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## Sexually Transmitted Disease Program Evolution in Response to Changes in the Public Health Environment: A Massachusetts Example

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### Abstract

**Background:** In 2008, the line item supporting sexually transmitted disease (STD) services in the Massachusetts state budget was cut as a result of budget shortfalls. Shortly thereafter, direct provision of STD clinical services supported by the Massachusetts Department of Public Health (MDPH) was suspended. Massachusetts Department of Public Health requested an initial assessment of its internal response and impact in 2010. A follow-up assessment occurred in September 2013.

**Methods:** In 2010 and 2013, 39 and 46 staff, respectively, from MDPH and from clinical partner agencies, were interviewed about changes in the role of the MDPH, partnerships, STD services, challenges, and recommendations. Interview notes were summarized, analyzed, and synthesized by coauthors using qualitative analysis techniques and NVivo software.

**Results:** The withdrawal of state funding for STD services, and the subsequent reduction in clinical service hours, erected numerous barriers for Disease Intervention Specialists (DIS) seeking to ensure timely STD treatment for index cases and their partners. After initial instability, MDPH operations stabilized due partly to strong management, new staff, and intensified integration with human immunodeficiency virus services. Existing contracts with human immunodeficiency virus providers were leveraged to support alternative STD testing and care sites. Massachusetts Department of Public Health strengthened its clinical and epidemiologic expertise. The DIS expanded their scope of work and were outposted to select new sites. Challenges remained, however, such as a shortage of DIS staff to meet the needs.

**Conclusions:** Although unique in many ways, MA offers experiences and lessons for how a state STD program can adapt to a changing public health context.

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Health departments across the United States are evolving rapidly. During the recent economic recession, more than half of local health departments experienced cuts to their

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core funding, and over 23,000 jobs had been lost by 2010 alone.<sup>1,2</sup> Changes simultaneously unfolding in the US health care system also have been pushing health departments to modify their roles in public health and in safety net health care provision.<sup>3</sup> Moreover, health department accreditation through the Public Health Accreditation Board provides new management and operational standards, which some state and local health departments are embracing and working toward.<sup>4</sup> With these and other factors at work, health department sexually transmitted disease (STD) programs—like many other programs—have been operating in a new environment characterized by change, challenge, and opportunity.

This was the case in Massachusetts in 2008, when state budget cuts led to the sudden termination of its contracts with all dedicated STD clinics. The STD program embarked on a series of proactive and reactive changes in an effort to adjust to this fundamental shift in its roles and relationships. Based on qualitative assessments conducted in 2010 and 2013, this article describes the primary ways that the STD program redefined itself and some of the factors and considerations driving those changes. The objective of this report is to describe this experience to the broader community of STD programs, many of which are facing similar pressures and circumstances.

## MATERIALS AND METHODS

Leadership of the Massachusetts Department of Public Health (MDPH) invited staff from the Centers for Disease Control and Prevention (CDC), Division of STD Prevention, to document MDPH's experiences during this period of change. Rapid assessments were conducted in 2010 and 2013 that focused on changes experienced by the staff within the health department's STD program as well as its clinical partner agencies, including their respective challenges, lessons learned, and recommendations for the health department STD program's future work. Qualitative methods were used to ensure flexibility and to maximize data collection over a short period. Interviews were conducted with staff from the MDPH and from community health centers, hospitals, and other clinical partners who worked with MDPH to provide STD services before and/or after the 2008 budget cuts.

Table 1 lists the number and type of organizations and participants included in both assessments. Health department staff included Disease Intervention Specialists (DIS) from the STD program, STD program managers and supervisors, and other STD program staff. Staff from external clinical partner sites included a mix of program directors, clinicians, counselors, and health educators. In nearly every case, more than 1 person from the clinical partner site was interviewed. In both assessments, there was 1 focus group interview of full-time DIS based in Boston.

For each assessment, interviews were conducted in person by CDC staff over the course of a single week using semistructured interview guides. Internal staff and external partner sites were selected for interview by MDPH in consultation with CDC. Participant consent was obtained for each interview. In 2010, handwritten notes were typed into MS Word after each interview; in 2013, most interviews were also audiorecorded. Recordings were used to revise written notes.

For this study, data from both assessments were used. In 2010 and 2013, CDC staff summarized each interview's notes and then coded the data in NVivo software (QSR International, Victoria, Australia) using a codebook. These codebooks were developed through a process of double- or triple-coding a subset of interviews each year as a team. For each assessment, key themes from the interviews and focus groups were synthesized and reviewed in draft form by MDPH stakeholders. In preparing this article, CDC staff regularly returned to the original interview notes to confirm or clarify points from those synthesis documents.

