

## **Pandemic Preparedness Writ Large or Small: Local Health Departments of Any Size**

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*Author's Note: This paper was written, at the request of our moderator, to respond to the Symposium as it progressed in order to bring our participants a very practical perspective from a large county. It had to be written in a short timeframe and is not intended to add to the excellent scientific and scholarly papers presented. I hope that this practical narrative provides insights into the challenges and opportunities of local public health pandemic preparedness and provides a springboard for discussion.*

Previous presentations in this program discussed the risk of pandemic influenza, the lessons we can learn from previous pandemics, and some of the issues that any attempt at preparation must address. This paper will touch on issues that face local health departments in particular, whether large or small. It will further discuss how interventions will differ between local health departments depending upon size.

Public health is organized at the state level, where public health legal authority largely rests. The manner in which governmental public health is structured varies from state to state. States may provide for local health departments operated by counties, by regions or groups of counties, or by municipalities large or small. These local health departments may function within a predominantly centralized system, with the state health department assuming most control, or may be largely autonomous within specified legal limits. Alternatively, states may have no local health departments at all, instead providing all services directly from the state health department. In addition, many tribal nations operate their own health departments, the jurisdictions for which may overlap county or even state lines.

The services offered by local health departments vary widely as well. Certain core services (aspects of environmental health, disease control, and usually some form of health education or promotion) are common to most local health departments. However, the extent of these services and additional added services vary dramatically.

Many local health departments offer some specific forms of health care. Often this is specific and preventive in nature (school health, school oral health, family planning, etc). Clinical screening programs are common (e.g., cancer screening). Occasionally, primary and specialty health care is provided by the health department (e.g., healthcare for the homeless, or even operation of a hospital or public clinic system).

In addition, health departments may be saddled by local government with specific tasks not specifically health-related (e.g., enforcement of neighborhood beautification ordinances).

The author has run a local health department for a population of about 50,000, with a staff of 12 (not counting school nurses), and now runs a local health department for a population of about 3.6 million, with a staff of more than 500. The differences for pandemic preparation are striking, but so are the similarities.

### **All Public Health is Local**

The responsibility of local health departments is awesome. Higher levels of public health, at the federal and state levels, may focus on public health science, policy, overarching guidance and coordination. Local health departments, on the other hand, are where the rubber meets the road. On a day-to-day basis, almost all actual interventions to prevent or to control the spread of disease occurs at the local level. Investigation of reportable diseases, identification of contacts, education and treatment of cases and preventive treatment of contacts, all manner of disease control interventions are usually performed by local health departments.

This extends to preparation for emergencies as well. If one examines federal preparedness documents, one generally finds a list of those issues that require attention. At the state level, these plans may become more defined, spelling out to a greater degree those particular steps that may be necessary. But only at the local level are plans truly fleshed out and complete.

Take volunteer coordination, for example. The state plan may describe the necessity of recruiting volunteers, and spell out issues relating to recruiting, credentialing, training, and deploying of professional and lay volunteers. Some actual response activity may occur at the state level (e.g., assurance of legal authority, development of credentialing criteria, creation of a statewide volunteer database). But none of this gets you a team of volunteers.

Someone has to attend community meetings and other forums to do the actual recruiting. Someone has to actually examine credentials and certify volunteers for certain tasks. Someone has to assign roles, train persons to do specific jobs, update this training periodically, track volunteers and maintain enthusiasm of volunteers over time. All of this must happen within local communities, and generally occurs at the local level.

What about planning for what these volunteers will do? The Centers for Disease Control and Prevention may decree that public health departments should be prepared to offer mass distribution of medications or vaccines (despite the unlikely availability of adequate supplies for mass dispensing at this point in time). The states may decree that local health departments need to have a mechanism in place to utilize volunteers to staff mass dispensing sites, and may specify criteria that such sites should have. But all of this is meaningless without completion of the details at the local level.

