Report of the Subcommittee on Need of the Regionalization Working Group

April 17, 2009

Committee Members:
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Purpose of subcommittee:
The purpose of the subcommittee was to identify the need and present a case for regionalization of public health services.

Need:
It was noted in the Summary Report of the Working Group to the Statewide Steering Committee that "The need for undertaking this effort grew out of the recognition that Massachusetts is one of the few states in the nation without a county or regional public health system and with no direct state funding for local health departments and boards of health..." Although this statement is true, it does not provide an argument that the public health of Massachusetts residents would actually benefit from a regionalization of public health services. The purpose of the Committee was to compile compelling evidence to make the missing argument.

During our deliberations, we focused on the reasons why the current system of providing public health services should be replaced with a regionalization system. Those identified included:
1) The current system is not working,
2) the current system is working, but could be improved,
3) the current system is inefficient or will not work as well in the future (e.g. due to fiscal constraints),
4) the current system is not equitable to all Massachusetts residents, therefore favoring some residents over others.
The subcommittee agreed that although all four of the above stated reasons have validity, the main reasons the regionalization effort was being proposed were to address the inequitable delivery of public health services and the ways in which the current system does not work.

After reviewing other states which have demonstrated a more equitable delivery of public health services, we decided to further document specific case examples from Massachusetts. The subcommittee also felt it was important to note future challenges that local boards of health will likely encounter, and cite studies that may be available that compare (or rank) states in terms of public health or public health services.

**Status of Local Public Health in Massachusetts**

A major part of local public health responsibilities in Massachusetts focus on environmental health and regulatory programs—the review and approval of septic systems, the inspection of retail food facilities, pools, recreational camps for children, tanning facilities, and related training and education—as part of their disease prevention mission. The public health goals, and the extent to which they are actually met by the individual 351 boards of health in the Commonwealth, vary greatly, depending on staff resources and experience, access to testing and tools, and their capacity for emergency response. In the event of an emergency, or an unusual event, however, Boards of Health or their staff regularly must divert many—and in extreme cases all—of their resources to the incident, rather than carrying out core programs. Changes in the local public health program model, such as regionalization, can provide comprehensive coverage across the Commonwealth while increasing the availability of local expertise to cities and towns in Massachusetts.

The need for enhanced capacity in core public health activities, combined with the current economic decline, demonstrates the need for a new model for Massachusetts local public health; specifically, a regional system to support the critical skills necessary to prevent disease and injury in communities. The high level of scientific training required
of public health nurses, environmental health professionals and their staff, and the expansion of public health programs (including emergency planning and response) to address many different and evolving issues, support the need for a regional public health system. This approach would address the limitations of the current local health model in Massachusetts which cannot meet multiple demands.

Local public health programs in Massachusetts, managed by individual local boards of health, demand the capacity for regulator responsibilities, e.g., disease prevention efforts (food establishment inspections, semi-public and public pool safety, private wells, etc.) to provide a basic level of health protection for the public. Additional services carried out by local boards of health vary but generally include immunizations, blood lead testing, blood pressure and other health screenings and related clinical services. The range of skills and general capacity required of such programs, however, is extensive, involving the need for readily available expertise in food and water safety, housing, communicable and TB disease control and surveillance, indoor air quality assessments, hazardous material releases, children’s recreational camps, swimming pool safety, medical and hazardous waste disposal, and a range of other issues both on a routine and emergency basis. Few boards of health have the capacity to provide all of these services to their communities.

