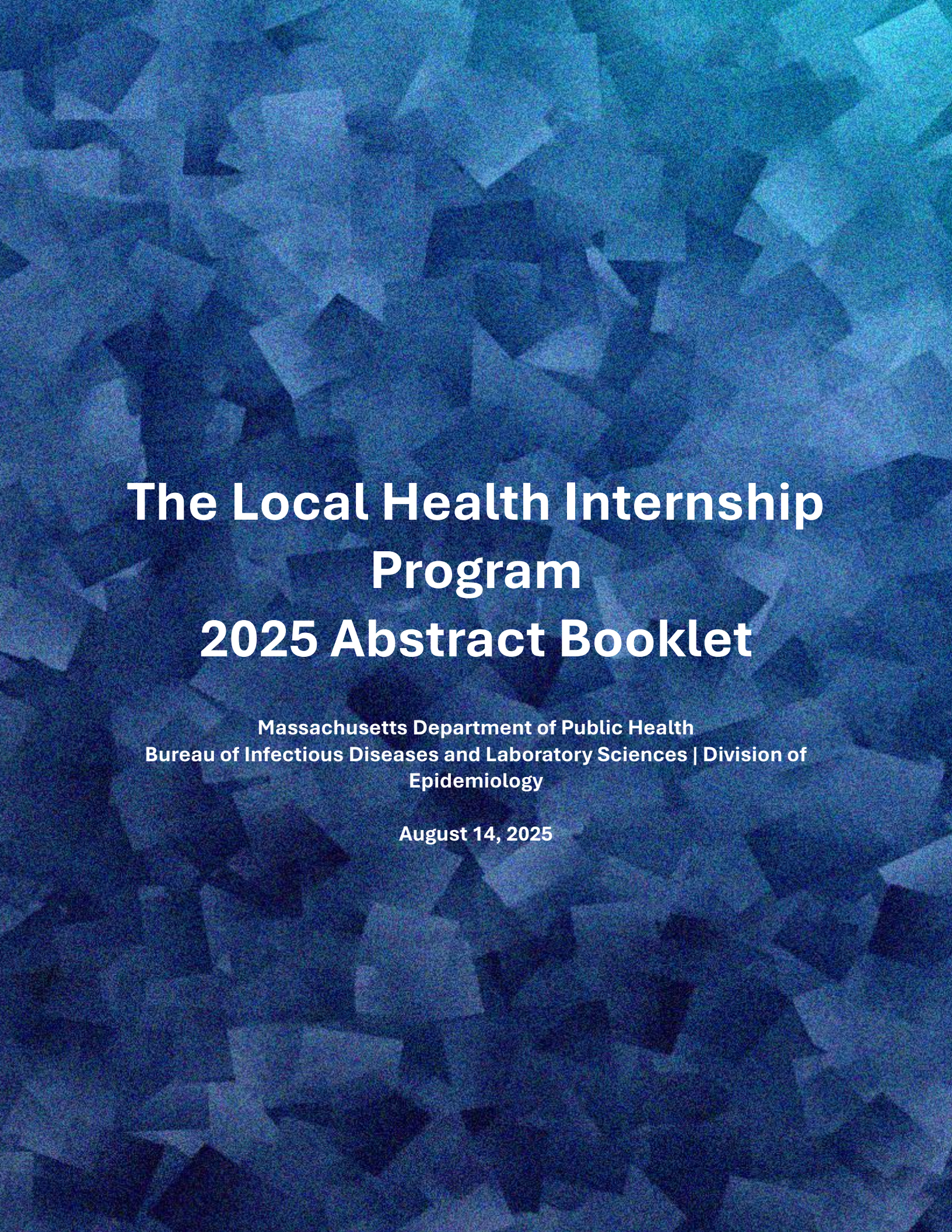




The Local Health Internship Program 2025 Abstract Booklet

**Massachusetts Department of Public Health
Bureau of Infectious Diseases and Laboratory Sciences | Division of
Epidemiology**

August 14, 2025

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Strengthening Local Public Health in Acton: Tobacco Regulation and Access to Primary Care

Background

The Town of Acton sought to support two key public health initiatives through this project. First, with the emergence of new nicotine products and nontraditional delivery methods, the Town aims to revise its existing tobacco bylaw, which was last updated in 2019, to better address evolving public health concerns, particularly among youth. Second, the project focuses on gathering information on local primary care providers (PCP), including availability and insurance coverage, to begin assessing access to care within the community.

New nicotine products via nontraditional delivery methods have become more common, creating challenges for existing regulations. Acton's current tobacco bylaw, last updated in 2019, no longer fully addresses these emerging products or the related public health concerns. Thus, it is important to keep pace with these changes and update the bylaw accordingly.

Access to primary care has become a growing concern in Acton, particularly for younger residents and families. While the town's nursing services primarily focus on older adults, the Department of Human Services has identified a lack of provider access for other age groups. School district nurses have also raised concerns, noting an increasing number of students enrolling without an established PCP. Families often report difficulty finding practices that are accepting new patients and that accept public insurance options like MassHealth. These challenges highlight the need for a clearer picture of provider availability, insurance acceptance, and wait times to better understand gaps in care and support future planning to improve health access for all residents.

Methods

Local tobacco regulations from neighboring municipalities were collected and compared to understand how other nearby communities are addressing changes in nicotine products. Recommendations and guidance from the Massachusetts Tobacco Cessation and Prevention Program (MTCP) and other state-level public health sources were also reviewed to identify current best practices. These findings were used to update the existing bylaw for the Acton Board of Health to consider.

Publicly available information on primary care providers was gathered from clinic and hospital websites. Each practice was contacted by phone to verify details and collect additional information not listed online. The data were then organized and analyzed, and based on preliminary findings, outreach was also conducted to nearby universities and health systems to explore opportunities for additional provider support and collaboration.

Results

Both projects focused on identifying gaps and areas for improvement. The tobacco bylaw review pointed to sections that may no longer reflect current products or public health guidance. The PCP database revealed issues related to provider availability and insurance coverage, particularly for MassHealth. These findings provide a foundation for informed decision-making and future interventions.

Conclusion

This internship advanced two important public health efforts in the Town of Acton. The review of tobacco policies identified key areas where existing regulations no longer addressed new nicotine products and emerging usage patterns. A newly updated bylaw was developed and will be reviewed by the local Board of Health, improving youth protections in Acton. The creation of the PCP database revealed significant gaps in access to primary care and provided crucial data on provider availability and insurance acceptance. These insights are now being used to guide early planning efforts focused on addressing the identified service gaps and improving access to primary care. The findings inform the Town of Acton on the next steps: update tobacco policies and improve healthcare access; guide effective actions to address community wellness; and promote overall public health. Together, these projects provide valuable tools and insights that can support ongoing health initiatives and policy decisions within the community.

Rodents and Residents: A Community Health Needs Assessment on Rat Infestation in Belmont, Massachusetts, 2025

Background

In recent years, the Town of Belmont has seen a growing number of residential complaints regarding rat infestations. These infestations can negatively impact physical and mental health, housing conditions, and perceptions of public safety. This Community Health Needs Assessment (CHNA) project was initiated to assess the prevalence of rat infestations in Belmont and identify resident experiences, awareness, and barriers to mitigation. It also aimed to assess community awareness and use of humane rodent control methods such as snap traps, smart boxes, and exclusion techniques, as alternatives to inhumane practices like glue traps or poisons.

Methods

After identifying rat infestation as a key concern through discussions with the Belmont Health Department, a short community survey was developed to assess the nature and extent of the issue. The anonymous survey included both quantitative and qualitative items regarding infestation frequency, resident response, housing type, and knowledge of prevention methods. The survey was disseminated via Google Forms and posted on the Belmont Health Department's Facebook page and other local community platforms. Additional outreach was conducted through neighborhood groups and organizations, including Save Belmont Wildlife and The Belmont Voice (local paper).

Results

As of July 28, 2025, thirty-one Belmont residents completed the rat infestation survey. About 75% reported rat sightings on private property, in parks, or near dumpsters, mostly "frequent" or "occasional." Over two-thirds of those using pest control relied on rodenticides, while 40% tried humane methods like snap traps or smart boxes. More than half showed interest in humane control, though 13% were unaware of these options. Respondents expressed frustration with poor waste management and inconsistent cooperation from neighbors and landlords, citing ongoing challenges in addressing rat infestations.

Conclusion

The rat infestation survey revealed a notable community concern linked to housing maintenance, pest control efforts, and resident stress. These findings point to the need for targeted public education that promotes humane pest control and for stronger coordination between tenants, landlords, and public health officials.

Play, Recreation, and Public Health: Bridging Gaps for Community Well-being in Chelsea, Massachusetts

Background

Play and recreation are essential to physical health, mental well-being, and community connection. Despite Chelsea's strong park infrastructure and recent green space investments, recreational engagement remains low, especially among adults and underserved populations. This project aims to identify barriers and motivators that influence recreational engagement to inform more equitable outreach and programming efforts.

Methods

We developed and distributed a multilingual survey to explore residents' definitions of play, their play habits, perceived barriers and facilitators, awareness of health benefits, and potential solutions. In late July, we conducted SOPARC (System for Observing Play and Recreation in Communities) observations at selected parks to document activity types, accessibility, and user demographics. From August through September, we will conduct five focus groups with residents and organizational representatives to explore community perspectives. We will analyze survey data and SOPARC findings using descriptive statistics and cross-tabulations in Microsoft Excel and SAS 9.4. Once focus groups are completed, we will code and thematically analyze the recordings using a structured codebook in Dedoose.

Results

Initial SOPARC observations recorded 168 individuals across ten sites. Of those observed, 39.86% were sedentary, 50% engaged in moderate activity, and 10.14% in vigorous activity. Although adults comprised the majority of park users, 76.36% of them were sedentary. Preliminary survey responses indicate mixed levels of park use; while some residents visit Chelsea parks regularly, others rarely do. Many participants engage in informal forms of play, such as walking or playing with children, rather than structured activities. Common barriers to structured recreation include limited awareness of available programs and financial constraints. Barriers to park access include safety concerns and inadequate infrastructure, such as outdated equipment and poor sidewalk conditions.

