Vancouver Youth Model United Nations

The Nineteenth Iteration | October 25-27, 2024

Dear Delegates,

My name is Owen and I have the honor of serving as the Director of the World Health Organization. Joined by your Chair, Kyle Gu, and your Assistant Director, Mira Hurwitz, we are confident that regardless of your experience, this weekend will be one to remember.

Throughout my MUN journey in high school, I have learned that participation plays the largest role in your overall experience and enjoyment of discussions. Thus, whether you are a delegate experiencing your first conference or an advanced delegate, I encourage you to engage meaningfully in committee sessions to be fully immersed in the world of Model United Nations.

The World Health Organization (WHO) delves into the intricacies of international public health. As we discuss our two topics – *Tuberculosis in South-East Asia* and *Health Accessibility Across the World* – I encourage delegates to strive towards collaboration rather than competition to develop meaningful solutions to these complex situations.

Finally, should you have any questions or concerns, please contact who@vymun.org. On behalf of the dais team, I wish you all the best in your research and look forward to seeing your contributions during the conference.

Sincerely,

Owen Qu
Director of the World Health Organization
VYMUN 2024

Table of Contents

Topic A — Tuberculosis in South-East Asia

Topic B — Access to Healthcare

Topic A — Tuberculosis in South-East Asia

Overview

Tuberculosis–a serious infectious disease damaging the bones, spine, brain, and lungs–has been one of the leading causes of death worldwide. Over 1.3 million people died from Tuberculosis in 2022,[1] and this number increases every year. Tuberculosis remains a pervasive issue in society, particularly in the SEA (South-East Asia) region.[2] While Tuberculosis can be cured by antibiotics, most patients lack access to treatments.

Caused by the bacteria Mycobacterium Tuberculosis, the disease is spread when those with lung Tuberculosis sneeze, cough, or spit. Inhaling only a few germs of the highly infectious illness is enough to infect a person.[3] As Tuberculosis is airborne and stays in the air for many hours, it poses a dangerous hazard, particularly in crowded areas with poor ventilation.

The SEA region reported over 45% of all global cases of Tuberculosis.[4] Given that the region has a population density of 158 people per square kilometer, more than four times that of the U.S. and almost 40 times that of Canada, the reason for Tuberculosis being such a prevalent issue is apparent. The high population density along with the fact that Tuberculosis is a highly infectious airborne disease means that outbreaks are far more likely in the SEA region compared to other, less populated, areas.

In the past few decades, organizations worldwide have been working to identify paths to solving the Tuberculosis crisis. In 2006, the second Global Plan to Stop Tuberculosis was launched with new

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[1] "Home," n.d. https://www.oecd-ilibrary.org/sites/f494a701-en/index.html?itemId=/content/component/f494a701-en.
[2] Mayo Clinic. "Tuberculosis - Symptoms & Causes - Mayo Clinic," March 22, 2023. https://www.mayoclinic.org/diseases-conditions/tuberculosis/symptoms-causes/syc-20351250.
[3] "UN Declaration on TB,"
[4] World Health Organization: WHO. "Tuberculosis," May 13, 2019. https://www.who.int/health-topics/tuberculosis#tab=tab_1.
[5] Tuberculosis deaths and disease increase during the COVID-19 pandemic. *WHO*, October 27, 2022. https://www.who.int/news/item/27-10-2022-tuberculosis-deaths-and-disease-increase-during-the-covid-19-pandemic.
[6] Tuberculosis SEARO, May 17, 2019. https://www.who.int/southeastasia/health-topics/tuberculosis.

guidelines on preventing the further spread of Tuberculosis, especially in high population density areas such as the SEA region.[5] In 2023, the United Nations and world leaders declared a historical commitment to ending Tuberculosis by pledging to fund over $30 billion USD to allow for universal healthcare.[6]

Despite these efforts, Tuberculosis continues to pose a threat to people across the globe, while the SEA region disproportionally carries almost half of the burden of preventing the disease. During the COVID-19 Pandemic, Tuberculosis deaths increased by over 5%,[7] and more drug-resistant variants also appeared, highlighting its persistent nature. It is clear that if this infectious disease is to be eradicated, drastic changes must be made and efficient remedies must be found.

