

# PUBLIC HEALTH MATTERS

A NEWSLETTER OF THE  
PUBLIC HEALTH MUSEUM

## MUSEUM TEMPORARILY CLOSED

IN THE INTEREST OF PRIORITIZING THE SAFETY OF OUR VISITORS, STAFF, AND VOLUNTEERS, REDUCING THE NUMBER OF PEOPLE ON CAMPUS AND SLOWING THE OPPORTUNITY FOR TRANSMISSION OF COVID-19, THE MUSEUM IS CLOSED TO THE PUBLIC UNTIL FURTHER NOTICE. WE WILL CONTINUE TO ASSESS THE SITUATION AND REVIEW OPTIONS FOR WHEN WE WILL BE ABLE TO RE-OPEN TO THE PUBLIC. WE APPRECIATE YOUR UNDERSTANDING AS WE DO OUR PART TO MITIGATE THE SPREAD OF THE VIRUS IN OUR COMMUNITY.

## THE “LEARY VACCINE”

### ITS EFFECT ON TEWKSBURY STATE INFIRMARY IN 1918 AND WHAT IT MEANS DURING COVID-19

COVID-19 has permeated every part of our life. As we discuss a “new normal,” re-opening the economy and resuming everyday activities as before hinge on herd immunity derived from infection or the introduction of a vaccine. Dozens of companies around the world are investigating treatments or vaccines in hopes of curbing the spread of the coronavirus. Experimental treatments, such as the antimalarial drug hydroxychloroquine and a drug used to treat HIV infection, have been investigated. Many vaccine candidates are being studied. This is not the first time that biomedical science has been mobilized to address a pandemic. During the “Spanish Flu” of 1918, many vaccines were developed as “sure preventives or cures for influenza,” like the “Leary Vaccine” that was administered to staff and patients at Tewksbury State Infirmary.

The “Leary Vaccine” was the invention of Dr. Timothy Leary, a professor of bacteriology and pathology at Tufts Medical School. Made from “Pfeiffer’s bacillus”, a bacterium thought to be the cause of influenza, Leary’s vaccine “was developed from three locally isolated strains, and it was heat-killed and chemically treated.” This vaccine, and others like “Rosenow’s vaccine” or “Park’s vaccine,” were advertised to various markets around the country as effective treatments for influenza. However, these claims were mostly groundless, even though some of the institutions that administered these experimental vaccines believed in their effectiveness. Nevertheless, Leary’s vaccine was utilized at state hospitals and custodial institutions in New England as well as San Francisco, which inoculated around 31,000 of its citizens.

Tewksbury State Infirmary was one of the Northeast institutions that received the Leary vaccine. In the infirmary’s 1918 Annual Report, Superintendent Nichols recounted its procurement and use:

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## LEARY VACCINE CONTINUED

*The influenza began with us on September 18, and through the courtesy and co-operation of Dr. Timothy Leary of Tufts Medical School we were able to secure the “Leary vaccine” at the very start, and inoculated the greater part of the employees. Later, through the kindness of Dr. Hinton of Harvard Medical School, assistance was obtained from Dr. Clark of New Jersey, Dr. Dalzell of Ohio, and Dr. Zoller of Indiana. They came to Massachusetts in response to the appeal for medical aid from other States, and were able to inoculate all the inmates of the institution, for which assistance I wish hereby to make grateful acknowledgement.*

Superintendent Nichols also noted that even though some within the scientific community were disillusioned by the vaccine, the institution was still grateful:

*Whatever may be thought regarding the merits of the “Leary vaccine,” or the conclusions derived from statistics in general, and although it is recognized that in some districts and with different groups of people the severity of the pandemic may not have been as marked as in others, we report, at the Infirmary that 2,188 cases were inoculated and the spread of the disease ceased soon after.*

Of the 2,188 patients who were vaccinated, only 19 were reported to have come down with influenza afterwards. This was regarded as a success by hospital administrators.

Despite this reported “success,” some infection and death from influenza still transpired. Between September and November of 1918, there were 317 total cases of influenza reported in patients. Among these, there were 32 deaths, though 15 of the deceased had already been infected prior to their admission to the Hospital Department at the infirmary. In the 1919 Annual Report, only 27 new cases of influenza were reported between December of 1918 and November of 1919, with the majority of these cases being “sent in from the outside.” Only two influenza-related deaths were reported in that timeframe.