Conclusion

We will complete SOPARC observations at remaining parks. Survey collection will continue through late August, followed by focus groups with residents and stakeholders through September. Once all data are collected, we will perform thematic analysis and triangulate findings to inform a final report with recommendations for inclusive outreach, programming, and recreation improvements to share with the Chelsea Health Department and community partners.

***Laying the Framework for A One Health Climate Action Plan: Investigating Eastham's
Environmental Health Hazards & Outlining Potential Mitigation Strategies***

Background

Eastham, Massachusetts is a small coastal town located along Outer Cape Cod that is exceptionally vulnerable to public health threats from climate change. Due to its rural geography, high flood risk, extreme weather, and vulnerable populations, Eastham requires major infrastructural and policy changes for stronger climate resilience. One Health is an approach that amplifies the interconnectedness of human, animal, and environmental wellbeing. The lens is becoming increasingly necessary for the protection of community health in the face of the climate crisis. Eastham's One Health Climate Action Plan identifies specific ecological concerns and proposes strategic interventions that target a variety of Eastham's health vulnerabilities.

Methods

The One Health Climate Action Plan was informed by six structured stakeholder interviews with representatives from municipal departments, Barnstable County epidemiologists, conservation associations, local committees, community volunteers, and nonprofit organizations focused on environmental protection and healthcare access. Site visits and local research were also utilized to establish the plan's primary areas of focus. Ultimately, sixteen of Eastham's most severe environmental health concerns were identified and organized into three general categories: hydrological hazards, biological hazards, and physical hazards.

Results

An informational report was compiled for each of the sixteen environmental health risks. Some analyzed threats include cyanotoxins, flooding, solid waste management, and tick-borne diseases. Each report provides information on Eastham's vulnerability to the given hazard, the prevalence of the hazard, how the hazard impacts human health, and how the municipality can take action to protect community members against the hazard. The process of creating the reports revealed that Eastham's municipal departments are aware of climate change in the community. However, resources for local leaders that intertwine climate change and public health are sparse. The One Health Climate Action Plan draws clear connections between the two fields and provides structure for cross-sector collaboration in service of intervention implementation.

Conclusion

The preliminary development of a One Health Climate Action Plan for Eastham is a major step towards prioritizing community issues at the intersection of climate change and public health. By identifying climate-exacerbated health concerns now, Eastham will have a purposeful plan that streamlines public health preparedness and response initiatives in the future.

Erika O'Brien
Easton Department of Health and Community Services

***Expanding Access and Awareness of Local Mental Health and Social Support Resources to
Easton, MA Residents and Community Members***

Background

The town of Easton, MA developed a multi-departmental public health team coined the CARE Team-Community At Risk Empowerment Team. Their goal is to identify vulnerable residents to provide resources, programs, and social support to address health related needs. The team consists of a mental health clinician, first responder personnel, local health department professionals including the Veteran Services officer, the Financial Deputy Director, the Director of Health and Community Services, and the assistant town administrator. To promote the services of the CARE Team and available resources, there needs to be an updated resource guide and program description of the CARE Team available for community members.

Methods

Key stakeholders interviews were utilized to determine the specific services and resources that needed to be properly highlighted. Additional observations were made through attending monthly CARE Team meetings, and shadowing the clinician on mental health 911 related calls and follow ups. Data was collected from local first responder records and data from the Behavioral Risk Factor Surveillance System (BRFSS) was utilized to determine the scope of depression and mental distress within the community from 2018 to 2022(1).

Results

Conversations with the clinician highlighted the need for community awareness of the CARE Team and the available resources, as community members had issues accessing resources through official town webpages and appeared unaware of the CARE Team. Specifically, the clinician highlighted the need for resources dedicated to substance use recovery services, and mental health programs. Local data from 2023 indicated that 911 calls for medical aid with mental health components amounted to 10% of the total calls. Data from the BRFSS indicated an increase in the percentage of adults with depression from 2020 to 2022, as well as an increase in the percentage of adults with frequent mental distress from 2018 to 2022(1). The presentation of the updated resources was changed from a webpage to a guide book after conversations with the Director and Regional town nurse and epidemiologist where it was determined that having the ability to present the guide in either physical or digital format would broaden its accessibility.

Conclusion

Expanding community awareness and accessibility to mental health resources and the functions of the CARE Team support the town of Easton's goal of promoting community health and wellness. Next steps in this project include the distribution of the resource guide to the community through upcoming community events such as the town's overdose awareness night in late August.

1. Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Questionnaire. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2022].

Development of a Septic File Database and Digitization Process for Easier Access to Public Information

Background

Gloucester residents wishing to install or update their septic systems must provide a design plan, certificate of compliance, and a disposal system construction permit and ensure all permitted septic tanks are pumped at least once every 3.5 years.¹ In 2025, the Gloucester Health Department began a digitization project for historical septic files, creating a centralized Google Drive database. The project goal is to ensure constituents and staff can access online septic system data with efficiency and transparency and stay compliant with septic system standards and city code.

Methods

In June 2025, GHD established a project workflow for the database, uploading files alphabetically using a scanner and plotter. The workflow includes a spreadsheet describing file folder organization, and six folders to sort each document into, enabling an easy search. The naming convention was decided upon ensuring it is compatible with open.gov, the local government software. Additionally, it was implemented for improved searchability to provide successful retrieval.

Results

GHD has successfully digitized 212 files out of 2,815, 7.53% of all files, and implemented a consistent naming convention for easy public access. Out of these, 19 are connected to the city sewer system and 1,857 had their septic tanks pumped this past year. Every report averages 20 documents. Since this portal is public-facing 24/7, it drastically reduces retrieval time for staff from hours to seconds, and shortens processing time for permit applications.

Conclusion

Although this project has not come without challenges: managing a large volume of aging and incomplete files as well as ensuring accuracy and consistency during the scanning process, the Septic Digitization Project has delivered a lasting transformation to how septic system records are stored, accessed, and managed. Due to the extensive files and the time consuming nature of uploading them—30 minutes per file—the estimated project timeline is a year. This database now allows inspectors to identify the many files that are lacking permits or documentation and follow up for city code compliance. Looking forward, the database will be integrated with GIS mapping for spatial visualization of septic systems and more streamlined access to septic file information.

¹ *Caring for your septic system*. Mass.gov. (n.d.). <https://www.mass.gov/guides/caring-for-your-septic-system#-important-notice:-wipes-clog-pipes!->

Uplifting Voices with Lived Experience to End the Opioid Epidemic in Massachusetts

Background

Massachusetts reported 1,763 opioid-related deaths in 2024, representing a 36% decrease in deaths from 2023. One contributing factor may be the 2021 legal settlement with opioid manufacturers, which distributed over \$974 million to state and local public health departments across Massachusetts, allowing for further investment in opioid prevention, treatment, and recovery efforts. The Great Meadows Public Health Collaborative, comprising the towns of Bedford, Carlisle, Concord, Lincoln, Sudbury, Wayland, and Weston, pooled their opioid abatement settlement funds and aim to determine the most effective use of these monies.

Methods

The team first compiled an asset map of regional substance-use and harm reduction services using BSAS data and a community-sourced collaborative document. After consulting the Massachusetts Attorney General's terms for opioid abatement and published reports from the towns of Swampscott and Revere, the team determined that community input on abatement strategies should be collected through surveys, focus groups, and key informant interviews. The survey (distributed with posters and town mailing lists) asked individuals to rank seven strategies for opioid abatement on a Likert scale from lowest to highest priority. Focus groups were designed for seven populations: individuals with lived experience with opioids, family members who lost a loved one, first responders, LGBTQ+, BIPOC, Latinx, and public-school staff.

Results

Two weeks after survey publication, 55 responses were recorded across Sudbury (15), Concord (37), and Bedford (3). Two respondents were in recovery from opioid use, and one was actively using. Of these three respondents with lived experience, the highest priorities were medical treatment, recovery support, and parenting support. Of respondents with no lived experience, prevention was prioritized. One key informant interview highlighted these differing priorities and emphasized the importance of focusing on the priorities of individuals with lived experience.

Conclusion

The survey will remain open for three months, aiming for a 10% response rate in the region. One limitation to survey data is the low response rates from individuals with lived experience, and lack of racial diversity among respondents. To address this, the survey will be distributed to regional hospitals, treatment centers and community spaces. Focus groups and key informant interviews will provide significant feedback from those with lived experience. More outreach will be done in towns with low response rates. Once all data are analyzed, the region will begin allocating funds based on community input.

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- [6] Swampscott Public Health Department, Nash, L., & Dlusniewski, M. (2025, May). *Survey results on community public health needs in Swampscott* [Presentation]. Swampscott Public Health Department.

HARBOR Guide: Harwich Addiction Resource Book Offering Recovery

Background

The 2024 Lower Cape Cod Community Health Assessment revealed rising challenges related to substance use in Harwich, Massachusetts. Residents described a fragmented system where stigma, lack of awareness and limited coordination across services create barriers to care. Harwich lacks a unified local response to substance use, and both youth and adults are affected by increasing rates of opioid use. Many families are unaware of the help that exists or how to access it. This project aims to fill that gap by creating a community-informed guide to local prevention, treatment, recovery, and support resources related to substance use.

Methods

To address barriers identified in the 2024 Lower Cape Community Health Needs Assessment a guide of local substance use services was developed for Harwich called the “Harwich Addiction Resource Book Offering Recovery” or HARBOR Guide. The guide was informed by interviews with local stakeholders, including health officials, first responders, and youth and family service providers, and supported by data from the Massachusetts Department of Public Health. It addresses the key barriers of transportation, stigma, limited provider availability, and the lack of a centralized source of information. Services were reviewed, verified, and categorized into three formats: a navigation handbook for families, a service directory with contact details, and an educational overview.

Results

The guide compiles a wide range of local and regional services including health providers, recovery groups, sober living options and youth prevention efforts to reduce stigma and improve access for Harwich residents. It reflects the unique needs identified by local stakeholders and is recognized as a timely and practical resource, especially in a landscape where information is often fragmented and difficult to navigate. Plans for distribution include making the guide available in town offices, schools, libraries, and online platforms to ensure it reaches residents where they are and when they need it most.