Timeline

2000-1000 BCE – First evidence of humans catching the TB virus via trade routes. The first documented cases of Tuberculosis diseases originate from China and India.[8]

1882 – Dr. Robert Koch first discovers Mycobacterium Tuberculosis, the bacteria that causes TB. Before this, TB killed one in seven people in Europe with unknown causes, referred to as the "White Plague". With the cause of TB known, vaccines to counteract the bacteria were now possible. For his discovery, Koch won the Biology Nobel Prize in 1905.[9]

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[7] Ibid

[8] "Global TB Center," n.d. https://globaltb.njms.rutgers.edu/abouttb/historyoftb.php

[9] Centers for Disease Control and Prevention. "World TB Day History," October 18, 2023. https://www.cdc.gov/tb/worldtbday/history.htm.

[10] Okafor, Chika N., Ayesan Rewane, and Ifeanyi I. Momodu. "Bacillus Calmette Guerin." StatPearls - NCBI Bookshelf, July 3, 2023. https://www.ncbi.nlm.nih.gov/books/NBK538185/.

[11] Comstock, G W, and C E Palmer. "Long-term Results of BCG Vaccination in the Southern United States." *PubMed* 93, no. 2 (February 1, 1966): 171–83. https://doi.org/10.1164/arrd.1966.93.2.171.

[12] Keshavjee, Salmaan, and Paul E. Farmer. "Tuberculosis, Drug Resistance, and the History of Modern Medicine." *New England Journal of Medicine/ the ŒNew England Journal of Medicine* 367, no. 10 (September 6, 2012): 931–36.

1921 – First human trials of the Bacille Calmette-Guérin (BCG) vaccine. In addition to offering protection against other diseases such as Leprosy and Buruli ulcer, the BCG vaccine is now the most widely administered vaccine in countries where TB remains a problem.[10]

1953 – 50,000 children with the BCG vaccine showed an 80% reduction in the TB infection rate. This new procedure, administered in the United Kingdom, showed far higher efficacy in protecting against TB than an older procedure administered in the United States.[11]

1970 – Drug-resistant TB appears and spreads across the United States. Spontaneous gene mutations in Mycobacterium Tuberculosis cause new variants of TB that render cures ineffective. These new drug-resistant TB viruses spread just as quickly as ordinary TB, making them equally pervasive.[12]

1970s-1990s – The world sees a resurgence in TB cases, largely attributed to the HIV epidemic. HIV weakens the immune system, causing those with HIV to be 20 to 37 times more likely to contract TB.[13]

1993 – The WHO declares the TB crisis a "global emergency" with over 1 million deaths annually from the disease. It also urged countries to coordinate efforts to decrease the number of deaths.[14]

2010 – The Gene-Xpert molecular test is launched, acting as an effective diagnostic test for, among other diseases, TB. This test correctly identifies the presence of Mycobacterium Tuberculosis in patients 98% of the time.[15]

2023 – The SEA region adopts the Gandhinagar Declaration, committed to accelerating the efforts made to end Tuberculosis by 2030. It calls for the proper use of medical technology to benefit all equally, regardless of social, cultural, and demographic divides.[16]

2024 – Major breakthroughs are made in identifying Tuberculosis carriers who show no symptoms[17]. Scientists identified proteins that could be used to distinguish those who have latent tuberculosis, a type of TB in which the bacteria is inactive, and lung cancer.

Historical Analysis

The Tuberculosis crisis is not an event of the past–the world has seen a resurgence in TB cases since 2020 despite efforts to prevent the spread of the disease. While the 30 countries with the most TB cases contribute to over 90% of all patients,[18] TB is a global issue that requires collaboration and contributions from countries across the world. Much progress has been made recently in this regard–the global deaths due to the disease in 2010 was around 1.9 million while 12 years later, in 2022, the number was only 1.3 million.[19] Still, over 2% of all deaths annually are caused by Tuberculosis.

