LC 8 Final Summary

Kevin Piczer, Claire Jenkins, Alvin Mantey, Alyssa Foringer, Amanda Ludwig, Andrew Eylem, Andrew Wu, Aniruddha Shekara, Cameron Reinisch, Jasmine Zhang, Kadi-Ann Rose, Madison Noall

The Hamilton County Public Health Department's (HCPHD) mission is to serve, educate, and protect the Hamilton County community for a healthier future. In our specific project, we focused on the HCHD's Tuberculosis program that seeks to control the spread of TB. They tasked us with improving their education program and resources for latent tuberculosis to help patients be more aware and motivated to seek and complete treatment. TB has a diminished presence in today's culture because of rapid and effective advocacy and treatment effort. However, in many states including Ohio, TB still persists, and many individuals are unaware of its ongoing presence. Residents of Hamilton County are particularly vulnerable, as they experience the highest rates of TB in Ohio. Furthermore, latent TB typically presents with no symptoms and cannot be spread from person to person, so patients do not understand the need to complete a long treatment program that requires significant compliance. Therefore, our goal was to increase knowledge about the treatment of TB to improve medication compliance.

Currently, the nurses in the HCPHD Tuberculosis clinic are responsible for all aspects of daily operations, including surveillance, education, treatment, and counseling. In our interview with one of the current patients, we were told that the nurses would even visit patient houses to provide instructions and be on call for questions. We recognized that the nurses were spread thin due to the staffing shortage and wanted to offload some of their responsibilities through developing a new standardized educational method. Additionally, most of the patients in the clinic are immigrants and do not speak English, complicating the staff's ability to educate them about their disease. The SDOH addressed was health education—how resources can effectively reach patients of many different backgrounds to accomplish their goal. As such, we created an educational video providing basic information about LTBI, how it is spread, and the importance of treatment adherence. The script was developed in both English and Spanish, and its readability and understandability were scored at an 8th grade level. We then implemented the video into the TB clinic to be shown to the patients while they were in the waiting room, with the assistance of the tuberculosis clinic nursing staff. A pre and post video survey was developed to help assess the success of the intervention. The results of these surveys are shown below.