Conclusion

HARBOR Harwich responds directly to the challenges uncovered in the 2024 Needs Assessment. By increasing services visibility and bridging communication gaps the guide builds a stronger foundation for recovery, prevention, and community resilience. This model may be adopted in other towns facing similar structural barriers in responding to substance use.

Surveillance and Analysis of Tick-borne Illness in Hopkinton, MA

Background

The town of Hopkinton, Massachusetts is home to many trees and small water bodies, which create the moist forest environment where ticks thrive. Tick-borne illness (TBI) is a leading cause of morbidity in Hopkinton: from 2018-2024, there were an average of 60 TBI cases per year. This internship project aimed to help the town Health Department and residents understand the patterns of TBI.

Methods

All cases of Lyme Disease, Babesiosis, and Human Granulocytic Anaplasmosis in Hopkinton residents from January 1, 2018 to December 31, 2024 were downloaded from the Massachusetts Virtual Epidemiological Network (MAVEN). Cases were analyzed by age, gender, month of diagnosis, and disease using Google Sheets. Key findings were used to make figures for an informational brochure for town residents. Resident addresses from the MAVEN dataset were used to analyze the spatial pattern of TBI in the town. Ticks were also collected in the field by “flagging.” The intern and Health Director collected and submitted 48 ticks to TickReport in Amherst, where they were tested for pathogens.

Results

Key insights from the data analysis are that June-August is when over half of the year’s cases are diagnosed, and that ages 51-70 have the highest burden of cases. No gender difference in disease burden was found. 88% of the cases were Lyme disease, 7% were Anaplasmosis, and 5% were Babesiosis. The spatial analysis is ongoing and there are no results yet. Of the ticks submitted for pathogen testing, four were positive for *Borrelia burgdorferi*, the causative agent of Lyme disease.

Conclusion

The results of MAVEN data analysis will inform Hopkinton Health Department’s efforts to control TBI. By focusing on the time of year and age group most at risk, they can use their resources wisely. The pamphlet I made educates residents about protective measures, TBI trends in the town, and how to submit ticks they find for pathogen testing. This will help the Health Department and individual residents reduce the burden of TBI in the town. A useful direction for future research would be to analyze similar MAVEN data statewide to identify the areas of highest burden.

PFAs and Septic Systems in Hubbardston, MA

Background

There is a large concern about “forever chemicals” polluting our environment and leading to negative health outcomes such as cancer and loss of fertility. One of these chemicals is called PFAS or Per- and Polyfluoroalkyl Substances. These chemicals can be found in elevated rates throughout Massachusetts, but an area of special concern is North Central MA, specifically Princeton and the surrounding towns, like Hubbardston due to its use in firefighting foam. This has caused well contamination, as well as septic systems polluting the surrounding water, especially more when they fail, something that is somewhat common for tanks in Hubbardston. Hubbardston is also part of the MassDEP Private Wells PFAS Sampling Program, although only 4 wells have been tested and all were below DEP limits.

Methods

Research for this abstract was done online, documentation of well tests for PFAS were examined using The Energy and Environmental Affairs data portal, the excel sheet given on this webpage was used for statistical analysis and to be used in graphs. Information about Princeton’s lawsuit was taken from their town website. The minutes recorded from Hubbardston BOH meetings were used to give a rough estimate of how many septic tanks failed per month in Hubbardston.

Results

Based on the Energy and Environmental Affairs data portal only 120 out of 758 water systems were contaminated with PFAS with 44 of these being below the state limit. At least one septic tank had failed between June and July. When septic systems located in homes where the water source is contaminated with PFAS fail these PFAS can leech into groundwater contaminating other systems. This risk is especially prevalent with legacy septic systems, which Hubbardston no longer has. The effect of groundwater pollution in Hubbardston is evident as there is a freshwater fish consumption advisory for PFAS in Asnacomet Pond.

Conclusion

PFAS are an important thing to be aware of when a septic system fails, and boards of health should keep them in mind. Only 10% of tested water systems in Hubbardston were above state limits for PFAS. For most houses the risk of contaminating groundwater is not very large as most houses do not have detectable levels of PFAS but for those that have detected PFAS there are ways to filter the two most common PFAS.

Development of a Community Health Needs Assessment (CHNA) for Residents of Littleton, MA

Background

Community Health Needs Assessments (CHNA) are crucial for identifying community health priorities, needs, and strengths. The combination of survey data, focus groups, and key interviews ensures communities feel heard by health departments. As a newly formed Health Department, Littleton has never conducted a CHNA, so this information is instrumental in shaping the town's public health interventions and priorities moving forward.

Methods

Focus areas for the survey were first identified by drawing from other CHNAs, census data, and a supplementary substance use survey. Drawing particularly from the nearby towns of Concord and Maynard, which recently completed their own CHNA, a 10–15-minute survey was created. Various promotional materials, including a 1-minute video and flyers, were also created using Canva. The pilot survey and promotional materials will first be internally circulated among select Littleton departments. Following edits based on the feedback provided, the CHNA materials will be publicly launched. The full survey will be open through late fall, based on the Concord and Maynard CHNA, ensuring there is sufficient time for outreach efforts.

Results

The draft survey had 47 questions, with 25 focusing on health topics and 19 collecting demographic data. The topics explored included health priorities, access to health services, mental health, substance abuse, social equity factors, and environmental health. In addition to closed-ended questions, short open-ended responses at the end of the survey allowed for more detailed answers. After gathering internal feedback, the survey will be edited and released to the wider public. The final survey data will be used to supplement the full CHNA.

Conclusion

Results from the substance use survey and internal discussion with Littleton departments show that topics of mental health, senior accessibility, and health care costs are of particular interest and should be explored thoroughly in the CHNA. Substance use survey respondent demographics also indicate a need for more youth, minority, and male health engagement efforts. Overall, the results of this CHNA will be critical in informing Littleton's upcoming community health improvement plan (CHIP).

Enhancing Outdoor Access and Physical Activity in Ludlow through Improved Education and Resources

Background

According to the state of Massachusetts community health data, as of 2023, Ludlow has a higher prevalence of diabetes, heart disease, obesity, and hypertension when compared to the state overall. All four chronic conditions have been shown to improve with regular physical activity, making access to environments for exercise a key public health concern. In 2023, The Ludlow Health Department conducted a Community Health Needs Assessment (CHNA) to better understand community priorities and inform public health planning. Forty percent of respondents identified access to parks and green spaces as a top priority, 32% said exercise and physical activity opportunities needed improvement, and 33% wanted more education and resources related to exercise. In response, a green space survey was conducted to identify barriers to use, and educational materials were developed to increase awareness of outdoor resources.

Methods

On June 16, 2025, an in-person, open-ended three-question qualitative survey (the Ludlow Green Space survey) was conducted at an event held at the Ludlow Boys and Girls Club Community Center. Seventy-two people were interviewed, with 65 responses included in the analysis; seven were excluded due to underaged children answering, making them void. Respondents were primarily parents, grandparents, or caretakers of young children residing in Ludlow. Data was analyzed using Excel to identify frequencies and themes. Data from this survey were reviewed alongside findings from the 2023 CHNA, the 2025 Age & Dementia Friendly listening session, and the 2012 OpenSpace survey. Educational materials, including a flyer, social media posts, and a map were created using Canva to bolster resources.

Results

The survey aligned with past surveys about the most visited green spaces in Ludlow. Feedback about these spaces was consistent with and added to findings from the 2012 OpenSpace survey and 2025 Age & Dementia Friendly listening session. Reported barriers to use included limited bathroom access (11%), safety and hazard concerns (20%), lack of cleanliness (22%), and a need for maintenance or updates (32%).

Many residents mentioned green-spaces that they go to outside Ludlow, that have similar features to some within the town of Ludlow. To support public awareness and encourage use of Ludlow outdoor spaces, a community map was created showing all local parks, trails, water recreation, public bathrooms, and public parking lots. The educational flyers will be shared on the Health Department's website and social media platforms.

Conclusion

It is clear that Ludlow residents are seeking out spaces to be active, get fresh air, and enjoy time with friends and family. However, there are existing gaps in education, resources, and awareness that may limit physical activity and hinder chronic disease prevention. Survey responses and prior

findings identified several barriers to green-space use, including limited awareness of what is available. In order to encourage more green physical activity and exercise, and to address the major education gap that was identified, educational materials were made and will be distributed widely throughout the community. Funding the is greatest limitation to addressing safety and maintenance concerns in Ludlow green-spaces. If a grant can be acquired, many if not all current green-space issues can be remedied and in turn, will encourage more activity among Ludlow residents.

Evaluating Lynn’s Wellness Vending Machine: Usage Trends from January to June 2025

Background

In response to the opioid crisis, the City of Lynn, Massachusetts launched a “Harm Reduction and Community Wellness Vending Machine” in January 2025 using opioid abatement funds. The initiative aimed to create an innovative, community-driven approach to overdose prevention. Heat maps from the Lynn Police Department identified hotspots for opioid-related incidents, motivating the placement of the machine near essential services. Harm reduction is a public health strategy that engages people who use drugs by offering practical tools and information to promote safety and health¹. The city is heavily motivated to assess the machine’s early performance with a focus on equitable access to care.

Methods

Data was collected from the machine’s digital monitoring system, which records the number and type of items dispensed. All data was anonymous, with no identifying information collected from users. The machine is publicly accessible, making it a low-barrier resource for individuals who may not use traditional services. Free items included various kits, Narcan, test strips, sharps containers, and seasonal supplies. Usage data from January 17 to June 30, 2025 was analyzed using RStudio to examine monthly trends.

Results

Between January 17 and June 30, 2025, the machine dispensed 568 harm reduction products, with hygiene kits making up the largest share (33.1%). Distribution peaked in February (171 items) and June (132 items), with the lowest in March (27 items). Hygiene kits remained consistently high across months, while sexual health and wound care kits increased over time. Narcan was dispensed in small but consistent amounts, and seasonal items like hats and gloves appeared only early in the year. Test strips were introduced in April in low quantities. Sharps containers declined after February due to supply issues, leading to plans to switch to a more readily available model from a different vendor.

Conclusion

The vending machine’s use and demand for key items like hygiene and sexual health kits highlight its early success as a low-barrier health intervention. The simple design and 24/7 access reduce stigma and improve accessibility. These findings underscore the importance of meeting people where they are, especially in communities impacted by substance use. Based on these early results, Lynn is exploring opportunities to expand the program to additional locations and strengthen partnerships with public safety.