Since the first cases of Tuberculosis appeared, the infection has posed a dangerous threat to humanity. By the late 18th and 19th centuries, Tuberculosis became an epidemic in Europe, with an extremely high mortality rate.[20] In the late 19th century, TB had reached a mortality rate of over 80%, with more than 70% of the European population infected with mycobacterium tuberculosis, whether it be active or inactive.[21] Known as "the robber of youth", TB had a higher death rate among the youth.[22]

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[13] Bruchfeld, Judith, Margarida Correia-Neves, and Gunilla Källenius. "Tuberculosis and HIV Coinfection: Table 1." *Cold Spring Harbor Perspectives in Medicine* 5, no. 7 (February 26, 2015): a017871. https://doi.org/10.1101/cshperspect.a017871.

[14] NHMRC. "Tuberculosis Control in the South East Asian Region," 2023. https://www.nhmrc.gov.au/about-us/resources/impact-case-studies/tuberculosis-control-case-study.

[15] Centers for Disease Control and Prevention. "World TB Day History," October 18, 2023. [16] Ravi, Vajiram &. "What Is Gandhinagar Declaration?" Vajiram & Ravi, August 26, 2023. https://vajiramandravi.com/upsc-daily-current-affairs/prelims-pointers/what-is-gandhinagar-declaration/.

[17] ScienceDaily. "Scientists Close in on TB Blood Test Which Could Detect Millions of Silent Spreaders," March 24, 2024. https://www.sciencedaily.com/releases/2024/03/240322145447.htm

[18] "2.1 TB Incidence," n.d. https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022/tb-disease-burden/2-1-tb-incidence.

[19] Fleck, Anna. "Global Number of TB Deaths Is Declining Again." *Statista Daily Data*, November 7, 2023. https://www.statista.com/chart/31215/worldwide-number-of-deaths-caused-by-tuberculosis/.

[20] Wikipedia contributors. "History of Tuberculosis." Wikipedia, June 20, 2024. https://en.wikipedia.org/wiki/History_of_tuberculosis.

[21] Ibid

[22] Ibid

[23] Ibid

Over the next century, numerous medical advancements were made by scientists in Europe, including the X-ray by Wilhelm Röntgen and the stethoscope by René Laennac. These advances allowed for easier diagnosis and documentation of TB.[23] Because of these inventions, doctors were able to discover lung conditions associated with TB, making the connection that mycobacterium tuberculosis affected mainly the lungs. This would also later help with diagnosing and recognizing symptoms of TB.

At the beginning of the 20th century, the United Kingdom was suffering from a devastating TB epidemic. It had been previously established that the disease was contagious and airborne, so sanitariums were created to isolate those with TB. However, the conditions of these sanitariums were extremely poor for those in poverty and resembled jails more than rehabilitation sites. In addition, 50% of those who entered the sanitariums died within 5 years due to Tuberculosis-related causes.[24] However, it is worth noting that this "containment" plan did bring down the death rate and reduce the spread of TB.

As TB spread across the world due to European colonization, doctors from affected countries continued to find effective ways to contain the illness. The Bacille Calmette-Guérin (BCG) vaccine was first tested on humans in 1921. With a relatively high efficacy rate, the vaccine would soon spread to other parts of Europe following the end of WWII.[25] Following the popularization of this vaccine, numerous treatments were developed, including the now-popular isoniazid in 1952 and rifampin in 1965.[26] These treatments helped reduce Tuberculosis cases even further.