## RESULTS

### In 2008: Budget Cuts and STD Clinic Closures

As of November 2008, the Massachusetts STD clinic system was an 8-site system located in health centers, hospitals, and family planning clinics in the major urban centers of the state. Individual clinics had dedicated staff with STD expertise and offered designated hours of operation in specific locations within these health care environments. In addition to providing ready access to subsidized, walk-in clinical services, clients seen by MDPH DIS received rapid testing and presumptive treatment for priority STDs for both symptomatic patients and the partners of STD index cases. These sites also provided DIS with confidential space to interview cases and initiate partner services. Though most STDs were diagnosed and treated elsewhere, those clinics were an important source of care; for example, approximately 17% of 268 early syphilis cases statewide in 2007 were treated in those clinics.<sup>5</sup>

As the economic recession took hold, state revenues in Massachusetts and other states dropped precipitously. With a constitutional mandate to maintain a balanced state budget, the Governor of Massachusetts made various cuts, including the elimination of the budget line item that supported this network of STD clinical services. The announcement of this budget reduction was made in October 2008, and 6 of 8 sites closed within 2 months. The 2 remaining sites, which were located in hospital settings, experienced disruptions but managed to continue providing services through other sources of support.

### 2010: Experiences of Disease Intervention Specialists

As frontline staff, DIS experienced the upheaval of the STD clinic closures most acutely. The closures uprooted the basis of their core activities, leaving the DIS at a loss as to where to refer patients and contacts for screening and treatment and removing access to a stable location to conduct interviews and partner services activities. Initially, this caused significant frustration and a sense of loss of purpose among DIS. Moreover, DIS perceived a general lack of communication regarding the clinic closures among STD program leadership and little evidence of contingency planning. They worried about their clients and patients being able to obtain timely, high-quality STD care.

Before the clinic closures, DIS had depended on preexisting relationships with providers for patient referrals. After the closures, they spent more time trying to identify alternative providers and facilities (eg, calling Urgent Care clinics to see if they would accept patients),

particularly for uninsured or undocumented clients who normally would have been seen readily at the publicly funded STD clinics. Disease Intervention Specialists also reported an increase in conducting patient interviews by phone, as opposed to in person, and more interviews were conducted at locations on an ad hoc basis (eg, at a provider's office, the client's home, or at an agreed-upon meeting point such as a parking lot). They also began to spend more time transporting patients to provider offices than they did before the clinic closures. In the interviews and focus group, DIS also noted the increased amount of time they spent trying to convince clients to see their personal primary care doctor for STD testing and treatment. Disease Intervention Specialists described efforts to compile a provider list to use for referrals, though development of the list was complicated by the diversity of providers in the community and the array of STD services that might be needed by clients. Even the 2 STD clinic sites that remained open both located in Boston, could not be relied upon as usual, as they made changes to the STD services they were able to provide such as reduced hours of operation and new fee structures or requirements for health insurance to help relieve cost pressures aggravated by the loss of state funding.<sup>6</sup>

In general, significantly more time had to be dedicated by DIS to developing relationships with a wider range of providers, some of whom were unfamiliar with STD care and treatment and with the roles of DIS and partner services. Providers who were not accustomed to working with DIS would sometimes block access to their patients because of privacy concerns. Many providers the DIS were interacting with were also inexperienced with treating STDs. Some providers did not stock necessary medications to treat STDs, in particular syphilis, which usually requires at least 1 benzathine penicillin G injection. Such medication had been readily on hand in STD clinics, but few other providers stocked benzathine penicillin G. Disease Intervention Specialists identified delays in syphilis treatment in practices that did not normally stock benzathine penicillin G, because those practices would either refer the patient for treatment elsewhere, or provide the patient with a prescription for benzathine penicillin G that would then have to be filled at a pharmacy and brought back to the practice for administration (sometimes resulting in errors or delays in transport of a medication that requires refrigeration). To address this gap, management instituted a benzathine penicillin G purchasing, storage, and distribution program leveraged upon other MDPH drug and vaccine programs and implemented by DIS. Moreover, some providers were unfamiliar with the STD treatment guidelines, were reluctant to presumptively treat patients as recommended, or were unwilling to treat partners of identified STD cases without first testing them, particularly if these individuals were asymptomatic. Overall, the DIS perceived that the rapid loss of the STD clinic infrastructure erected new barriers for their work at every turn.