The results of an annual study by the MDPH Bureau of Environmental Health’s Food Protection Program illustrate the lack of capacity to address core prevention programs in local public health. The annual survey, required for all local boards of health, is carried out to assess compliance by cities and towns with the requirements of 105 CMR 590, the regulations pertaining to retail food establishments. The most recent survey results demonstrate a 50% response rate. For those municipalities reporting, there were 6,702 enforcement actions on 29,856 permits, or 0.22 enforcements per permit. The low response to the required survey in itself suggests problems with local public health capacity, and likely reflects the gaps in regulatory enforcement throughout local public health programs. The low number of establishments undergoing regular inspections also suggests the potential for high rates of foodborne illness statewide. If the enforcement
rate established for state inspections (approximately 60% of inspections of food facilities result in enforcement actions) is applied to municipalities, a range of 6,000-18,000 establishments have the potential to contribute to foodborne illness. If these facilities go without inspections in the future, foodborne illness incidents will continue to rise exponentially.

Problems with local board of health oversight with respect to the safety of private drinking water wells reveal potentially serious gaps in surveillance and water safety enforcement. Private household drinking water wells, of which there are an estimated 207,460 in Massachusetts, are regulated solely by local boards of health, and not by a state agency. Enforcement levels across the state vary considerably, with many boards of health regulating private well water only at the time of well installation. The potential for disease transmission, and exposure to toxic materials, can change over the course of time after a well is installed due to changes in local planning, building, changes in local aquifers, and many other factors. While surveillance of private water supplies is essential to protecting the health of a given community, regulation of private water supplies varies among communities, while some municipalities impose no oversight or enforcement of these sources at all.

These two examples serve to illustrate the lack of local public health capacity in critical areas of public health concern. The breadth of local health regulatory requirements, including but not limited to recreational camps, immunizations, swimming pools, Title V inspections (under DEP regulations), tanning facilities and other areas of concern, suggest that barriers in terms of oversight and enforcement are likely to occur across all areas of public health concern. In turn, the limitation of resources, knowledge and general capacity may predict future increases in disease through environmental media, and through the lack of basic health protection measures only readily available to many citizens through their boards of health.

Emergency response demands on local boards of health also magnify the need for a more flexible, multi-faceted and comprehensive public health model. In the event of an
emergency, or an unusual event, Boards of Health or their staff regularly must divert many—or all—of their resources to the incident, rather than carrying out core regulatory and prevention programs. Changes in the local public health program model, such as regionalization, may provide comprehensive coverage across the Commonwealth while increasing the availability of local expertise to local cities and towns.

Emergency events, such as contamination of the environment or disease outbreaks, interrupt the basic programs managed by local Boards of Health. In many public health incidents or actual emergencies, the Board of Health response actions may focus on regulated facilities, and may be within the scope of resources available, e.g., a brief power outage requiring the closure of retail food facilities. In other events however, the need to focus on on many affected entities or needs exceeds the available personnel, equipment and financial resources available to a local Board of Health (e.g., during the December 2008 ice storm in Massachusetts, Boards of Health worked with the retail food suppliers that they license, to provide supplies for emergency shelters, and with the local Medical Reserve Corps to assist with staffing, etc.)

In other situations, Boards of Health must rely on other sources of expertise and program assistance to effectively address the problem at hand. For example, the Massachusetts Department of Public Health’s Bureau of Environmental Health (BEH) assisted the Town of Westford in 1998 when a release of methyl tert-butyl ether (MTBE) was detected in private drinking water wells. BEH analyzed exposure pathways, disease patterns, geographic distributions of cancer, risk factors, disease latency, and other factors. The project, however, required significant resources from local public health to carry out and lead the investigation.

Problems with indoor air quality at the Peabody Veterans Memorial High School in 1996 again involved MDPH staff assessing environmental factors contributing to the problems and to carry out a symptom prevalence survey. Concurrent with these efforts, the City of Peabody expended approximately $300,000 on indoor air quality consultants for further investigation and remediation of the problems in the building, as well as local health
being inundated with responding to parents, the media, and others with concerns. Once again, during these periods, the day-to-day responsibilities of local health officials could not be effectively carried out in a timely manner due to the emergency situations that warranted their attention.