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[24] Ibid
[25] Ibid
[26] Ibid

[27] MIT Sloan. "Research Spotlight: The Resurgence of Tuberculosis Is Behavioral, Not Medical | MIT Sloan Health Systems Initiative | MIT Sloan," n.d. https://mitsloan.mit.edu/centers-initiatives/health-systems-initiative/research-spotlight-resurgence-tuberculosis
[28] "Latent Tuberculosis." Wikipedia, June 19, 2024. https://en.wikipedia.org/wiki/Latent_tuberculosis.
https://www.medicalnewstoday.com/articles/is-tuberculosis-deadly
[29] Ibid
[30] Ibid
[31] Ibid
[32] World Health Organization: WHO and World Health Organization: WHO. "Tuberculosis," November 7, 2023. https://www.who.int/news-room/fact-sheets/detail/tuberculosis.
[33] West, Mary. "Is Tuberculosis Deadly? What to Know," December 20, 2023. https://www.medicalnewstoday.com/articles/is-tuberculosis-deadly

However, during the 1970s, drug-resistant TB began to appear, and along with the HIV epidemic around the same time, the world saw a resurgence in TB cases.[27] With many of the new TB variants being resistant to the most common drugs, it became incredibly difficult to treat the disease, and patients were failing to complete their treatment plans. The surge in HIV cases contributed to the further global spread of TB, as those with HIV were less capable of battling mycobacterium tuberculosis without treatment or medicine.

Currently, around 10 million people globally are infected with active TB while 1.8 billion people have latent TB.[28] A total of 1.5 million people died from TB in 2022,[29] meaning the disease has a high mortality rate of 15%, and without medication, the mortality rate jumps to over 50%.[30] No country has managed to fully eradicate TB, and the infection is present across all age groups.[31] Countries across the world continue to combat TB by discovering cures, finding new treatments for drug-resistant TB, and developing technologies to identify and diagnose Tuberculosis.

Current Situation

Economic Trouble

Socioeconomic inequalities pose a powerful determinant of Tuberculosis risk. Crowded and density-high countries such as those in the SEA region are especially prone to the airborne disease. Additionally, poorly ventilated living and working environments often associated with poverty contribute further to TB risk[32]. Areas with worse education are less likely to know about these types of diseases and are usually less familiar with other conditions that may worsen the risk of developing TB, including HIV, alcohol use, and smoking. The poor general health knowledge that often accompanies poverty also means that people who do catch the disease are less likely to recognize the symptoms, leading to further transmission of the disease. Most critically, those who live in poverty often do not have access to cures and treatments against TB. The disease primarily impacts low and middle-income countries, accounting for over 80% of all cases[33]. Nearly 50% of TB patients in third-world countries face high costs and economic hardships, according to surveys by the WHO[34]. Thus, even though effective cures have been researched and are readily available in many developed countries, patients who

live in poorer, less developed countries or have financial trouble have a far smaller chance of receiving treatment for the disease.

Latent Tuberculosis

For most diseases, the symptoms and impacts on the body are the most devastating features. However, a person can contract Tuberculosis without their knowledge; no symptoms appear and the person lives a normal life until symptoms emerge and it becomes untreatable. This is known as latent Tuberculosis[35]. It is a form of TB in which the bacteria are considered inactive or "asleep". Though it cannot be spread to others, it can, at any point, become active without warning. Since there are no symptoms if a person contracts latent TB, it is especially difficult to diagnose latent TB. There are approximately 1.7 billion people on Earth who have latent TB[36]. In addition, it is extremely difficult to distinguish those with latent TB from those with lung conditions. Because TB affects the lungs, the immune system responses to TB and other lung conditions are quite similar, making it both complicated and expensive to differentiate TB from diseases like lung disease. Thus, even though there is a medicine that prevents the latent form of TB from becoming active, most people do not even realize they have the disease until the bacteria becomes active and symptoms start to surface. For this reason, TB is particularly unpredictable and outbreaks can appear from seemingly nowhere.