As advances were made in the field of microbiology and the effectiveness of many experimental vaccines ultimately discounted, it begs the question as to why Tewksbury State Infirmary had such a low rate of infection among their patient population and so few deaths. In America’s Forgotten Pandemic, Alfred W. Crosby argues that the influenza vaccines marketed during the Spanish Flu of 1918 had a “psychological benefit heightened by coincidence: their placebo effect coincided with the natural recession of the second wave, and the vaccine was credited with the results.” As for the Tewksbury State Infirmary, the low infection rate may also have been due to lack of exposure to “outsiders,” as hospital staff and administrators often lived on-site, and to the fact that non-essential activities on campus were all but cancelled due to staff shortages caused by the war. Regardless of the means, Tewksbury fared far better than some neighboring institutions. For example, the Massachusetts School for the Feeble-Minded in Waltham saw 56% of their patients infected with influenza with 85 reported deaths. The Wrentham State School had approximately 60% of their patients infected. Neither of these institutions utilized an influenza vaccine immediately.

As we consider our future amid the current pandemic, we must reflect on the past. Due to a number of fruitless vaccines that were brought to market to address the pandemic of 1918, ultimately researchers and public health professionals were forced to develop standards for vaccine trials. These standards have evolved and continue to shape how scientists and pharmaceutical companies produce vaccines. With extensive research and testing, we may find a new vaccine to prevent the coronavirus we are battling today.

*By Ashlynn Rickord Werner, MTS, PH Museum Board Member and volunteer*

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- Eyler J. M. (2010). The State of Science, Microbiology, and Vaccines circa 1918. Public Health Reports (Washington, D.C. : 1974), 125 Suppl 3(Suppl 3), 27–36. <https://doi.org/10.1177/00333549101250S306>
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Dr. Timothy Leary from Digital Collections and Archives, Tufts University.

# PAUL REVERE: THE DAWN OF PUBLIC HEALTH AND FORENSIC DENTISTRY

On April 18, 1775, patriot and silversmith Paul Revere shouted through the roads and lanes west of Boston about the looming British military invasion: “The British are coming. The British are coming.” Unbeknownst to most people at the time, and perhaps to some even now, Paul Revere would become a pioneer in forensic dentistry and usher in the dawn of public health. He was appointed the first chairman of the Boston Board of Health and the first forensic dentist in the country.

Paul Revere’s public relations skills were critical to his success as a patriot, and he applied many of those same skills in public health. In 1799, at the Board of Health in Boston, he transformed himself into the quintessential health communicator, improving the lives of others through disease prevention, wellness promotion and health equity for all. The initial public health campaign spread the word about yellow fever, focusing on keeping the environment clean and fresh, by reducing stagnant water, controlling “noxious trades” and regulating common sewers. In 1808, the Board took steps to control epidemics, by strict quarantining of ships entering Boston Harbor to ensure they were not introducing smallpox and other contagions.

Furthermore, Paul Revere took his part-time profession as a dentist to the next level by introducing forensic science. In April 1776, almost a year after physician and Major General Joseph Warren was killed at the Battle of Bunker Hill and buried in a mass grave, the general’s family was able to exhume his body to reinter it respectfully. However, Warren’s decayed soft tissue rendered his body unrecognizable. Paul Revere adapted his prosthodontic skills to forensic dentistry when he identified the deceased’s body by the artificial teeth he had created from animal bone and wired to Warren’s jaw a year earlier.

In summary, Paul Revere is widely known as a dedicated patriot and silversmith, but is rarely acknowledged as a public health forerunner and a pioneer in forensic dentistry. In 1969, when an immigrant laborer accompanied by his daughter attended his US citizenship examination he was asked why his child was not in school that day. He replied that it was Patriot’s Day and he recounted a detailed description of Paul Revere’s ride with the quote “One if by land, two if by sea.” His daughter witnessed him being granted his citizenship without any mention of Paul Revere’s public health and dental contributions. That immigrant was my father.

By Linda J. DiPersio, MSHC, PH Museum volunteer

## References

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Gase, J. (2019). Paul Revere and Joseph Warren: an early case of forensic identification. *The Micrograph at the National Museum of Health and Medicine*.

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Artificial teeth from animal bone attached to jaw with gold wire.

