The national interest now clearly requires cooperation among three public services that have operated more or less separately since they started: police, intelligence, and public health. However, despite the overriding public interest in a national emergency, coordination among the three is not a given.

The most recent and most visible case available by which to evaluate performance under pressure was the anthrax assault of 2001. The visible level of coordination left much to be desired. Unless there is a concerted effort to prepare, there is a good chance that the next bioterrorism threat or attempted use of weapons of mass destruction would be no more effectively addressed than this last one.

During the anthrax assault, the police took the lead (understandably). The role of public health practitioners was initially marginalized, and none more so than those epidemiologists and public health specialists in the fields of occupational health and environmental health. The public health response was primarily reactive (providing prophylaxis and typing the anthrax strain), rather than anticipating what would happen next. The idea that postal workers were a group at obvious risk—for an agent delivered by mail—was not even considered at the outset, despite the fact that the second case (in Florida) involved a mail carrier.

The next time around—and there will be a next time—we must expect true cooperation among the agencies investigating such assaults. Indeed, we must demand such cooperation.

Despite their superficial similarities, the three public services have very different objectives in practice:

- The police primarily want to solve the case, by identifying the perpetrator, demonstrating how the crime was committed, and gathering evidence to convict.
- Intelligence agencies want to understand what is going on, by observing, probing, and making connections with information, but only rarely with intent to intervene directly.
- Public health practitioners want to design an intervention to stop the outbreak of a disease, by identifying the pathogen, identifying the circumstances in which people get exposed, and interrupting the transmission of the disease.

The behavior of each of these three groups of professionals in their jobs is affected by their objectives. As a rule, police are not terribly interested in the weapon (as such), spies are not terribly interested in collaring a perpetrator, and public health practitioners are not terribly interested in gathering evidence for the courtroom.

Of course, these operational objectives are subordinate to one overriding goal shared by all: preventing the catastrophic event from occurring again. But the three professions view the means to the end very differently. Even the words “investigation” and “surveillance” have different meanings for different professions. It also makes a difference whom they are investigating.

To the police, an investigation is a search to identify the perpetrator and to make the case for prosecution; surveillance is watching the suspect or venue in...
an effort to catch the perpetrator in action. Most police work has to do with individuals who commit crimes. The idea of employing statistical methods does not fit, except for expressing confidence in the evidence (such as a match in DNA samples).

To the spy, an investigation is an exploration of a set of relationships in an effort to understand what is going on behind the scenes; surveillance is monitoring the scene or watching an individual to determine what is happening and what they are doing. Statistical methods are useful in understanding the context of a society but not in identifying the movements, intentions, and capabilities of terrorists and enemies of the state.

To the public health practitioner and epidemiologist, an outbreak investigation is a systematic approach to assessing which pathogens and environmental factors are causing an unusual number of cases of disease for the purpose of stopping it; surveillance means tracking the cases and watching for patterns. Statistical methods underlie everything, because in figuring out what is going on, the individual case is rarely as important as the pattern.

These differences reflect how the three professions view individual cases against their pattern and frequency. For the police, a perpetrator is one in a series of criminals whose modus operandi is rarely unique and whose crime can be categorized. (Such stereotyping may lead to over-reliance on profiling when there is little else to go on.) Each case is different in detail, but motives and methods recur.

For intelligence services, a perpetrator is the instrument of an organized group (whether state-sponsored or not), which is unique in that the historical, political, and opportunistic factors that shape one will always be different from another. However, intelligence services also recognize that methods of terrorism are common (until recently, it seems) and are freely shared among terrorists. However, the aims, methods, and objectives of any individual group need to be understood on a case-by-case basis.

Public health officials view outbreaks of disease (other than foodborne diseases, which are common and often associated with chicken salad or potato salad) as incidents that are always a little different from one event to another. Public health officials view disease outbreaks as easily (but not necessarily) repeatable if the same constellation of circumstances is in place, with an element of probability and uncertainty associated with them.

Because of these differences in the perspectives as well as the cultures of the three professions, there is a great deal of misunderstanding and even distrust among them. Traditionally, public health investigations are conducted in strict confidentiality but the data (once stripped of identifiers) are open and freely shared. Police investigations are usually not public but high-profile investigations can appear to be carried out in a fishbowl. The FBI, in particular, is notoriously secretive while conducting an investigation.

...and for good reason. Unless they are spreading disinformation, intelligence services are not usually forthcoming about information they receive but may trade information as a commodity to get what they want.

Such differences in the control of data make public health practitioners nervous, leading to resistance in some of them to cooperation. Not all public health personnel are convinced that collaboration with police and national security is a good idea; there is a minority movement in the public health profession that is opposed to such collaboration. Whether it is true or not, there is a widespread belief that during the anthrax investigation, public health practitioners were not made privy to information held by the FBI in a timely manner.

Public health practitioners are afraid that the perception that information is shared with police will impair their ability to work with high-risk populations such as prostitutes, drug addicts, and illegal immigrants. They also worry about misuse of health-related information. For example, think of the possibilities for blackmailing a wealthy or prominent person who is identified as a contact in tracing an outbreak of a sexually transmitted disease.

The task ahead is to figure out how to encourage these three public services to work together effectively. At a minimum, this will require:

- **Cross-training of selected specialists.**

Police and intelligence services may well
benefit from the methods of epidemiology in certain types of cases. The FBI’s *Criminal and Epidemiological Investigation Handbook* is a first step in this direction.⁶

- **Training together.** An exercise in which representatives of each broad field work together on a representative case may bring a new appreciation for the methods and capabilities each brings to the investigation. The FBI handbook emphasizes evidentiary issues and access to information, not management of sensitive public health information.⁶

- **New methods.** Forensic science may have a lot to teach epidemiologists, and may in turn benefit from biomarker studies and other methods in public health.

- **Guidelines on confidentiality and information sharing.** These must be agreed to in advance if they are to have any effect. They should also be realistic in accommodating a national emergency.

- **Coordinating investigations** through a common mechanism—an overriding civilian authority—that allocates duties and assigns the lead to whoever is most likely to produce the best result.

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**REFERENCES**