It is only at the local level that decisions can be made as to where those sites are, and how they will be used. At the state level, for example, use of schools may be suggested. It is at the local level, however, that agreements are reached with individual schools, that it is decided to use the cafeteria at Central High School, but the gym at Lincoln Middle School. It is only at the local level that the flow through the room can be planned, the storage facilities identified, the available parking and traffic flow mapped.

While it may seem that the most intellectual demands occur at the federal or state levels, the vast majority of the time-consuming actual workload lies with the local health department. It ain't rocket science, but it's the actual work needed to do the job.

This is not to diminish the importance of higher levels of public health agencies in pandemic preparedness. Critical policy decisions and guidance must occur at the federal and state levels. For example, as previous authors in this series point out, it is nearly certain, at this point in history, that vaccine supplies will be inadequate at the start of an influenza pandemic. As vaccine is produced and distributed, all levels of plans call for prioritized administration of vaccine as it becomes available. Terrific. But who is the priority recipient?

At current production capacity, the CDC assumes that we can vaccinate approximately 1% of the population per week, following a 3 to 4 month process for the first influenza vaccine to be produced. This means that it would take a month just to vaccinate health care workers, assuming that health care workers are first in line. So who among those health care workers get their shots in week 1? Who in week 2? How about first responders of all types? What about public officials? Workers in key infrastructure positions? How about family members of all of the above? What about the military? Do you really think that we'll be fighting a war in Iraq and military officials won't demand that their deployed troops be first in line?

It is essential that we adopt a uniform policy, in as much detail as possible, across jurisdictional lines, regarding who gets vaccinated in what sequence. If you expect cooperation, from health care workers, other essential personnel, or even the general public, you'd better be vaccinating in the same sequence in Phoenix as you are in Tucson, or even in Los Angeles or New York. If you're a hospital floor nurse and are asked to come to work despite having to wait for your vaccine, you'd better not learn that your counterparts elsewhere already have gotten theirs. It is crucial that the CDC spell out, in excruciating detail, a rational sequence for who gets vaccinated in what order.

Even if we are consistent across jurisdictions, imagine you're a health care worker, and a 1918-style pandemic is raging. You see patients dropping all around you. You see coworkers dying. You are told, "Don't worry, you're nearly first in line. Your first dose of vaccine will be in three weeks, your second dose a month later, and you'll have antibodies a few weeks after that. And your family will get their vaccine only two months after that."

Are you going to come to work?

Lessons from Katrina and the New Orleans Police Department reveal that even good people may put their families above civic duty and not report to work. And do not think for a moment that this will be limited to health care workers and first responders. If travel advisories are issued in an attempt to slow the geographic spread of the pandemic, will not some long-haul truck drivers choose to remain at home? If they don't drive, who delivers our food? Who delivers our fuel? Our entire economy has transitioned to just-in-time supply chain management. We don't have stockpiles of essential goods lying around in strategic locations.

What about movement of workers? If you live in a city dependent upon mass transit, what happens when the bus drivers don't show up? And in a 1918-style pandemic, who in their right mind will want to drive (or ride) a bus?

The goal of pandemic planning at any level isn't just to minimize illness and death, it is, and must be, to preserve social order and function.

In pandemic planning, much is made of encouraging "social distancing," of closing schools, of advising people not to gather unnecessarily in public. I'm here to tell you, if it's bad enough, we won't have to advise them. People will distance themselves. When they do, what will happen to all those businesses that are dependent on foot traffic? The theatres, the stores, the shopping malls? What kind of hit would this really be to the local (and global) economy?

Pandemic plans at the state level generally spell out specific roles for local health departments. In my state, these are:

- Surveillance and epidemiology;
- Health care response coordination;
- Vaccine and antiviral delivery and administration;
- Community disease control;
- Addressing travel-related risk;
- Public information;
- Workforce support – psychosocial needs; and
- Information management.

Let's examine a few of these, and the differences in responses required between large and small health departments.

### **Health Care Response Coordination**

When I was running a local health department in a small city, we had a single community hospital within our jurisdiction. I knew the CEO and key staff. We worked together on multiple projects, so emergency planning that involved the hospital could be based upon an understanding of that particular facility's operation and assets. In

considering the need for additional resources, relative strengths and limitations of other facilities, such as two existing long-term care facilities, were evident. Planning, as well as decisions that might be made during a crisis, seemed relatively simple, even as we recognized our limited resources.