### **2010: Experiences of MDPH's STD Program More Broadly**

Changes were also occurring within the broader STD program in which DIS were employed. Although not all changes were directly caused by the 2008 budget cuts, many were accelerated by them. First, there was an organizational merger of the MDPH human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS) Bureau and the Bureau of Communicable Disease Control (the historical location of the Division of STD Prevention) into the new Bureau of Infectious Disease in January 2009. As of January 1,

2010, the STD program instituted new leadership; in addition, a number of previously existing positions were lost or left vacant, leaving the remaining staff to assume the additional workload. The clinic closures intensified the strain on all staff, and STD program managers in particular described a rapidly evolving situation in which meeting their core mission of assuring all clients access to screening and treatment had become even more challenging.

With the merger of the HIV/AIDS Bureau and the Bureau of Communicable Disease Control, STD program managers sought to enhance its coordination with the existing network of clinical service providers supported through the Bureau of Infectious Disease Office of HIV/AIDS (OHA). Originally funded as HIV counseling and testing providers throughout the state, these providers were given an expanded mission in years prior also to provide STD and viral hepatitis testing. Although not in response to the STD clinic closures, OHA had increased the number of sites funded, and some sites had added an STD treatment component to their contracts with the state as a way of meeting the comprehensive needs of their high-risk patients. However, MDPH managers interviewed in 2010 stated some challenges with working with the OHA providers. They reported that collaboration between the STD program and OHA was not strong, and some providers in that network felt STDs were not a main priority for their practice and were relatively unconcerned about the clinic closures.

### **2013: Experiences of Disease Intervention Specialists**

The assessment in 2013 found a changed DIS and STD program environment. Not only had morale rebounded among DIS, but they also had adapted to a new way of operating. First, management had begun to make a concerted effort to rebrand the role of DIS as “health navigators” to highlight a variety of skills beyond contact tracing and to better market their skills to a wide range of health care providers and new partners. This new terminology reportedly had more positive associations with some providers than the term “DIS.” The DIS staff also indicated that this term was perceived by patients as less intimidating. In addition, MDPH had modified the DIS workforce. Management focused on hiring staff with advanced degrees and broader skill sets to fill vacant positions; likewise, they provided opportunities for staff in other roles, such as epidemiology or special projects, to cross-train as DIS. A new supervisory structure was also established that enabled field staff with extensive experience to become frontline supervisors.

The enhanced focus of DIS on partnerships that started in 2010 had continued into 2013. To better support DIS efforts, MDPH developed “outposting” partnerships at a number of provider facilities within the OHA-state funded network. Supported through written Memorandums of Understanding, DIS were stationed onsite at these facilities, ranging from a few hours to a couple of days per week to conduct partner services activities and serve as resources for STD clinical services. Technological investments made by the STD Program supported outposting and working outside the state office, including rental or purchase of laptops and smartphones.

As of 2013, most of the clinical partners interviewed supported an outposted DIS and reported that DIS contributed to overall clinic activities, for example, by facilitating partner

services and supplementing clinic staff activities in other ways, such as educating patients and reminding providers of STD clinical protocols. The benzathine penicillin G distribution program remained, as DIS continued to find it useful to speed treatment and gain entry into practices that were rarely treating infectious syphilis and therefore not stocking the medication. Those clinical partners also indicated that the relationship with the DIS and MDPH's STD program improved with the implementation of outpostting. Disease Intervention Specialists reported that it remained challenging to build relationships with providers not aware of the role of DIS, so MDPH management and DIS emphasized the importance of educating providers on the full scope of DIS activities. Most of the MDPH staff interviewed (DIS and managers alike) had adjusted to the new context or were employed after these changes had taken place and largely voiced satisfaction with the general direction of the unit.

### **2013: Experiences of the MDPH STD Program More Broadly**

In the years after the loss of state funding for STD services, the STD program worked to increase its integration and partnership with OHA through greater collaboration and coordination. Some health department staff indicated that this was not easy to do, with a lack of understanding and even trust between some staff in each program. Joint meetings, shared staff, and increased communication facilitated this cooperation and collaboration. For example, STD program DIS were incorporated into OHA's written protocol for the use and follow-up of acute HIV testing of patients; this was heralded by a number of interviewees as an indicator of success for this partnership. Integration between programs also accelerated within OHA's HIV service contracts. By 2013, MDPH had worked to expand the authority language directing state funding for HIV services to include STD screening and treatment, and more OHA service contracts with HIV providers incorporated these STD services. Essentially, the public STD services newly allowable and expanded through these HIV contracts created a network that—to some degree—helped fill the gap left when most of the STD service sites were eliminated in 2008.