Drug-Resistant Tuberculosis

Due to random mutations and selection, it is common for bacteria to develop defence mechanisms against antibiotics. For example, during the COVID-19 pandemic, some variants such as the Omicron variant developed the ability to more easily infect those who previously had the virus. This characteristic made it more transmissible and a greater threat to those who haven't been vaccinated. Similarly, drug-resistant Tuberculosis has also developed since as early as the 1980s. Normally, TB medicine has one of two effective antibiotics: isoniazid and rifampin. However, drug-resistant TB can arise due to mutations that make it more immune to antibiotics. Drug-resistant TB occurs through one of two mechanisms: by developing resistance or through transmitted resistance. In other words,

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[34] Ibid
[35] "Latent Tuberculosis Infection (LTBI)," n.d. https://www.nationwidechildrens.org/conditions/latent-tuberculosis-infection-ltbi.
[36] Ibid
[37] "Latent Tuberculosis Infection (LTBI)," n.d. https://www.nationwidechildrens.org/conditions/latent-tuberculosis-infection-ltbi.

TB bacteria can mutate when it has already infected a person, or it can be transmitted to other people, giving them the drug-resistant TB variant[37]. While a single case of drug-resistant TB is easy to cure, it becomes a problem when an incorrect treatment is used, causing it to spread. A prominent example of a drug-resistant TB is multidrug-resistant TB (MDR-TB), which is resistant to both isoniazid and rifampin. According to the WHO, over 300,000 cases of MDR-TB are diagnosed every year[38]. The treatment for MDR-TB is also more toxic and less effective, making it paramount to find a solution to both developing more effective cures for drug-resistant TB as well as making sure that treatment is taken correctly and appropriately.

Possible Solutions

Funding Research and Development

Although billions of dollars have already been allocated to help prevent the spread of Tuberculosis, there is still much to research and discover. The 2023 breakthrough of differentiating between latent TB and other lung conditions is promising, though it still requires a large amount of effort to identify latent TB. In addition, existing tests for diagnosing TB are quite inconsistent. Even lab tests are sometimes inaccurate, as tests may accidentally identify a similar bacteria rather than mycobacterium tuberculosis[39]. More efficacious treatments are needed to combat the disease.

Researching cures and treatments can help reduce the cost of screening for and diagnosing TB. Many poor and rural areas don't have access to the equipment and technology needed to properly treat and identify TB. Those who have access may not have the funds to pay for treatment, and the cost to administer drugs to cure TB is high. Thus, more research could bring down the cost of TB treatment and allow for more people to have access to cures. Funding for development in identifying latent tuberculosis would also be extremely useful, as a reliable system of separating latent TB from other lung conditions would prevent inactive bacteria from becoming active TB.

However, keep in mind that even if people have easy access to treatment plans, this does not guarantee the eradication of the disease as a whole, as improper administration of cures and inconsistent usage of treatment plans could still spread TB. Also note that third-world countries may not have the proper

funding for research and development, meaning this solution is more likely to be supported by wealthier and developed countries.

Education and Awareness

A major cause of the spread of Tuberculosis involves a lack of knowledge regarding the disease. It has long been established that Tuberculosis outbreaks and crises are more likely in poorer, developing countries, which generally have worse education. People may not know about the symptoms of Tuberculosis and continue with their daily lives, unknowingly infecting hundreds of bypassers.[40] Those with latent Tuberculosis may also believe that they are completely healthy, when in reality, the germs that have been dormant for decades could become active and infect the person at any time.[41] Ultimately, those uneducated regarding the deadliness of Tuberculosis may remain oblivious until they are overly infected by the disease, at which point it may be too late to treat.

Education could drastically improve the chances of someone recognizing symptoms of TB in themselves, their families, or their friends, and prevent the continued growth of the illness. Spreading awareness about the disease could also help mitigate TB cases, as it is vital to emphasize just how deadly TB can be. Many who experience symptoms may know about Tuberculosis, but are unaware of the repercussions of untreated TB, thus not going to get tested for an infection. More awareness about the causes and consequences could help reduce TB cases and save the lives of millions.