¹ NHRC. (2025). *Principles of Harm Reduction*. National Harm Reduction Coalition.
<https://harmreduction.org/about-us/principles-of-harm-reduction/>

***Manchester-by-the-Sea Community Engagement through Continuous Public Health
Communication***

Background

The Manchester-by-the-Sea Board of Health (MBTS BOH) has not previously sought to grow its social media presence within the local community. Most communications focused on specific populations, public health notices and activities. Social media posts and informational flyers are health education tools that can raise awareness and increase knowledge about key public health issues. Increased social media presence can foster strong community engagement, build trust, and promote health informed decisions which ultimately supports the BOH’s mission.

Methods

A MBTS BOH health communication slide deck and logo were developed using the design platform, Canva. The logo was created incorporating the Town’s seal and icons representing public health. This logo is intended for use on all non-regulatory BOH communications. Implementation requires an internal approval process by the BOH and the Town Administrator.

The health communication slide deck includes a social media post and an informational flyer for each topic selected by the BOH director and staff. It included engaging public health graphics and information that aligned with seasonal community concerns and monthly awareness messages. Social media communications were reviewed in coordination with the Town’s Communications Director.

Results

The developed shield logo incorporates the town seal and includes the universal health symbol, and familiar icons. A house, community unity, and an ocean scene that represents the local environment are icons based upon the tight-knit MBTS community that has many beaches, green spaces, and commercial fishing. The health communication slide deck consists of 27 topics that range from sun safety to tick-borne illness and includes both a social media post and a flyer with further information. The flyer will be linked in the caption of the social media post for easy access. The flyers will also be available on the MBTS BOH’s webpage.

Conclusion

Enhancing health communication and raising awareness about the MBTS BOH is important to promote the overall health and well-being of the community. This project targets residents in the 25 to 55-year-old age bracket who are less likely to search the town website for health information. The health communication slide deck introduces community members to a wide range of public health topics. Disseminating engaging public health infographics and information that aligns with seasonal concerns ensures communication relevant to the evolving needs of the community year-round.

Through the rollout of these health communications, the BOH seeks to increase visibility and impact within the MBTS community. The BOH strives to support all residents with its mission. The enhanced health social media presence will encourage engagement between community needs and public health.

Promoting Access to Maternal, Child, and Family Health Resources: A Comprehensive Regional Guide for the Bristol-Norfolk Area

Background

The Bristol-Norfolk Public Health Partnership (BNPHP), supported by the Massachusetts Public Health Excellence (PHE) grant, serves Easton, Foxborough, Mansfield, Norton, Plainville, and Sharon. In 2024, a Foundational Public Health Services (FPHS) Assessment identified Maternal, Child, and Family Health (MCFH) as one of the region's most underdeveloped areas.

In the BNPHP region, the infant mortality rate (3.6 per 1,000) is below state and national averages, though racial disparities persist. Low birthweight affects 7.9% of births, slightly above the state average of 7.6%. Inconsistent early prenatal care and enrollment in the Women, Infants, and Children (WIC) Nutrition Program, particularly among low-income families, highlight persistent gaps. Bristol County specifically has one of the highest teen birth rates in Massachusetts (18 per 1,000). With over 3,000 births in the BNPHP region from 2022 to 2024 and more than 470 as of mid-July 2025, the need for accessible, early support is clear.

Methods

This project addresses a key gap from the 2024 FPHS assessment: the need for a centralized system to help families access MCFH services. The team created a user-friendly guide for new and expecting parents. Resources were gathered from municipal websites, state directories, and direct outreach to programs, then verified for accessibility and relevance. Outreach for guide distribution includes local boards of health, pediatric and obstetrics offices, libraries, early education centers, and WIC offices. Stakeholder feedback informed the guide's design, language, and usability.

Results

The finalized digital guide features over 250 verified services, organized into 11 categories, including hotlines, clinics, mental health and postpartum support, child safety, basic needs assistance, parenting groups, culturally inclusive programs, and early education resources. A condensed print version is in development and will feature a QR code linking to the full version. The guide is designed to be shared during key touchpoints, such as prenatal or pediatric visits, to help families connect with services early in the parenting journey.

Conclusion

This project shows how regional collaboration and local data can identify service gaps and guide solutions. By creating and sharing a practical, inclusive guide, the partnership aims to reduce disparities, improve access, and support families during pregnancy and early childhood. Future evaluation of service use and enrollment trends will help measure impact and guide improvements.

***Substance Use Screening Among Patients Treated for Trauma Injuries in Massachusetts
Before, During, and After the COVID-19 Pandemic***

Background

The Massachusetts (MA) State Trauma Registry is maintained by the Department of Public Health (DPH) to collect information about patients who receive medical care for trauma injuries. According to MA DPH Hospital Licensure Regulations, all acute care hospitals must submit quarterly data to the State Trauma Registry. These records collect a comprehensive clinical view of trauma patients' diagnoses and outcomes, including information about substance use at the time of injury. Evidence from other states suggests that substance use among trauma patients may have increased during the COVID-19 pandemic; however, state-level trends in MA have not been evaluated. Therefore, to inform future research priorities at DPH, our objective was to explore reported substance use screening among MA trauma patients before, during, and after the COVID-19 pandemic.

Methods

This retrospective cohort study examined longitudinal data submitted to the MA State Trauma Registry before (03/24/18 – 03/23/20), during (03/24/20 – 03/23/22), and after (03/24/22 – 03/23/24) the COVID-19 pandemic. Chi-square tests were used to compare the frequency of reported substance use screening during each period, with the time before the pandemic considered the referent period. A Poisson generalized linear model, which included an offset term accounting for trauma case variation over time, was used to assess the trend in substance use screening following the onset of the pandemic. Analyses were conducted in July 2025 using SAS (v9.4) with SAS Studio (v3.8).

Results

The State Trauma Registry received 274,664 records during the study period, with 115,245 (42.0%) submitted before, 82,838 (30.2%) during, and 76,581 (27.9%) after the COVID-19 pandemic. Compared to the pre-pandemic period, we observed an increase in the frequency of substance use screening (pre = 13.9% vs. during = 17.6%, vs. post = 15.6%; $p < 0.001$). After accounting for trauma case variation over time, substance use screening increased 19.5% ($p < 0.001$) compared to the pre-pandemic period.

Conclusion

Among patients treated for trauma injuries in MA, we found evidence of increased substance use screening following the COVID-19 pandemic. Further research examining substance use screening and positivity rates among trauma patients is needed to inform population-specific treatment and prevention strategies for those at risk.

Effect of COVID-19 Pandemic on Quality of Care among Nursing Home Residents in the Commonwealth of Massachusetts

Background

The Centers for Medicare and Medicaid Services (CMS) regularly collect clinical information from the nursing homes (NHs) certified by CMS which help ensure safe and high- quality care for the residents in Massachusetts NHs. For this project, we created an NH quality dashboard primarily focused on comparing national averages to those in Massachusetts before, during, and after the COVID-19 pandemic for three quality measurements that concern mental health: antipsychotic usage among long-stay residents, long-stay residents with depressive symptoms, and long-stay residents who used antianxiety or hypnotic medication.

Methods

Using data accessible from the CMS website, we generated line charts comparing Massachusetts averages to national averages for our three quality measurements of focus. The graphs created using both SAS and Excel, display quarterly averages ranging from March 2019 - March 2025. Joinpoint Regression was used to conduct a trend analysis which creates segments in a trend line, separated by joinpoints, allowing for regression analysis to be done on each segment.

Results

There were statistically significant increases in depressive symptoms from November 2022 – June 2024 (Annual percent change = 11.5) and again from June 2024 – March 2025 (Annual percent change = 24.52). While still increasing, antipsychotic use has slowed with a shift in September 2023 where the annual percent change went from 0.91 to 0.56, both of which were statistically significant. Antianxiety medication usage among long-stay residents has been significantly increasing since March 2024; however, the Massachusetts averages are consistently less than the national averages. All quality measurements contained at least one joinpoint in 2020 following the start of the COVID-19 pandemic.

Conclusion

Next steps include addressing rising cases of depression among long-stay nursing home residents by identifying specific nursing homes with the highest number of cases, analyzing other poor quality measures that may be linked to cases of depression, and creating an intervention aimed at improving outcomes. Additionally, trends in antipsychotic and antianxiety medications for long-stay residents should continue to be monitored in comparison with national averages.

***Communicating with Confidence: Strengthening Immunization Messaging for the
Massachusetts Vaccine Confidence Project (MVCP)***

Background

The Massachusetts Vaccine Confidence Project (MVCP) is a statewide initiative dedicated to protecting all residents against vaccine-preventable diseases by building vaccine confidence. It is led by the Massachusetts Chapter of the American Academy of Pediatrics (MCAAP), the Massachusetts Department of Public Health's Immunization Division (MDPH), and the Massachusetts Adult Immunization Coalition (MAIC). To advance its mission, MVCP focuses on educating providers through evidence-based communication. This communications improvement project supports MVCP's efforts to evaluate and enhance resources using feedback from internal and external partners to better meet evolving needs.

Methods

To strengthen communication efforts, this project involves: (a) evaluating and refining vaccine confidence resources on the MVCP website (b) redesigning the MVCP quarterly newsletter for providers (c) developing a one-page summary of up-to-date vaccine confidence resources and (d) preparing the Project for the respiratory illness season with a provider call-to-action letter. Existing resources were assessed for relevance and alignment with MVCP's goals. Newsletter tasks include identifying quarterly themes, drafting a back-to-school immunization edition, creating tailored talking points, and sharing relevant resources. The updated one-pager highlights up-to-date resources while the call-to-action letter emphasizes providers' vital role in promoting respiratory illness vaccines. All materials were developed in collaboration with the MVCP team to ensure relevance.

Results

By enhancing the usability of MVCP communications, these activities aim to increase provider engagement, reflected in greater website traffic, improved navigation, and higher newsletter open rates. Updated resources are also designed for easier promotion and dissemination, including in clinical settings and through partner networks. These efforts will provide a sustainable communications framework, especially important after the loss of the MVCP Project Coordinator due to recent reductions in funding.

