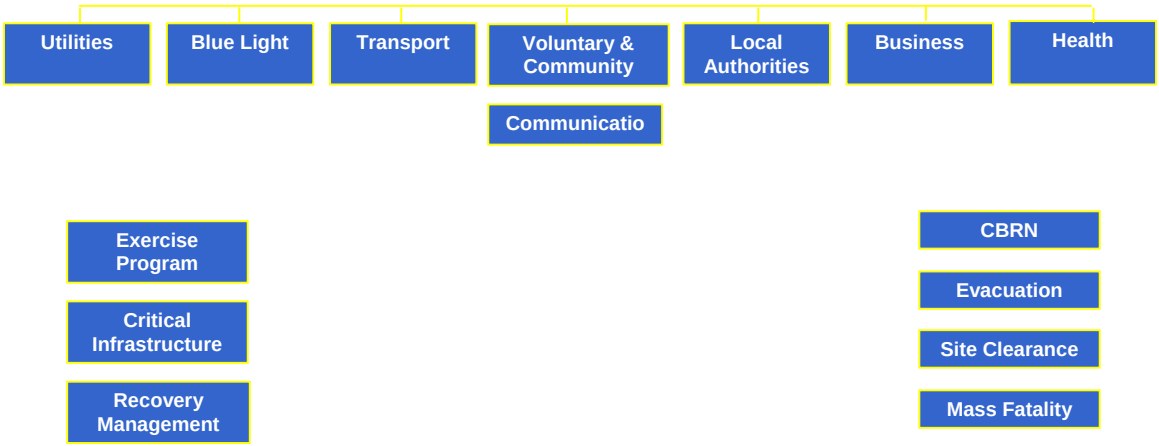
PREPARE for the consequences – Improve our resilience to cope with attacks and other major disruptive challenges

Mission and Goals:

- **Protecting UK Economy;**
- **Protecting Critical National Infrastructure;**
- **Building UK resilience;**
- **Business Continuity, consequence management & recovery plans;**
- **Increasing capacity & capabilities; and**
- **Engaging the "Unlikely Counter-Terrorists"**

Multi-agency Partnerships:
London Resilience
The London Emergency Services Liaison Panel (LESLP): Major Incident Procedure

Multi-agency Coordination Model



Civil Contingencies Act

- Category A Responders
- Category B Responders
- Inform, warn & alert
- Test plans

Information & Intelligence Sharing

- Health Protection Agency
- Strategic Health Authorities
- London Ambulance Service