Tuberculosis Spanish Subtitles
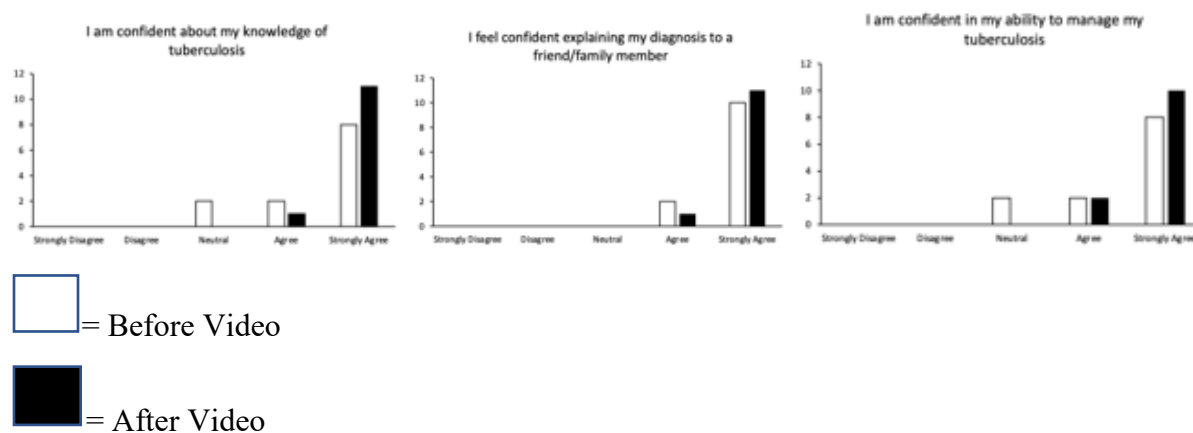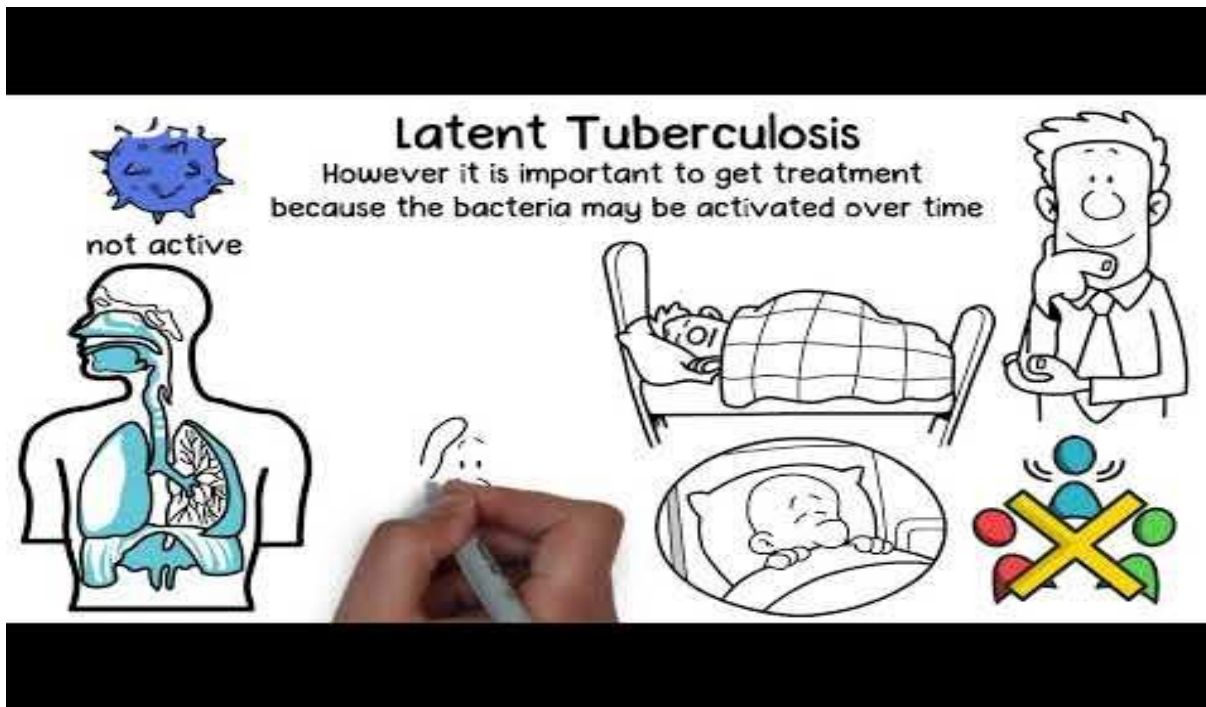
= Before Video

= After Video

Figure 1. The results of our video survey given before and after viewing the video.

While some individuals in Cincinnati are sufficiently engaged in healthcare, others do not have access to adequate resources for healthcare education, whether in the knowledge or the understanding of the concepts. The lack of health literacy in TB patients treated by the HCPHD leads to decreased understanding of tuberculosis and a diminished perceived need for its treatment.

This lack also leads to decreased aftercare of patients and results in the growth of TB infections as a major health problem in the Greater Cincinnati Area owing to lack of medication adherence. The presence of COVID in the community makes it more difficult for patients to not only attend TB clinics but also communicate with HCPHD on correct after care measures for latent

tuberculosis. HCPHD has also become fairly overwhelmed by COVID which has led to less time being able to focus on their tuberculosis clinic/patients. All of this leads to a decrease in health literacy due to a decrease in direct contact communication and less ability to spend time with the tuberculosis patients as they continue their medication treatment. The strain of COVID has led to a lack of trust building with the patient-physician relationship which also leads to a decrease in the ability to adequately provide care to tuberculosis patients. Additionally, COVID has caused many people financial stress which may make people skip appointments or not have the income to afford the medications needed for TB treatment. This creates additional issues for HCPHD which already needs to put extra resources towards COVID. Though HCPHD attempts to mitigate this with telehealth, a more robust approach may be needed to meet these community's needs, which includes the need for transportation to healthcare appointments and adequate translation services.