Conclusion

In today's evolving landscape, ensuring providers have access to trusted resources is essential to sustaining vaccine confidence, especially given their critical role in addressing questions and promoting immunization. This project aims to support MVCP's broader mission by enhancing vaccine confidence communications to better equip providers for the current environment. While the full impact of these efforts has yet to be realized due to timeline constraints, the project lays groundwork for future resource development and evaluation.

Assessing Massachusetts Local Health Authority Over Raw Milk Sales to Enhance Enteric Disease Prevention and Outbreak Response

Background

Raw milk has not been pasteurized to eliminate enteric pathogens. Its consumption can cause serious illness. When a reportable enteric disease is linked to raw milk in Massachusetts, the Department of Public Health (DPH) works with local boards of health (LBOHs) to investigate. The Department of Agricultural Resources (DAR) has licensed 35 MA dairies to sell raw milk directly to consumers under state regulations. However, LBOHs may impose additional restrictions in their respective towns. This project aims to assess local health oversight of raw milk sales to inform enteric illness prevention and outbreak response efforts.

Methods

A comprehensive survey was generated to gather information on the presence of raw milk dairies, local ordinances, educational priorities, and dairy requirements. Prior to its launch, the survey was reviewed by the Division of Food Protection and the Office of Local and Regional Health ([OLRH](#)). It was emailed to all 351 MA LBOHs using an extensive listserv maintained by the OLRH. Individuals were asked to submit one response per town within two weeks. Additional outreach targeted non-responders with known licensed dairies. Data were analyzed using Microsoft Excel.

Results

96 LBOHs responded, representing a 27% response rate. Of respondents, 16% reported one or more raw milk dairies in their jurisdiction; 8% were unsure. The number of raw milk dairies farms per town ranged from one to two. No respondents reported that their jurisdiction had additional regulations or ordinances guiding direct-to-consumer raw milk sales, although five towns were unsure. However, 4% of respondents prohibit the sale of raw milk entirely. Among the 14 LBOHs with licensed dairies, none conduct routine inspections or require testing beyond DAR regulations (330 CMR 27.00). Lastly, when asked about educational priorities, 42% of respondents agreed that consumers should understand what raw milk is upon purchase.

Conclusion

Survey findings will be used to support DPH and DAR collaboration with LBOHs when responding to raw milk-related enteric illness investigations. These results also have potential to create additional guidance on the development of educational materials and ways to increase consumer awareness around raw milk consumption.

Re-engagement in care for individuals living with Hepatitis B Virus through outreach in the Commonwealth of Massachusetts

Background

Hepatitis B virus (HBV) affects an estimated 2.4 million people in the United States. Non-U.S.-born individuals, who comprise 14% of the general population, account for 69% of individuals living with chronic HBV infection¹. Two thirds remain out of care due to a lack of awareness of their infection, stigma and misinformation². In Massachusetts, HBV disproportionately affects immigrant communities, particularly Asian and African populations³. The Massachusetts Department of Public Health (DPH) conducted outreach for individuals diagnosed with HBV who are not in care, emphasizing referrals to primary care or hepatology services and education⁴. Re-engaging individuals in care is critical to reducing disease burden and preventing transmission.

Methods

From June to August 2025, interns with DPH conducted phone outreach to individuals identified through the state's surveillance system (MAVEN) as previously diagnosed with hepatitis B but not engaged in care, indicated by the absence of HBV related labs in the past two years. Language and demographic data were extracted, and individuals were prioritized using lab results and demographic characteristics indicative of higher risk. Calls followed a standardized script, to confirm patient identity, provide education, offer referrals, and encourage re-engagement in care. Interns used patient's preferred languages and interpreter services were used when needed.

Results

The outreach efforts focused on calling as many of these individuals as possible. We attempted three phone outreach calls to individuals aged 27–83, using the phone numbers listed in MAVEN. Among 124 records, eighteen patients had invalid phone numbers, eighty-four not answered, and twenty-two patients were successfully reached. Of those, twelve patients declined engagement, meaning they answered the phone but either said they were not interested, declined further communication or ended the call without receiving information. Only ten patients were fully engaged and all were foreign-born. Eight were black females speaking English as a second language, one was an Asian female who only spoke Chinese, and one was a Hispanic male who spoke Spanish. Notably, one of those who reached reported not being currently engaged in care due to the loss of health insurance, and two agreed to receive follow-up resources via text message.

Conclusion

This initiative revealed meaningful insights into the challenges of re-engaging HBV individuals. Many records lacked accurate contact data, limiting outreach success. Effective outreach may require updated contact information and should maintain linguistically appropriate strategies. Notably, our ability to successfully connect with patients has been facilitated by involvement of native speakers and interpreter support.

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Identifying and Addressing Common Barriers to Hepatitis B Care Through Direct Patient Outreach in Massachusetts

Background

Nationally, an estimated 1.4 million people live with chronic hepatitis B virus (HBV) infection. In Massachusetts, about 30,000 are affected, with most cases occurring among foreign-born individuals (Corcoran, 2025). This reflects broader healthcare inequities, as foreign-born populations often face barriers like limited access to culturally appropriate care, insurance issues, and stigma. Despite available treatments, many with HBV are not in ongoing care, increasing risks of liver complications and transmission (CDC, 2023). To address this, the Massachusetts Department of Public Health (MDPH) launched a pilot project to identify those lost to follow-up and understand barriers.

Methods

Data were extracted from the Massachusetts Virtual Epidemiologic Network (MAVEN), the state's infectious disease surveillance system. The project focused on confirmed chronic HBV cases with lab results reported between 2020 and 2025, but no results in the past two years (after June 2023). Two interns conducted phone outreach using a standardized flowchart to guide conversations—confirming identity, assessing care status, providing HBV education, and offering referrals to care or a local PCP. Support was offered in multiple languages. Both quantitative data (e.g., call outcomes, referrals) and qualitative notes on patient-reported barriers were recorded in an Excel spreadsheet.

Results

As of July 26th, 2025, outreach had been attempted with 89 out of 588 individuals. Thirty calls were unanswered after three attempts, 28 voicemails were left, and 9 declined enrollment. Thirteen phone numbers were invalid or out of service. Nine individuals completed full interviews. Among participants, 11.11% (n=1) expressed anxiety related to HBV diagnosis, 55.56% (n=5) reported receiving regular HBV care despite missing MAVEN records, and 33.33% (n=3) reported no barriers, suggesting less concern or perceived need for follow-up.

Conclusion

Though ongoing, the project has revealed challenges in reconnecting people with HBV to care. Many were hard to reach by phone, and some were reluctant to engage. Outdated contact information, communication gaps, and low response rates limited follow-up. Among those reached, 55.56% reported receiving regular HBV care but were not in MAVEN—this may reflect that some patients view routine physical exams as sufficient monitoring, while proper care requires specific tests like liver function and viral load assessments. This underscores the need for improved patient education and data tracking. Future outreach may use letters, emails, or texts to reach hard-to-contact individuals. One new referral has been made. Ongoing efforts aim to better understand barriers and enhance long-term care engagement.

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Classification of Anaplasmosis and Babesiosis Cases in Massachusetts, March-June 2025

Background

Human cases of anaplasmosis and babesiosis are nationally reportable common tick-borne illnesses in the United States, particularly in the Northeast. Both diseases are considered endemic in Massachusetts, although incidence rates vary among counties. Accurate case classification ensures consistent surveillance across local and national jurisdictions, enables tracking disease trends, and supports resource allocation for research, policy development, and education.

Methods

Cases are investigated by the 351 Massachusetts Local Boards of Health (LBOH) and submitted to the Massachusetts Department of Public Health via Case Report Forms (CRFs). CRFs received between March 1 and June 30, 2025, were reviewed and classified as “Confirmed,” “Probable,” “Suspect,” or “Revoked” using current case definitions from the Council of State and Territorial Epidemiologists (CSTE). “Suspect” cases with confirmatory or presumptive lab evidence but incomplete clinical data were identified from the Massachusetts Virtual Epidemiologic Network, missing information was collected through provider outreach by phone, and classifications were assigned per CSTE definitions. Data was analyzed by case status and county of residence.

Results

981 case classifications were completed.

Anaplasmosis cases were classified as: “Confirmed” 88% (n=557); “Probable” 2% (n=15); “Suspect” 8% (n=49); “Revoked” 2% (n=11). Babesiosis cases were classified as: “Confirmed” 75% (n=262); “Probable” 4% (n=14); “Suspect” 14% (n=49); “Revoked” 7% (n=24).

Counties with the highest percentages of “Confirmed” and “Probable” anaplasmosis cases were: Plymouth 18% (n=105), Middlesex 14% (n=80), and Bristol 11% (n=65). Counties with the highest percentages of “Confirmed” and “Probable” babesiosis cases were: Bristol 20% (n=54), Barnstable 19% (n=52), and Plymouth 17% (n=47).

Conclusion

Case review and investigation allowed for accurate classification of disease incidence, strengthening the reliability of surveillance data. The predominance of “Confirmed” and “Probable” cases suggests the need for continued trend monitoring. Observed geographic distribution patterns can inform region-specific intervention strategies and guide public health action. The submission of incomplete CRFs by LBOHs may be attributable in part to resource constraints; therefore, increased resource allocation should be considered.

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***Improving Data Sharing Across the Bureau of Infectious Diseases at the Massachusetts
Department of Public Health***

Background

The National HIV Behavioral Surveillance (NHBS) collects data to understand factors influencing the disproportionate effects of HIV (CDC, 2025). NHBS focuses on three at-risk populations; Gay, bisexual and other men who have sex with men (MSM), persons who inject drugs (PWID), and heterosexual, sexually active persons at increased risk for HIV (HET) (CDC, 2025). Data has been collected through the Massachusetts Department of Public Health (MDPH) since 2003 but has been underutilized by the Bureau of Infectious Diseases at MDPH (BIDLS). This project aims to improve that utilization.

Methods

Using SAS Studio, baseline characteristics chosen from NHBS Cycle 5 data were organized into frequency tables to describe participants in each population round. These tables, along with NHBS background information, were presented to BIDLS offices; the Office of HIV/AIDS, the Office of Healthcare Planning, the Division of STD Prevention, and the Viral Hepatitis Program. The presentations supported discussions on how NHBS would be useful to these project areas and materials that would improve data accessibility. As common themes were noted, corresponding survey questions were analyzed in SAS to populate a report for BIDLS.