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[38] "Tuberculosis: Multidrug-resistant (MDR-TB) or Rifampicin-resistant TB (RR-TB)," November 7, 2023. https://www.who.int/news-room/questions-and-answers/item/tuberculosis-multidrug-resistant-tuberculosis-(mdr-tb)
[39] Ibid

[40] Alert, Tb. "TB And Poverty - TB Alert." TB Alert, April 16, 2014. https://www.tbalert.org/about-tb/global-tb-challenges/tb-poverty/
[41] Ibid
[42] Ibid
[43] IOM Thailand. "On The Road to Ending Tuberculosis: Voices From Thailand," June 18, 2024. https://thailand.iom.int/stories/road-ending-tuberculosis-voices-thailand.

Bloc Positions

South-East Asia Region

The countries of this region are burdened with almost half of all TB cases while representing only a quarter of the world population.[42] They also contribute to more than half of all TB fatalities and 38% of latent TB cases. This disproportionate representation means that the issue of Tuberculosis is much more of a pressing concern. Characteristics of countries in this region include overpopulation, crowded streets, and high population density. These factors mean that TB, an airborne and highly transmissive disease, can spread quickly, often before victims start showing symptoms. Many countries in this region also have other health-related problems, including HIV, a major contributor to TB cases. The burden of supporting their families also prevents people from getting tested or finding treatment for TB. For example, in Thailand, many need to maintain their basic needs and earn income or take care of their families.[43] Considering that TB tests are far from perfect and can sometimes produce false-positive results, many are afraid of being tested. Combined with the stigma surrounding the disease, it makes it difficult for people to screen for the disease in the first place, let alone get proper medication and treatment.

Europe

European countries have considerably less of a burden than countries in the South-East Asia Region, partly due to their smaller population size and lower population density. The general trend for TB cases in this area has been going down; in the European Union (EU), there were over 44,000 cases reported in 2019, compared to only 33,500 in 2022.[44] However, although the total number of cases is decreasing, the proportion of drug-resistant TB has been increasing. Currently, over 35% of reported cases have been patients who are infected with TB that is resistant to at least one drug. In addition, treatment success rates in Europe have been far lower than expected. Only 71.4% of overall treatment has been successful, while just 51.7% of drug-resistant TB treatment has been successful.[45] Of all European countries, over 170 thousand cases were reported in 2022,[46] and for the first time in two decades, the total number of fatalities due to TB has increased, from 27,000 in 2020 to 27,300 in 2021.[47] However, with continued efforts of preventing the spread of TB, European countries have a more manageable situation given the overall higher quality of life compared to countries in other regions.

North America

The number of TB cases in North American countries is among the lowest in the world. In the United States, only 8,331 cases were reported, an incidence rate of just 2.5 cases per 100,000 people.[48] In Canada, the incidence rate is extremely low as well, at just 4.8 cases per 100,000 people.[49] In Mexico, the incidence rate is slightly higher, at 25 cases per 100,000 people.[50] However, compare these numbers with the global incidence rate of TB at 133 cases per 100,000 people, and it is easy to see that the burden of TB in North American countries is much less. It is worthwhile to note that the United States does not have free healthcare, thus making the cost of treating Tuberculosis a factor when citizens decide whether or not to receive treatment.

Discussion Questions

1. How has your country been affected by Tuberculosis?

2. What has your country done to manage Tuberculosis?

3. Do the citizens of your country have other factors to consider, such as supporting their families?

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[44] Mencarini, Jessica, Michele Spinicci, Lorenzo Zammarchi, and Alessandro Bartoloni. "Tuberculosis in the European Region." *Current Tropical Medicine Reports* 10, no. 3 (May 27, 2023): 88–93. https://doi.org/10.1007/s40475-023-00287-8.

[45] European Centre for Disease Prevention and Control https://www.ecdc.europa.eu/en/news-events/ending-tuberculosis-race-against-time-and-drug-resistance.