More recently in 2008, the North Adams Board of Health worked with public safety, BEH, DFS Hazardous Materials Division and other responders to address the health consequences of an intentional mercury release in a public high school. Subsequent investigations carried out by the Board of Health with BEH, the Hinton State Laboratory and other partners included mercury testing of students and staff, the provision of risk information to the community, exposure pathway analysis and related activities. These events, which frequently occur on varying levels across the state, demand immediate and long term local health actions including arranging external support to augment their limited personnel and resource capacity.

Records of emergency events across Massachusetts through 2008 and into 2009 indicate that, at a minimum, local Boards of Health engaged in a response to more than 100 emergency incidents involving contaminated water supplies, major foodborne illness outbreaks, and the release of hazardous materials in schools, food establishments, housing and office settings, in addition to natural disasters such as floods. Reports severely underestimate the actual response activities of local boards of health to smaller scale but nonetheless urgent events that occur routinely in communities each day. Food product recalls, for instance, and related communications and inspections over the past year included incidents involving melamine in infant formula, peanut products, and *E. coli* in meat products. Foodborne outbreaks requiring local board of response included a norovirus outbreak at a facility in Holyoke, affecting 94 persons, and a more recent event at Babson College in Wellesley, that affected the entire institution. Both small and larger-scale events, however, may interfere with basic operations designed to protect the public, due to the limited availability of qualified and knowledgeable staff to support continuity of operations during the sometimes lengthy response process. The 2008 ice storm in central-western and northeast Massachusetts for example, affected more than 80
communities, causing significant and long-term interruptions of power. These conditions required boards of health to address the safety and availability of food and water supplies in the regions affected, and also demanded their involvement in the set up and management of shelters, and emergency provisions and care of fragile residents.

**Future Challenges for Local Public Health in Massachusetts**

Adequately delivering the ten essential public health services that local boards of health are expected to provide the residents of Massachusetts is a challenge many boards of health are not able to meet. It will probably not get easier in the future. Although the United Health Foundation recently ranked Massachusetts 6th in the nation in regards to the overall health of its citizens, the report shows that between 2007 and 2008 Massachusetts dropped from 1st to 8th in “Immunization Coverage (Percent of children ages 19 to 35).

Further, the Trust for America’s Health recently ranked states in “Health Professions Shortage Areas”. Twelve states ranked higher than Massachusetts in the area of Primary Care. In ranking health professions shortages in the areas of mental health and dental health, Massachusetts ranked lower than 29 states in Mental Health Shortage Areas and 25 states in the area of Dental Care Shortage Areas.

In addition to future funding challenges, other concerns are looming. For example, MassDEP recently raised a concern to DPH that some boards of health are not adequately carrying out their Title 5 responsibilities. The U.S. Geological Survey is investigating levels of arsenic and radionuclides in private well water on which tens of thousands of Massachusetts residents rely. Concerns regarding pharmaceuticals, perchlorate and other emergent contaminants that may be present in drinking water are being reported. These, and other public health issues, will further tax the limited resources of local boards of health.

Regionalization can facilitate the sharing of public health resources across communities with different types of public health expertise. In the few instances where local boards of
health have engaged in sharing resources (e.g. regional tobacco control programs, animal control, shared public health nurses, Nashoba Associated Boards of Health and Tri-Town Health Departments), it appears to work well. Regionalization can also address growing problems with staffing resources, both in terms of actual numbers of staff and their training levels. From the perspective of emergency response, regionalization can help support the capacity for cities and towns to effectively respond to emergent events while lessening the impact to the core programs necessary for disease and injury prevention. In addition, a regional response to a major incident would address more comprehensive public health goals, i.e., shelter inspections, food safety, flooding recovery and many other areas of concern following a disaster, than a given local Board of Health might achieve on its own. While local public health programs may appear to be limited to regulatory goals given the day-to-day program perspective, changes in environmental conditions whether due to contamination of a water supply or the impact of a major disaster may change local disease incidence over the immediate or long-term. Regional public health approaches and programs will serve to better address the needs of communities and the public health agencies that serve them by enhancing and providing more flexible and expert local capacity.