Results

Missed opportunities in healthcare was a common theme across these meetings. The NHBS questionnaire asked a plethora of questions that gaged participants' access to care. While NHBS focuses on HIV, these questions provide data that can generate hypotheses across topic areas. The creation of a report on missed opportunities allowed NHBS data to be shared readily to assist in other offices' understanding of at-risk populations and development of action items. Following the report, a list of other NHBS data themes mentioned during meetings and practical guidance resources were created and shared within the Office of the State Epidemiologist and Scientific Support so NHBS information can continue to be discussed in the future.

Conclusion

While NHBS focuses primarily on improving preventative strategies for HIV, the data collected is rich and provides context for many different areas of public health. The report, and list of additional themes and resources, support NHBS data sharing so that it can have a more profound impact in Massachusetts.

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Addressing Youth Alcohol Consumption in Melrose: Evaluating and Strengthening Alcohol Policies in Melrose, MA 2025

Background

Youth alcohol consumption refers to the use of alcohol by individuals under 21 years of age, which can adversely affect brain development and increase the likelihood of engaging in risky behaviors that may lead to injuries, fatalities, and various health issues. In Alcohol, Health and Safety in Massachusetts: A Status Report, published by Boston University in 2022, Massachusetts ranks as the 14th highest state for binge drinking and from 2015-2019, alcohol use is responsible for approximately 2,760 deaths each year and in 2020, it was responsible for 32.4% of fatal accidents. This study, funded by the City of Melrose Health Department, aims to evaluate the effectiveness of current alcohol policies while proposing enhancements to better combat youth alcohol consumption.

Methods

Melrose Department of Health study examines Melrose youth alcohol perception and consumption, using data from the 2023 full report of Melrose Public School Youth Health Survey. This survey was created based on the Youth Risk Behavior Survey (YRBS) from the U.S. Centers for Disease Control and Prevention (CDC) and the Massachusetts Department of Public Health's Youth Health Survey (YHS) where a total of 1,166 middle and high school students participated, responses were analyzed using SAS 9.4 statistical software. In addition, the study employed non-participant observations of local retailers (n=2) to assess their alcohol sales practices. Interviews were conducted with two local health officials and two police officers to gather insights regarding the effectiveness of the Melrose Liquor Licensing Commission's rules and regulations on alcohol sales. Additionally, a review and analysis of the Licensing Commission's rules and regulations for alcoholic beverage sales, established in 2015, was performed to pinpoint deficiencies in the current framework.

Results

The Melrose Department of Health has identified significant gaps in the Melrose Licensing Commission's rules and regulations for alcoholic beverage sales, particularly in the enforcement of regulations regarding the use of fake identification (ID), the need to reassess both refundable and non-refundable license fees for special events, along with reducing the validity period for employee training certifications related to alcohol handling. The department also suggests reevaluating the operating hours for standard and special events. These policy gaps were supported by the 2023 Melrose Public School Youth Health Survey findings, indicating a high rate of alcohol consumption among students and a perception of greater accessibility compared to other substances.

Conclusion

This study underscores the necessity for a comprehensive review of Melrose's alcohol policies to effectively tackle youth alcohol consumption. Recommended measures include stricter enforcement against fake ID use, adjustments to license fees, revisions of operating hours, and enhanced training requirements for alcohol-serving employees. Implementing these recommendations may significantly reduce youth alcohol consumption and improve safety for Melrose's young residents.

Verifying and Mapping Domestic Wells in Middleton, Massachusetts

Background

Per and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used to make products that are resistant and non-stick. PFAS have been commonly used in food packaging, outdoor clothing, leather goods, and snowboard waxes. The PFAS levels used as baseline are 20 ng/L or parts per trillion (ppt). Landfills are used for the burial of waste materials and can be sources of PFAS. PFAS-contaminated industrial waste and deposition of wastes from factories can seep into surface soils due to the water-soluble and highly resistant nature of PFAS. There are two capped landfills in Middleton, which are of interest to DEP: Natsue Way and Rubchinuk. Monitoring ports located on the landfills have exceeded acceptable levels. Water from the domestic wells within 500 ft of the monitoring ports is tested.

Methods

Using AxisGIS, addresses of houses including their parcel IDs were obtained and exported using PDF and Excel. State and town data were used to identify the well location. A formal letter was drafted and sent to the owners of houses with domestic and irrigation wells to obtain written consent to access their land. Field work was then conducted to visualize the wells and gather longitude and latitude data to map the landscape of wells in Middleton. PFAS data from capped landfills and abutting domestic wells were considered.

Results

About 50 addresses were found to be in the Natsue Way area. Of those, 25 formal written letters were placed in the mailboxes of owners of domestic wells to obtain written consent.

Conclusion

Mapping houses with domestic wells helped identify previously undocumented wells, allowing for targeted outreach to homeowners. This process improved the accuracy of well location data and supported efforts to assess PFAS exposure risk in the community. Continued mapping and resident engagement are essential for ensuring safe water use and informing future mitigation strategies.

Community-Centered, Data-Driven Opioid Fund Allocation in Small Town Montague

Background

Montague, MA (pop. ~8,000), located in Franklin County, experienced a 15% rise in suspected opioid-related EMS calls from 252 in 2022 to 290 in 2023, but lacked a unified system to track overdoses, naloxone distribution, and treatment access. In 2024, the Board of Health secured \$110,000 over 17 years from a statewide opioid settlement. This study describes a community-driven framework to build real-time environmental-health data capacity, guide targeted interventions, and inform funding decisions.

Methods

We partnered with Montague's Board of Health, local providers, and community advocates to co-design an agile, data-driven planning process. First, a workshop brought together health-department leadership, peer advocates to identify key metrics (e.g., overdose locations, naloxone sites), assess data gaps, and set evaluation goals. Second, two local experts participated in a one-hour focus group to identify barriers to care. The focus group was audio-recorded, transcribed verbatim, and imported into NVivo 14 for qualitative coding. Using thematic analysis, we identified recurring barriers and insights related to treatment access, stigma, and housing needs. Coding was conducted iteratively to align qualitative findings with quantitative survey results and community priorities. Third, a community survey was developed and deployed. Fourth, findings were triangulated with town-level statistics (15% rise in EMS calls, 3% MAT admission rate, and 45% naloxone coverage) to determine local priorities. Lastly, a public-facing environmental health registry was launched to support real-time monitoring and transparent tracking.

Results

Although the survey sample was small (n=8), 75% of respondents reported naloxone awareness, and 60% cited transportation barriers. Several respondents explicitly requested housing support as part of comprehensive prevention. The process yielded four validated priorities: (1) expand medication-assisted treatment access, (2) enhance harm reduction services, (3) invest in prevention education, and (4) strengthen data collection and evaluation capacity. Within six weeks, registry entries informed two board funding decisions, demonstrating Montague's improved ability to collect and apply actionable data. Despite high naloxone awareness, stigma, procedural hurdles, housing instability, and transportation barriers persisted.

Conclusion

This small-sample pilot highlights four immediate actions: expand MAT access, deploy naloxone drop-boxes with peer training, conduct targeted prevention in high-risk areas, and sustain live registry tracking. While promising, broader community engagement and larger datasets are needed to validate and refine this approach.

Mapping Well Water Quality: A GIS-Based Tool for Public Benefit and Transparency in the Nashoba Valley

Background

The Nashoba Associated Boards of Health was founded in 1931 and currently includes fifteen member towns: Ashburnham, Ashby, Ayer, Berlin, Bolton, Boxborough, Dunstable, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, Stow, and Townsend. With a combined population of 109,399 as of the 2020 Census, many residents in this region rely on private wells as their primary source of drinking water. Increasing public access to well water testing data helps empower residents to take protective actions and supports local health departments in targeting outreach and resources more effectively.

Methods

Well water quality results provided by Nashoba Analytical were cleaned and reshaped using Stata 18.5. Parcel boundaries and contextual GIS layers, including MassDEP Oil and/or Hazardous Material Sites and Environmental Justice areas, were obtained from MassGIS. Well locations were spatially joined to parcel data in ArcGIS Pro to create a detailed base map. The finalized geodatabase will be published to ArcGIS Online and configured into a public-facing tool using Esri's Experience Builder. The platform is designed to support ongoing updates and use by local health departments and community stakeholders. Additionally, before making the tool available to the public, the Nashoba Associated Boards of Health staff will review the tool's output and create a user statement describing the tool's limitations and emphasizing the importance of speaking with staff working in the communities for the most recent information and context.

Results

Out of the roughly 49,000 parcels in the fifteen member towns, there are over 7,000 wells, with 238 of those wells being tested for one of the 134 analytes commonly tested for in Massachusetts. Analyte data is disseminated quarterly, and updates will occur on a rolling basis. The resulting web-based mapping tool provides private well users and homeowners in the Nashoba Valley region with accessible information on well water quality. Designed for clarity and ease of use, the platform empowers residents to make informed decisions about water testing, treatment, and potential health risks. Local public health professionals can also use the tool to identify areas of concern, prioritize outreach, and support community health initiatives.

Conclusion

This tool demonstrates how parcel-level mapping can make complex environmental data more accessible and actionable for private well users. Combining laboratory results with relevant environmental context enables the tool to support informed decision-making regarding water quality and public health.

Mental Health in Natick: A Multi-Source Analysis of Needs, Trends, and System Challenges

Background

Community mental health needs have become increasingly acute in recent years, particularly in suburban areas like Natick, MA, which have seen rising rates of youth distress, limited access to services, and suicide-related crises compared to prior decades. This project synthesized multiple local data sources to provide a comprehensive overview of mental health trends, service needs, and barriers to care in the Natick community.

Methods

A secondary analysis was conducted using four data sources: (1) the 2023 MetroWest Adolescent Health Survey (MWAHS), (2) the 2025 Natick Service Council (NSC) client survey, (3) William James College INTERFACE Referral Service utilization data from 2016-2024, and (4) 2023-2024 Natick Police and Psychiatric Emergency Services (PES) reports regarding mental health-related calls. Key indicators examined included the prevalence of mental health symptoms, suicide-related concerns, service utilization patterns, Section 12 hospitalizations (involuntary psychiatric evaluations under Massachusetts law), and needs and barriers to service identified by the community.