The STD program further refocused its activities after the initial organizational changes made after the budget cuts. Participants indicated an increase in the demand for in-house clinical expertise required to support both STD-related clinical questions encountered by DIS, by virtue of their outpostting roles and other provider interactions, as well as the increasing number of STD-related questions submitted directly to the MDPH by a broader array of providers. No new positions were created to fill this need; MDPH already had a consulting clinician and a full-time nurse on staff, whose clinical knowledge were increasingly tapped. The STD program also focused further on its data utilization and epidemiology functions. Implementation of MAVEN software and the migration of STD\*MIS into MAVEN allowed for more timely access to comprehensive data across public health programs (e.g. to pro-actively identify patients seen in the course of STD services who were HIV+ yet out of care). More staff were hired with epidemiology experience and complemented the effort to cross-train present staff in both field services and epidemiology.

As of 2013, nearly all MDPH staff interviewed had a positive view on the STD program's evolution and perceived that the distance between HIV and STD had narrowed. Most



external clinical partners interviewed in 2013, although unaware of many of the internal shifts that had taken place within the MDPH, also relayed positive impressions of MDPH's STD program and services. External partners viewed the department as a whole as providing valuable epidemiologic and field services; STD testing services provided through the state public health laboratory were particularly highlighted as a key contribution of the health department. Although not organizationally located with the STD program, the public health laboratory had continued to conduct STD tests for free for many publicly funded clinical providers and their patients who lacked or did not use health insurance to cover their tests.

### **2013: Issues Remaining for the State STD Program**

Most of the challenges noted in 2013 were related to DIS who continued to encounter providers with little understanding of the value of DIS and to the dilution of STD clinical expertise that occurred after the clinic closures. The recommendations provided by MDPH staff were primarily related to staffing: for management to hire more DIS, better support sites providing STD services under the HIV contracts, outpost DIS to more locations, and conduct more provider education. MDPH staff also recommended the return of "meet and greets" or other interactive, educational opportunities to educate providers on up-to-date STD-related issues/trends, promote DIS as a resource, and generally strengthen those partnerships. This complemented the most common recommendation from external partners, which was for MDPH to offer more opportunities for these partners to meet with and better understand the MDPH's staff and their various services and roles. The demand for STD clinical training also remained high, with many external clinical partners requesting additional STD training opportunities, such as through the CDC-funded STD Clinical Prevention Training Center housed at the MDPH.

## **DISCUSSION**

Table 2 summarizes some of the key STD program changes observed and described across these pivotal years. As of the 2013 assessment, MDPH had evolved significantly in the years after the loss of state-funded STD services. Although some of the changes, such as integration with OHA-funded services, had begun before the cuts, the budget issues accelerated this process. The loss of a state-funded STD clinical service infrastructure dispersed STD clinical expertise throughout the clinical community. It made partnerships with OHA and with HIV and other health care providers increasingly pivotal to the STD program's operations, led DIS staff to adjust their professional networks and ways of operating, and increased the need for STD clinical training to support a larger number of providers in screening and treating patients with STDs. The health department has become less of a provider of STD clinical services and more of provider of STD expertise and support. Despite early hurdles, the STD program found ways to adjust to the new reality of STD service provision within Massachusetts and had shifted focus, eliminated or strengthened activities, or leveraged partnerships to operate in the resulting environment.

Although this analysis centered on the loss of state funding and resultant STD clinic closures as the main impetus for change, it is important to note other factors that affected the STD program landscape. For example, around the time of the loss of state funding for STD

services, Massachusetts was also experiencing health care reform through its state-led universal mandate for health insurance, Medicaid expansion, and subsidized health insurance. These changes affected how the population used and accessed health care and therefore likely contributed to some of the challenges and changes in the health care context encountered by DIS after the clinic closures. These and other contextual factors unique to the Massachusetts public health environment, such as relatively stronger state funding support for public health and health care infrastructure than many other states, also may have facilitated the STD program's ability to adapt over time.