## A REVIEW: THE KNICK

*The Knick* is a fictional television series inspired by the real Knickerbocker Hospital, a Harlem facility which treated patients from 1862-1979. Part soap opera, part intense narrative on the beginnings of modern medicine, each episode is full of fascinating period detail. Surgeons perform by gaslight in an operating room, still called a “theater,” while visitors observe in their street clothes. Overwhelmed social workers visit crowded tenements, women routinely die in childbirth, and patent medicine (snake oil) salesmen make rounds at the hospital to urge physicians to endorse their cure-all tonics. Immigrant children interpret for their non-English speaking parents to provide information to health care workers.

The lead character and head surgeon, Dr. John Thackery, is loosely based on the early life of William Halsted, an American surgical pioneer. Like Halsted, Thackery becomes addicted to cocaine while conducting experiments with the drug to test its possible use as an anesthetic. Dr. Algernon Edwards, a Harvard trained black surgeon, joins the staff, but is given few staff privileges. He sets up a secret clinic in the hospital basement to treat African American patients whose only other option is the “Negro Infirmary,” an understaffed treatment facility with few medical supplies. The colorful head of the local orphanage is Sister Harriet, a Catholic nun and nurse who smokes, drinks and performs abortions. Even Mary Mallon, (aka Typhoid Mary) makes an appearance when city health inspectors discover that she is the source of the typhoid outbreak.

Although medical historians have questioned the historical accuracy of some of the plot’s details, *The Knick* is a fascinating and realistic look at the birth of modern medicine in America and the state of public health in turn of the twentieth century New York. This series is definitely for adults. Operating room scenes are very graphic, and the show contains mature themes and violence. It’s available on Cinemax and several other streaming services. DVDs of the two season series are held in local public libraries.

By Julie Kinchla, PH Museum volunteer



## MEET MARY FERGUSON, PHM VOLUNTEER

The Public Health Museum is in need of more volunteers, especially those interested in learning how to give tours (docents). The museum is growing! In particular, our Walking Tour, which takes place on the beautiful and historic campus of Tewksbury Hospital has increased in popularity and we would like to expand the program. By presenting biographies of some of our current volunteers, we hope to spark interest in joining our team. In this case, it is my autobiography. Our volunteers come from many different backgrounds, careers and experiences. Each has something to offer in their own unique way.



I became aware of the museum indirectly through my grandmother. For years, my grandmother told stories about her experiences living and working at Tewksbury State Hospital and Infirmary, as it was called then, from 1920 to 1929. She graduated from the School of Nursing, and like many women, stayed to work in the hospital, “insane asylums,” TB sanatoriums and in the homes of patients in the community. Many years later, after her death, I found tucked away in her attic a box containing many of her textbooks, old photos, letters and medical instruments from that time in her life. These became very precious to me and I vowed to find a proper home for them one day. Many years later my work led me to the campus of Tewksbury Hospital, as it is now known, and I heard about the Public Health Museum that had recently opened there. Someday, I vowed, I will go there with my grandmother’s keepsakes as I may find a good home for them there.

It seems ironic now as I write this during the Coronavirus Pandemic of the reason why I was on campus that day. I graduated from Mt Auburn Hospital School of Nursing in Cambridge, MA in 1972. In 1984, I was working at the Visiting Nurses Association of Boston. We were preparing to accept patients with the new disease called AIDS. At the time, it was seen as a terminal disease transmitted through sexual blood contact. I was intrigued and welcomed the opportunity to advance my skills and learn about a new disease. It was about 1990 when I had my first patient with AIDS. I had moved to the Merrimack Valley and was employed by the Visiting Nurses Association of Greater Lowell. By then, AIDS was pandemic and the Lowell community mobilized to care for these patients in a climate of fear and prejudice. It was before the development of antivirals and the majority of those infected died. For those who had no home or caregivers, my job was to help them find a place where they could die with dignity and in comfort. Tewksbury Hospital was one of the few institutions in the area that accepted patients with AIDS for hospice care. I went there to visit my patients and in doing so walked in my grandmother’s footsteps.

Years later I finally visited the Public Health Museum to offer my grandmother’s mementos and share her story with the staff. They were very interested and selected quite a few of the items that are now a part of the museum’s collection. I took a tour of the museum and was immediately fascinated. I knew I had found the perfect place to learn, to grow and to contribute to a vital and important organization in my retirement years. In 2016, I joined the volunteer staff, and now in my fourth year I continue to enjoy every minute I spend on museum work. I am a shy person and never comfortable with public speaking but have managed to learn to lead tours both inside and outside the museum. I have taken on many other tasks as time allows, such as writing for the newsletter, training new volunteers, organizing collections and cataloging. Typically, I come in 4 hours per week, but work on projects at home as well.