Results

Although overall rates declined from their peak during the COVID-19 pandemic (2021), mental health concerns remained highly prevalent among youth, with disproportionately higher rates among female, LGBTQ+, and students with disabilities compared to their demographic counterparts. INTERFACE referral data indicated strong demand for individual therapy, most commonly for anxiety, depression, and ADHD. PES records showed a 14% decrease in suicide-related calls and a 20% reduction in Section 12 hospitalizations from 2023 to 2024. However, overall call volume for mental health concerns remained relatively stable, likely due to increases in incidents that were not consistently coded as specific mental health crises. Responses from the NSC client survey highlighted widespread interest in free or low-cost counseling, support groups, and accessible wellness programs. Reported barriers to care included cost, provider shortages, limited awareness of available services, and gaps in insurance coverage.

Conclusion

Findings reflect a complex and evolving mental health landscape in Natick. While recent declines in crisis-related incidents are encouraging, gaps in care persist due to systematic barriers. Strengthening the local mental health infrastructure will require expanding low-barrier services, conducting targeted outreach to high-need populations, and continued cross-sector collaboration.

***Reducing Food Safety Violations Through Risk Factor Analysis and Educational Interventions
in Town of Needham, MA***

Background

Food-borne illnesses remain a serious public health concern in the United States each year. To improve food safety and help reduce the burden of food-borne illnesses, the U.S. Food and Drug Administration (FDA) established the Voluntary National Retail Food Regulatory Program Standards. As a voluntary participant, the Needham Public Health Division conducts a self-assessment every five years across nine program standards. This project focused on Standard 9: Program Assessment, which includes three key components: (1) conducting a risk factor study; (2) analyzing collected data from the risk factor study; and (3) implementing targeted intervention strategies based on identified risk factors and evaluating their effectiveness.

Methods

The study examined trends across five key risk factors: Poor Personal Hygiene, Contaminated Equipment, Improper Holding Temperature, Inadequate Cooking, and Unsafe Sources. 109 food establishments in Needham were categorized into five groups: healthcare, retail, schools, full-service restaurants, and fast food. Previous inspection results from 2022 to 2024 were evaluated and compared to a Food Code Reference Crosswalk to identify patterns of violations. Training videos and multilingual educational brochures were developed to highlight common Food Code violations observed in Needham establishments, explain the associated risks of foodborne illnesses, and offer practical prevention strategies.

Results

The risk factor analysis indicated significant issues primarily with Contaminated Equipment and Improper Holding Temperature. For example, violations related to contaminated Equipment made up 40.58% of total infractions in full-service restaurants, 46.29% in fast-food restaurants, and 4.74% in healthcare establishments. Improper Holding Temperature was similarly prevalent, accounting for 34.79% of violations in full-service restaurants, 28.57% in fast food, and 44.74% in healthcare settings. Poor Personal Hygiene posed moderate concerns, particularly within full-service (18.84%) and fast-food restaurants (24.57%). In contrast, violations related to Unsafe Sources were minimal, with no establishment type exceeding 1%, and instances of Inadequate Cooking were negligible across all categories. The targeted educational interventions and direct food inspections were generally well understood and accessible, providing a foundation for future efforts to address these critical risk factors.

Conclusion

The implementation of Standard 9 will effectively address key areas of food safety violations in Needham. Ongoing efforts, such as regular assessments, continued staff training, and proactive educational outreach, are essential to strengthening compliance and promoting long-term improvements in public health and food safety across the town.

Erik Pontes
New Bedford Health Department

Pharmacy-Based Assessment and Intervention to Improve Naloxone Access and Reduce Stigma in New Bedford, MA

Background

New Bedford consistently reported the 5th highest opioid overdose cases in Massachusetts from 2020 to 2024. Numerous efforts led by interest holders have decreased annual overdose cases, including increasing access to Naloxone, a life-saving medication that reverses the effects of opioid overdoses. Annual overdose cases have declined from approximately 558 in 2021 to 223 in 2024. This initiative, led by the New Bedford Health Department, aims to evaluate Naloxone accessibility in all fourteen retail pharmacies across New Bedford.

Methods

Pharmacy evaluations consisted of determining product availability, placement in store, and pricing consistency. Additionally, the health department conducted informational interviews with pharmacy staff including clerks, technicians, and pharmacists. Informational interviews examined a few key topics, such as 1. Knowledge of how to administer Naloxone, 2. Ability to recognize and articulate common overdose symptoms, 3. Ability to sell over the counter (OTC) or dispense through the standing order under M.G.L. c. 94C, § 19B, and 4. Identifying whether the staff were trained in the use of stigma-free language when discussing Naloxone. To address identified barriers, this initiative developed and distributed standardized Naloxone signage for pharmacy display. Pharmacies that demonstrated hesitancy discussing Naloxone or using stigmatizing language were provided with opportunities for cultural competency focused Naloxone training led by the New Bedford Health Department. Data from evaluations and interviews were analyzed using SAS to generate descriptive statistics.

Results

Prior to the initiative, only 7% of the pharmacies had signage indicating availability of Naloxone. Eighty-five percent used a theft deterrent method, and staff often identified concerns with theft if Naloxone were more openly accessible. Generic Naloxone was available in 57% of pharmacies; however, among those carrying the generic formulation, 38% sold it at a higher price than the brand-name product Narcan. Additionally, 22% of staff interviewed were perceived to use biased, and stigmatizing language such referring to individuals with opioid use disorder as “drug addicts, crackheads, and drug fiends”.

Conclusion

In 2024, Naloxone was administered 201 times, preventing 198 fatal overdoses among 180 unique individuals. This initiative highlights persistent barriers to Naloxone access and the continued presence of stigma within pharmacy environments. Overdose can affect anyone who uses or encounters opioids, increasing access and reducing stigma are essential. Pharmacies should take active steps to destigmatize Naloxone, improve cultural competency among staff, and remove unnecessary access barriers to better serve their communities.

Laying the Groundwork: Case Study for Identifying Private Well Records for Regulatory Development in Northampton, Massachusetts, Summer 2025

Background

Although Massachusetts' Department of Environmental Protection (MassDEP) introduced a Model BOH Regulation for private wells in 1989, many municipalities, including Northampton, still lack comprehensive local regulations. Northampton's public water system is well-developed, yet a significant number of residents continue to rely on private wells for their daily water needs, including drinking water. To support the development of effective and enforceable local regulations, this study aims to compile a complete inventory of private wells and identify their owners. A thorough understanding of well distribution and ownership is essential for ensuring groundwater safety, informing regulatory planning, and protecting public health through targeted community outreach and education.

Methods

A case study was conducted using drilling records provided by the Massachusetts Department of Environmental Protection (MassDEP) Well Driller Program database. Data were combined with Parcel data, including detailed property attributes and ownership records, were obtained from the Northampton Assessor's Office and integrated with the well records. Geo-matching techniques and manual inspection of assessor maps were implemented to identify unknown well owners. Additionally, local certified laboratories were contacted to determine the price and logistical feasibility of the required water quality testing.

Results

Northampton has 29,567 residents (based on the 2020 U.S. Census Estimates Base), 8,984 public water supply connections (Department of Public Work), and 11,427 property parcels. A total of 397 private wells were identified, of which 242 (61%) were domestic wells distributed across 204 unique parcels—indicating that some properties contain multiple wells. Approximately 1.8% of all parcels in Northampton have at least one domestic well. Among these, 195 (81%) serve single-family residences and 5 (2%) are located on manufacturing sites. Owner information was matched for 179 (74%) domestic wells, while 64 (26%) were identified through geographic mapping. Laboratory outreach indicated that a standard “homeowner's test” costs between \$150 and \$200, providing a reference for education and private well guidance.

Conclusion

This study provides a foundational estimate of private wells in Northampton to support the development of local well regulations. Future research should examine how demographic factors relate to private well use and water access equity. Ensuring that all residents—especially private well users—have access to safe drinking water is critical. Local regulations can help establish clear standards for well construction and testing, aligning private well oversight with that of the public water supply.

Fostering Youth Digital Wellness: Insights from Northborough and the Greater Boroughs

Introduction

The 2023 Metro West Adolescent Health Survey found that nearly a third of frequent social media users in middle and high school reported symptoms of depression and anxiety. This project conducted in partnership with Northborough Health & Human Services and the Greater Boroughs Partnership for Health (GBPH), explored the intersection of youth social media use, mental health, and community connectedness.

Methods

This project involved seven interviews (six via Zoom, one in person) with key community members. These included a pediatrician, a school nurse leader, a medical librarian, a nonprofit director, a program manager, a school resource officer, and two high school students. Open-ended questions focused on general digital behavior and tailored topics based on the participant's role or identity. Interview data was analyzed using thematic analysis to identify recurring themes and insights.

Results

Three main themes emerged:

1. Adult moderation: A necessity for increased parental engagement in monitoring youth social media use.
2. Digital wellness education: The need to go beyond basic digital citizenship to include content on mental health and social media use regulation. Vulnerable groups such as girls and LGBTQIA+ youth require special attention.
3. Lack of social spaces: A shortage of local "third places" (like youth centers or safe hangouts) limits offline social interaction. Students reported traveling outside the GBPH area to socialize.

Deliverables included a glossary of digital terms, a community resource guide, and a list of actionable recommendations for educators and parents. Findings were shared with public health staff and peer interns.

Conclusion

Supporting youth in navigating digital spaces requires both parental involvement and investment in digital wellness education. Safe online and offline environments are key to promoting healthy development. Future initiatives could build on this work by improving existing educational curricula and community events that engage both parents and youth to foster digital literacy, mental health resilience, and a stronger sense of belonging.

Sonya Martin
Town of Orleans Health Department

Amending The Town of Orleans Tobacco and Nicotine Delivery Product Regulations to Meet State Standards & Requirements

Background

The Town of Orleans' Tobacco and Nicotine Delivery Product Regulations are required to enforce regulations that are no less restrictive than those set by the state. However, the existing regulations, last updated in 2016, omit several key provisions of Massachusetts state law—gaps that weaken enforcement, undermine public health protections, and also increase the risk of youth access and tobacco-related harm in the Orleans community.