In that small health department, I had almost no staff. Admittedly, we had no one with the time to do proper, detailed planning. I had the sense that I couldn't adequately prepare, but in the event of a disaster, communication and last minute decisions might come easier than they would in a larger community.

I now manage a local health department for one of the largest communities in the country. Within our jurisdiction, there are 33 acute care hospitals, 81 licensed nursing homes, and myriad urgent care centers and clinics, large and small. Whereas in the small community I had a reasonable sense of health care capacity (even though I had relatively little time to study it), I now reside in a community where it would be impossible for any single person to describe our health care system and its capacity, even if it were a full-time job to do so.

How does that translate into pandemic planning? Let's talk about emergency department surge capacity. In either community, it would be obvious that during a pandemic, it would be highly desirable to divert the bulk of patients with flu-like symptoms away from the general emergency room population. In most of the country, emergency facilities approach their breaking point during the height of the regular flu season. This occurs despite most persons with influenza-like-illness not seeking health care. During an influenza pandemic, the demand might be elevated several-fold (both more people ill and a much higher percentage of those who are ill seeking care), even at a time when a significant percentage of the hospital workforce may be absent.

In either a large or small community, hospitals might plan for accelerated triage, and for routing of patients with influenza-like-illness through alternate entries. In the small community, I would have participated in planning the details of this and for obtaining additional health care workers through a network of retired volunteers, or from certain classes of practicing health care workers who will be underutilized during a pandemic and could be pressed into service in alternative roles (e.g., how busy do you think plastic surgeons will be during a pandemic?).

In my enormous community, on the other hand, a single plan will not suffice. Different facilities will have different desires and different plans. The task will be accommodating all of those with a single health department and single volunteer pool. More in particular, it will be impossible for a single planner within the local health department to understand the various systems and plans. Communication within the department to coordinate efforts will be a task unto itself.

## **Community Disease Control – Isolation and Quarantine**

Let's next consider community disease control, and specifically isolation and quarantine.

For several decades, this nation has only rarely seen compulsory isolation and quarantine imposed, with the exception of certain cases of tuberculosis. Although laws remain and have even been updated, cultural acceptance of this public health power seems lacking. This presents a classic disease control dilemma.

In any epidemic, any particular intervention will be most effective if employed early in the epidemic curve. That is, if you want isolation and quarantine to slow the spread of disease, you need to employ it at the earliest sign of any cases in your community. This is, after all, the flu. Cases are expected to spread rapidly. As cases become widespread, identifying particular suspects and pursuing compulsory isolation becomes a daunting task. In either a large or small community then, it will be important to isolate the very first suspected cases of disease, and to move to appeal for voluntary isolation of persons with influenza-like-illness soon thereafter (i.e., "Please stay home and call us if you have a fever").

Yet public support for isolation and quarantine will likely follow public concern, which will in turn follow the number of cases. The general public (and elected officials) may become alarmed as the local health officer isolates individuals even though no case of disease has yet been proven in a community. However, if influenza spread in the world but not yet in the community is precisely the time when isolation of an imported case would be most beneficial. Conversely, public support for isolation is likely to increase once people see individuals falling ill and dying around them, by which point compulsory isolation will have become practically impossible due to volume.

If you will permit me a digression, a perfect example of this phenomenon has been the response to West Nile Virus as it has spread across the country. Most states had ample warning of a pattern in which the 2<sup>nd</sup> year of the disease within a region would be the most severe. State after state could predict that the "big year" was imminent once West Nile was initially discovered. Each time, it was known that expenditures would be most useful early in the impending mosquito season, when extensive habitat reduction and larviciding at the beginning of the epidemic curve would prevent the most cases. Yet in state after state, year after year, officials waited for human cases to pile up, and public concern to mount, before extensive funds were made available. By the time these resources were available late in the season, they were much, much less useful.