*Continued on page 5.*

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Museum



## OUTBREAK 2020! MOVES TO VIRTUAL PROGRAM

Running August 10-21, the PH Museum's Outbreak! program will move online this year. "We are excited to be able to make the program available for students in this engaging and interactive way," said Nandini Roy Tayebali, MPH. Rising high school juniors and seniors interested in a career in public health will find the sessions informative and convenient. The schedule offers a variety of workshops over two weeks and includes live Q&A with public health professionals, virtual tours, breakout rooms, flipped classroom sessions and incredible networking opportunities. Students are introduced to topics such as medical and bio-ethics, epidemiology, nursing, the role of family health centers in communities, occupational health and more. In addition, students will work with alumni peer mentors to create blog posts and public service announcements. "The role of public health in our world has never been more important," said Dr. Kathie Domoto, president of the Public Health Museum, "and we can't wait to welcome the next generation of public health professionals."

The program is free of charge but a commitment is expected. Questions? [outbreak@publichealthmuseum.org](mailto:outbreak@publichealthmuseum.org)

## VOLUNTEER MARY FERGUSON CONTINUED

There are many things that keep me interested in volunteering at the museum. My favorite things are the collection of old books in the mailroom, some from the 19th century. I also love it when a movie is being made on site, as it is a singular event which everyone on campus embraces. Built in 1895, the Administration Building that houses the museum is majestic, has a nostalgic feel, and is a pleasure in which to work. The staff at the museum is friendly and professional and works well together to bring the museum forward in achieving its goals and vision for the future. There is a lot to do but we have fun and enjoy the camaraderie.

I think the museum has a bright future ahead and I am happy to be a part of that. The pandemic has brought us new challenges, but we expect the current interest in public health history will increase the number of visitors. I would like to see the museum advance in the use of technology, both in its operations and exhibits. Also, so much of growth depends on the workforce, I hope the resources will become available to expand paid staff to bring about more stability. Increasing partnerships with other organizations, as we have been doing, has been fruitful and will increase.

On a personal note, I live in Hollis, NH, an agricultural community with my spouse, a cat and a dog. In addition to a nursing diploma, I earned a Bachelor of Science degree from the University of New Hampshire in 1990. I worked at Lowell General Hospital for the last 18 years as a nurse case manager, retiring in 2015. Some of my other passions are hiking, sewing face masks, reading and visiting with my grandchildren on Zoom. I also love music and I am studying the ukulele.

*By Mary Ferguson, RN, PH Museum volunteer*

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*If you have an interest in volunteering, call or email the museum for more information. When it is possible, come in for a tour and talk to a volunteer or staff member. Sandra Price is our Coordinator of Volunteer Engagement and can be reached at [sandra@publichealthmuseum.org](mailto:sandra@publichealthmuseum.org)*

What is the essence of life?  
To serve others and to do good.  
*Aristotle*



# THE PUBLIC HEALTH MUSEUM IN MASSACHUSETTS

## Our Mission

The Public Health Museum is a non-profit educational and cultural museum. The Museum strives to preserve records and artifacts from our nation's public health history; educate the public about the achievements and contributions of public health; and inspire people to build upon the past and continue to advance the future of public health. Our Museum provides a space to explore public health artifacts, inspire future public health professionals, and foster community involvement.

## Our History

Incorporated in 1990 and open to the public since 1994, the Museum has the distinction of being the first of its kind in the nation. Massachusetts has a rich history of leadership and notable firsts in the birth of our nation. In the field of public health, Massachusetts was the first to record vital statistics; the first to implement a sustained board of health; and the first to implement a communicable disease surveillance system, among many others.

## MUSEUM HOURS

Closed until further notice, see page 1.

## WALKING TOURS

Seasonal (May through October, weather permitting), advanced registration required. Third Wednesday at 6 PM and first Saturday at 10 AM

## ADMISSION

\$5.00 per person for museum  
\$10.00 per person for walking tour

Please feel free to forward this newsletter to others who may be interested in the Public Health Museum.

To subscribe to this newsletter, please reply with SUBSCRIBE to Newsletter in the subject line. To unsubscribe, please reply with UNSUBSCRIBE in the subject line.

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