The closure of this network of STD clinics raises many questions about the effects not only on state STD program operations but also on key STD outcomes in Massachusetts, such as reported STD case rates and STD screening rates. Trends in state surveillance data show that STD cases continued to increase significantly in this time period for syphilis, chlamydia, and gonorrhea.<sup>7</sup> However, attributing any part of these and other trends to the closure of the STD clinics would be difficult, if not impossible. These trends mirror those observed nationally—a reminder of the many factors underlying those increases. Assessing all the relevant and possible effects of these clinic closures is important and compelling; STD program staff certainly were concerned about them as these changes unfolded. Future analysis and synthesis of trend data from Massachusetts could explore various hypotheses further.

There are additional limitations to the findings of this assessment. Although the semistructured interviews were not restricted to specific questions and allowed for guidance or redirection by interviewers in real time, some topics may not have been included that would have identified other major changes, forces, and challenges. Some participants may have been biased and influenced by the presence of an interviewer who was from CDC (a funder of MDPH's STD program) and, moreover, introduced to them by MDPH. Finally, the external partners interviewed in 2010 and 2013 included many key partners but did not represent all of the providers with important interactions with the STD program.

This experience was unique to Massachusetts in many ways, but some of the lessons learned and adaptations may be transferable to other settings and jurisdictions. Many state and local STD programs are experiencing changes, ranging from integration with HIV programs, increased focus on collaborating with primary care providers, or responding to cuts in funding. Given a rapidly changing public health context, the ability to share experiences and lessons learned like these should be useful to state and local STD programs across the United States. With more information on how 1 program context experienced and responded to these kinds of changes, other STD programs may be better positioned to address similar issues in their own contexts.

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**TABLE 1.**

Participants Interviewed in the 2010 and 2013 Assessments of STD Program Services in Massachusetts

	2010 Assessment	2013 Assessment
Internal MDPH staff	15 participants, including: <ul style="list-style-type: none"> <li>• MDPH or STD program managers or other staff</li> <li>• DIS and DIS supervisors</li> </ul>	20 participants, including: <ul style="list-style-type: none"> <li>• MDPH or STD program managers or other staff</li> <li>• DIS and DIS supervisors</li> </ul>
External clinical partner sites	24 participants, from: <ul style="list-style-type: none"> <li>• 2 hospital-based infectious disease clinics</li> <li>• 4 community health centers</li> <li>• 3 other clinical or service partners</li> </ul>	26 participants, from: <ul style="list-style-type: none"> <li>• 2 hospital-based infectious disease clinics</li> <li>• 6 community health centers</li> <li>• 2 other clinical or service partners</li> </ul>

**TABLE 2.** Summary of Key Characteristics and Changes in the Massachusetts Department of Public Health’s STD Program, Before and After the Sudden Closure of STD Clinics

	Preclinic Closures (2007–8)	Immediate Postclosure (2009–10)	Four yrs Postclosure (2013)
DIS staff and roles	<ul style="list-style-type: none"> <li>• More centralized, with core partnerships with STD clinics in place</li> <li>• Focus on partner services</li> <li>• Focus on STDs</li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty about where to send patients</li> <li>• Increased time spent identifying providers to see STD patients and contacts</li> <li>• Increased need to transport patients and treatment</li> <li>• Increased need to educate providers on basic DIS role and STD control</li> </ul>	<ul style="list-style-type: none"> <li>• “Out-posted” to clinical partners</li> <li>• Broader health navigator role</li> <li>• STD/HIV focused</li> <li>• More cross-training in epidemiology and data analysis</li> <li>• More mobile work place</li> </ul>
Organizational context in the health department	<ul style="list-style-type: none"> <li>• Separate STD and HIV programs, lacking a strong partnership</li> </ul>	<ul style="list-style-type: none"> <li>• Collaboration between STD and HIV programs began to develop</li> <li>• MDPH restructuring began</li> </ul>	<ul style="list-style-type: none"> <li>• STD &amp; HIV programs not formally integrated but stronger partnership in place</li> <li>• Restructuring complete</li> </ul>
Service delivery and state funding for STD clinical services	<ul style="list-style-type: none"> <li>• Eight dedicated sites focused on STD service delivery funded largely by state funds</li> </ul>	<ul style="list-style-type: none"> <li>• Diffused, unmapped provider network</li> <li>• More providers who were unfamiliar with clinical and public health STD program function</li> <li>• No explicit funding for STD clinical services in the state budget</li> </ul>	<ul style="list-style-type: none"> <li>• STD services integrated into HIV expanded testing contracts and regulatory authority</li> <li>• Continued need to educate providers on STD program functions and DIS roles and functions</li> </ul>