Cincinnati is also home to a diverse population with numerous languages spoken and varied levels of health education. Many tuberculosis resources available to patients are only in English, and this inhibits individuals from self-educating themselves about tuberculosis and the spread of disease. While the HCPHD offers translation services, providing resources to accommodate smaller lingual population in Cincinnati is a challenge, and access to translators has been limited in many healthcare spaces due to COVID. We believe that our video could help the HCPHD manage some of these challenges.

Percentage of TB Cases by Race/Ethnicity, *
United States, 2020 (N=7,174)†

Black/African American 20%
White 11%
Hispanic/Latino 30%
Asian 36%
American Indian/Alaska Native, 1%
Native Hawaiian/Other Pacific Islander, 2%
Multiple race, 1%

Top Countries of Birth Among Non-U.S.–born Persons
with TB, United States, 2020 (N=5,127)

Philippines, 12%
India, 10%
Vietnam, 8%
China, 5%
Guatemala, 3%
Honduras, 3%
Mexico, 18%
Other countries, 40%

*All races are non-Hispanic; multiple race indicates two or more races reported for a person but does not include persons of Hispanic or Latino origin.
†Percentages are rounded. Percentages of unknowns/missing are <1% and are not displayed in graph.

Figure 2: Percentage of active and latent tuberculosis cases by race/ethnicity in the United States in 2020

Figure 3: Percentage of active and latent tuberculosis cases by top countries of birth among non-United States-born individuals

We can connect the Cincinnati city government with patients for the patients to share their stories and the difficulties they have faced with barriers to care. It would be impactful for the government to understand at an individual level the needs of the community. For example, during a presentation of our research from Physician and Society 101/102, we could have patients join us alongside our poster to help elaborate upon what we have learned about the community. What the health department needs at this time is more personnel to assist in supporting the community and advocating for the needs of the patients. We think having a constant line of communication with HCPHD will be a valuable way to keep in touch with the needs of the community. The needs are fluid and may change over time, so having this connection with the department will make sure that our advocacy is well-directed. The health department also has a Board of Health and Health Commissioner, both of which can assist in lobbying the Cincinnati city government.

Physicians can opt to join the AMA State Advocacy summit and thus speak upon many of the policies made by lawmakers. This online outlet allows personal testimonies from physician patients in a quick and easy way. Many of the obstacles include getting to the city capital and other major areas. For physicians in rural areas to best serve their patients, they should be able to speak on issues that are particular to their scope of practice. Another method would be physicians hosting multidiscipline team meetings with nurses, physicians' assistants, social workers, etc. This would be best accomplished by establishing a shared goal and a shared plan to achieve those goals.

We also need to strike a balance between educating city officials and pitch work. It's important that we push hard enough for change so that policies are taken seriously and the voices of who we are representing are heard. We have a special role as medical students that gives us a higher inherent credibility and puts us in a special spot to create change. Let's not waste it!

References:

DeLuca A, Lessem E, Wegener D, Mingote LR, Frick M, Von Delft D. The evolving role of advocacy in tuberculosis. *Lancet Respir Med*. 2014;2(4):258-259. doi:10.1016/S2213-2600(14) 70035-9.

Mayster V, Waitzkin H, Hubbell FA, Rucker L. Local advocacy for the medically indigent. Strategies and accomplishments in one county. JAMA. 1990 Jan 12;263(2):262-8. PMID: 2294291.

Bookmark. (2022). *Covid-19 health equity resources* . Covid-19 Health Equity Resources. Retrieved October 11, 2022, from https://www.ama-assn.org/delivering-care/health-equity/covid-19-health-equity-resources?gclid=Cj0KCQjw852XBhC6ARIsAJsFPN3JVk-0T17HM065WTAsD-pUkvFVvc_c7N88GWgk4aNzGyazWeMg_-caAvlzEALw_wcB