Methods

Amendments to the Orleans' tobacco regulations were proposed in order to ensure compliance with Massachusetts state law. The Director of the Barnstable County Regional Tobacco Control Program and their legal team were consulted to identify the key discrepancies in the Orleans regulation. Required changes in accordance with state law included updating regulatory definitions, clarifying signage requirements, ensuring proper documentation from manufacturers, strengthening age verification protocols, and establishing limits on nicotine concentration in electronic nicotine delivery systems. More aggressive policy proposals unique to the Town of Orleans were also drafted to address local priorities, including a sales permit cap and new fining structure. For the sales permit cap, both a basic cap system (fixed limit) and a reducing cap (decreases as businesses close) were drafted for the Board of Health's consideration. Similarly, for the fining structure, two options for implementation were drafted for the Board of Health to vote on.

Results

The amended regulations were presented to the Orleans Board of Health on July 17th and the Board voted to implement a basic permit cap of 10 permits and a new fining structure that establishes separate fining system for state and local policy violations.

Conclusion

A revised version of the amended regulations were sent to the Board and a public hearing will be held once a finalized version is approved. These updates will bring the Town of Orleans into full compliance with Massachusetts state law. More continued collaboration between regional tobacco control experts will ensure the regulations remain effective and enforceable. In doing so, the Town can better address evolving health concerns and promote safer standards across public spaces.

***From Data to Action: Enhancing Public Health Communication & Information Dissemination
in Southern Plymouth County***

Background

The Southern Plymouth County Public Health Excellence Collaborative (SPCPHEC) identified a gap in communication coverage with local healthcare providers. Addressing this gap became a priority, because clear and actionable communication with providers is an essential function of public health, especially during public health emergencies. This project aimed to improve public health communication by building a reliable contact list of local providers to distribute targeted outreach messages.

Methods

A list of local healthcare providers was created using public data from The MA Board of Medicine Licenses and Google Maps. Healthcare providers within SPCPHEC's towns, as well as providers in surrounding towns within reasonable travel distance for SPCPHEC's residents, were included. Included specialties were primary care offices, urgent care centers, emergency departments, and sexual health clinics. Key contact information, such as emails and phone numbers, was recorded and organized in Microsoft Excel to create a usable database. Using this database, direct outreach via phone and email were conducted to both introduce SPCPHEC and collect additional contact information. Direct outreach efforts focused on office manager contact information rather than individual providers.

Results

A total of 246 provider offices were identified in the initial search. The list was narrowed to 82 contacts after excluding duplicates, unrelated specialties, and practices that did not respond to direct outreach efforts. Direct outreach efforts included 109 phone calls, 31 voicemails, and six personalized emails. Fifteen providers agreed and enrolled to receive future email communications from SPCPHEC.

Conclusion

Improving communication between public health and healthcare providers is key to a strong and timely outbreak response. By creating a clear system for outreach and building a foundation of trust and awareness, SPCPHEC is now better prepared to share critical health information with the people on the front lines. While initial contact and introduction was the main goal, these efforts also helped lay the foundation for future collaboration between SPCPHEC and healthcare providers in the area. Moving forward, continued outreach and relationship-building will be essential to keep these lines of communication strong.

Sarah Drucker
Southern Berkshire Public Health Collaborative

Only You Can Keep Our Community Safe: Facilitation, Installation and Evaluation of Sharps Disposal Kiosks in Southern Berkshire County

Background

Over the past decade due to an increase in the availability of at-home health care, Massachusetts outlawing the disposal of sharps in household trash and a lack of resources for local boards of health to facilitate this shift, there are a surplus of needles improperly disposed of. According to the National Safety Council, 45% of injuries at material recovery facilities come from needle sticks, sharps in the trash, or recycling, posing a public health risk for sanitation workers. As of May 2025 needle disposal sites were not available in 13 of the 15 towns in Southern Berkshire County. The SBPHC identified continued improper disposal of sharps as a critical gap in health care and sought funding opportunities to support the placement of additional kiosks.

Methods

A mixed-methods approach combining outreach such as meeting with local boards of health to discuss placement, observation to ensure proper use and a payment plan for two years when SBPHC no longer financially over sees the kiosks. Evaluation continued after installation to ensure the kiosks are being used to their fullest potential Lastly educational materials were produced in English and Spanish to engage the towns the collaborative oversees in the sharps disposal process while simultaneously educating them on proper use and locations.

Results

As of June 2025 the SBPHC placed seven 18 gallon sharps disposal kiosks throughout the County in rural towns without proper sharps disposal including: Lee, Monterey, Mount Washington, New Marlborough, Sandisfield, Lenox, Otis. As designated by the towns three out of seven kiosks located in transfer stations for town residents and the other four at townhalls available for all. It is then the towns responsibility to contact SBPHC for any maintenance and to continue collaboration with SBPHC to conduct ongoing evaluation of this program.

Conclusion

Rural towns represent a uniquely vulnerable population who are strongly affected by their built environment, or lack thereof. Without proper resources, citizens are forced to make unhealthy and unsafe decisions, such as improperly disposing of sharp biohazard waste. The sharps disposal project is an example of the collaborative's mission of working together to improve not only an individuals' health but ultimately the health of the community. Although the program is new, it is already making an impact, fewer injuries, reduced transmission of blood-borne diseases, and ultimately a healthier community.

References

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Parent Perceptions of Substance Use in Walpole, Massachusetts: A Cross-Sectional Community Health Survey to Inform Prevention Strategies

Background

In 2023, the MetroWest Adolescent Health Survey (MWAHS) was administered in Walpole, Massachusetts for the first time. Findings showed that as students progress from grades 6 through 12, access to and use of substances such as vaping products, alcohol, and marijuana significantly increases, with a declining perceived risk of harm. To understand the broader community perspective, a parent and guardian survey was created to assess perceptions, awareness of youth substance use, and prevention efforts. By combining student and parent insights, targeted prevention strategies can be tailored to the needs of the Walpole community.

Methods

A 14-question anonymous survey was created using Google Forms and distributed to parents and guardians of Walpole students via social media and printed flyers. The survey includes four questions on parent-child communication, four on perceived risk and beliefs about youth access to substances, and six on awareness of prevention resources. Responses were analyzed descriptively using Excel to identify trends to help inform future outreach strategies by the Walpole Health Department. Data collection is ongoing, and results reflect data collected as of July 28th.

Results

Parent responses (n = 35) were grouped by child's grade level: Grade 5 and below (n = 15), Middle School (n = 12) and High School (n = 8). Concerns about youth substance use (88%) and frequency of discussions with children (100%) were highest among high school parents. Across all groups, parents were more concerned about and perceived vaping products, marijuana, and alcohol as easily accessible. However, elementary and middle school parents expressed greater concern about prescription drug misuse (67.5%) compared to high school parents (12.5%). While only two respondents overall were aware of the Walpole Prevention Coalition (WPC), almost all (95.5%) expressed interest in receiving prevention resources. High school parents requested general prevention information while middle school parents sought guidance on how to talk to their children and local data, highlighting the need for tailored prevention efforts based on grade level.

Conclusion

This project has the potential to offer valuable insights into community-identified needs regarding youth substance prevention. Promoting the WPC website through social media and flyers with QR codes linking prevention resources and 2023 MWAHS survey data would allow for a centralized and informative platform. Through this, community members can access resources, events, and strategies to inform youth about substance use prevention and promote healthy decision-making.

Monitoring Bacterial Contamination to Protect Public Health: Wareham's 2025 Beach Water Sampling Program

Background

Wareham, Massachusetts, is a small coastal town that experiences very crowded beaches during the summer months. Thus, the Wareham Board of Health conducts a seasonal beach water sampling program to test for waterborne pathogens. This project builds upon that program by expanding monitoring efforts and analyzing weekly data to assess potential threats to public health. Specifically, the study focuses on the presence of *Enterococci* and *Escherichia coli* (*E. coli*), which are indicator bacteria found in human waste and can signal fecal contamination in waters. Elevated bacterial levels can pose significant health risks and lead to the issuance of water advisories or beach closures.

Methods

From June to August 2025, water samples were taken every week from 20 marine and freshwater beaches using the protocol outlined by the EPA. Samples were analyzed by the Barnstable County Health Laboratory to determine bacterial concentrations, which were then compared against EPA threshold levels: *Enterococci* >104 MPN/100mL (saltwater) and *E. coli* >235 MPN/100mL (freshwater). Field notes documented environmental factors such as weather, wildlife, and human activity. Data were compiled in Excel and analyzed to identify high-risk areas requiring public health intervention.

Results

Between June 3 and June 24, two beach sites, North Boulevard and Forbes Beach, exceeded EPA thresholds for *Enterococci*. The highest level occurred at North Boulevard on June 10 (624 MPN/100mL). Forbes Beach also exceeded the threshold the same day (124 MPN/100mL). Several other sites approached EPA thresholds and were flagged for ongoing monitoring: East Boulevard (53 MPN/100mL), Standish Shores (99 MPN/100mL), and Briarwood Pond, which showed recurring elevated levels (64–75 MPN/100mL) from June 3–17. Notably, Briarwood levels dropped below 10 MPN/100mL by June 24. Among freshwater sites, White Island Pond had elevated *E. coli* levels early in the season (153.9 MPN/100mL on June 3) but remained below the EPA threshold. All other freshwater beaches consistently tested well within safe limits.

Conclusion

This project highlights the importance of timely information on the condition of public water sources to help inform the public on water safety and help authorities conduct targeted infrastructure projects, such as stormwater management. Local health departments are of utmost importance in their role of preventing waterborne diseases through this program. Future tasks will involve public participation to decrease contamination and to expand the program to include tributaries in the sampling.

Acknowledgments

The Internship Team would like to extend a special thank you to the interns and preceptors for their stellar work and dedication throughout the summer. Additionally, we express our sincere appreciation to the mentors, OSESS, and Division of Epidemiology staff whose support in abstract review, guidance, and shadowing created invaluable learning experiences for our interns.

Thank you to all who have contributed to and supported the Local Health Internship Program!



Massachusetts Department of Public Health
Bureau of Infectious Diseases and Laboratory Sciences | Division of Epidemiology