We can expect the same in terms of public reaction to pandemic flu and the acceptance of public health authority.

In either a large or small jurisdiction, the issues resulting from large-scale voluntary isolation and quarantine are the same. Once the local health officer issues an appeal for anyone with influenza-like-illness to stay at home, the numbers of persons who

may be in such voluntary isolation may be staggering. The local health department will need to check on such persons as they self-identify, to make sure that those who are deteriorating and who need medical treatment can be identified. The 1918 pandemic affected perhaps 30-40% of the population over the course of the pandemic. How do you obtain and train enough workers or volunteers to check on all these persons? Especially in a large community, how do you keep track of all those isolated persons?

In addition, it is likely that family members may need alternate lodging. (If dad has the “killer flu,” do you think that mom will want to keep the kids at home with dad?) Where would such persons go, given that some of them may be incubating influenza themselves, so you wouldn’t want to house such persons in mass shelters or even with other families. In smaller communities with a large tourist industry, some plans call for sheltering such persons, or even those isolated with influenza-like-illness, in motel rooms. After all, during a bad pandemic, tourism is likely to drop off dramatically, leaving lots of vacant rooms. If so, local plans would need to include agreements with each motel.

*The devil is in the details.* And the vast majority of the details, of the planning and of the actual work, must occur at the local level.

### **Public Communication**

Finally, consider the issue of public communication.

Like it or not, most people get their health information from the media. Especially during a crisis, television news is likely to be the primary mode of communication from health officials to the public. Face it, no one is going to read our pamphlets, but everyone is going to listen to CNN.

One mantra of crisis communication is to keep messages simple and repetitive. But this will be a long, drawn-out event. Given a competitive media market, a voracious 24-7 news cycle, and a story that will hype itself, how simple and repetitive do you believe the reporting will be? In the search for a story, reporters and editors are likely to give column inches and air time to those with alternative viewpoints. It’s their job to do so. While pandemic plans include the development of basic messages to the public, staying on message will be difficult.

In a large community, the broadcast and major print media likely resides within the local health department’s jurisdiction. In a small community with a small health department, citizens receive their news primarily from some other, larger metropolitan area. Local health officials in such smaller communities may be at the mercy of the messages coming from the state health department or a larger local health department in a major city. This is not necessarily a bad thing, as this may actually improve consistency, but it does make announcements such as, “volunteers report to their pre-assigned stations,” much more difficult to broadcast.

From whichever source the public obtains its information, honesty and provision of rational advice are crucial. However bad it may get, good public information may be the most important part of public health response. I have a favorite example of this.

One of the great, underappreciated stories of September 11 was the simple commute home that day of workers in Manhattan. As you recall, not only planes were grounded that day in response to the attacks. In New York City, all transportation was halted. Commuter trains and the subway came to a stop, and every bridge and tunnel in and out of Manhattan was closed, period. Yet hundreds of thousands of people who work in Manhattan don't live there, they commute in each day, and these multitudes were for a time trapped.

After awhile, some of the bridges were reopened, but to foot traffic only. Announcements by radio said that if you wanted to leave the island, you had to walk from wherever you were in Manhattan to one of those bridges, walk across the bridge, and then try to find yourself transportation home on the other side.

Mind you, there was a sense that the city might still be under attack. That's the reason the bridges were closed in the first place. And yet people were told that they had to make an extraordinary effort, just to get home.

That afternoon, hundreds of thousands of people walked across those bridges. It was a mammoth migration. They did so having personally witnessed the event that overwhelmed so many of us watching on TV. They did so feeling that they might still be under personal attack. Yet they did it, and they did it without a single incident. There was no panic. There was no stampede. As far as I know, there wasn't a single disorderly conduct arrest. A huge number of people under the most extreme duress.

The lesson: Tell people the truth, and give them something rational to do, and we can get through anything.

That includes a prolonged influenza pandemic. But getting through a pandemic requires thorough, detailed planning. *And the devil's in the details.*

And the details are at the local level.

### ***About the Symposium***

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