[46] European Centre for Disease Prevention and Control. "Tuberculosis Surveillance and Monitoring in Europe 2024 - 2022 Data," March 21, 2024. https://www.ecdc.europa.eu/en/publications-data/tuberculosis-surveillance-and-monitoring-europe-2024-2022-data

[47] Bencharif, Sarah-Taïssir. "Europe'S TB Deaths Rise for First Time in 2 Decades." *POLITICO*, March 24, 2023. https://www.politico.eu/article/europe-tubercolosis-tb-who-health-care-deaths-rise-for-first-time-in-two-decades/.

[48] Schildknecht, Kimberly R., Robert H. Pratt, Pei-Jean I. Feng, Sandy F. Price, and Julie L. Self. "Tuberculosis — United States, 2022." *Morbidity and Mortality Weekly Report* 72, no. 12 (March 24, 2023): 297–303.

[49] Public Health Agency of Canada. "Tuberculosis in Canada: Infographic (2021)." Canada.ca, March 4, 2024. https://www.canada.ca/en/public-health/services/publications/diseases-conditions/tuberculosis-canada-2021-infographic

[50] "MEXICO TB Dashboard," n.d. https://www.stoptb.org/static_pages/MEX_Dashboard.html.

4. What is the budget of your country, and how much of it can be allocated to research?

5. What is the main cause of Tuberculosis in the country?

Additional Resources

1. https://www.who.int/southeastasia/health-topics/tuberculosis

2. https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2023/featured-topics/un-declaration-on-tb

3. https://www.cdc.gov/tb/worldtbday/history.htm

4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5079585/

5. https://wellcome.org/news/tuberculosis-curable-and-preventable-why-do-millions-still-die

Topic B — Access To Healthcare

Overview

It is undeniable that healthcare access is one of the most important factors in determining quality of life and life expectancy. The concept of healthcare access encompasses the ability to seek healthcare services such as disease prevention, diagnosis, and treatment.[11] Core features of healthcare accessibility include affordability, ease of access, and inclusivity, many of which depend on socioeconomic influences. Accessibility is largely a social determinant, which are the conditions of the environment where a person is born, lives, and works.[12] This means that it is impacted by numerous social disparities such as wealth gaps and social status.[13] For this reason, countries with a better economy and more funds generally have better healthcare accessibility.

This inequality is extremely apparent when comparing different income brackets from different countries. For example, high income citizens had, on average, more than 6 times the number of Covid-19 vaccine doses per 100 people compared to low income citizens.[14] In addition, countries with a higher per capita income tend to spend more on healthcare, which generally means better and more accessible healthcare for citizens of the country.[15] In particular, more funding gives higher quality healthcare and can decrease costs significantly. Countries with universal healthcare such as Canada, Brazil, and Australia impose higher taxes in order to fund this accessible medical service.[16] Universal healthcare countries are mostly developed countries, located in Europe, North America, South America, and Oceania, while developing regions such as Asia and Africa have considerably fewer countries with free healthcare.

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[11] "Health Care Access - MU School of Medicine," n.d. https://medicine.missouri.edu/centers-institutes-labs/health-ethics/faq/health-care-access.
[12] "Social Determinants of Health - Healthy People 2030 | health.gov," n.d. https://health.gov/healthypeople/priority-areas/social-determinants-health
[13] Wikipedia contributors. "Social Inequality." Wikipedia, July 2, 2024. https://en.wikipedia.org/wiki/Social_inequality.
[14] Inequality.org. "Inequality and Health - Inequality.org," June 20, 2024. https://inequality.org/facts/inequality-and-health/.
[15] Ortiz-Ospina, Esteban, and Max Roser. "Global Health." Our World in Data, February 29, 2024. https://ourworldindata.org/health-meta
[16] Fisher, Max. "Here&Apos;S a Map of the Countries That Provide Universal Health Care (America&Apos;S Still Not on It)." *The Atlantic*, June 28, 2012. https://www.theatlantic.com/international/archive/2012/06/map-of-the-countries-that-provide-universal-health-care

Other factors to account for include health insurance programs that exist across the world. In the United States, Medicaid and Medicare provide free health insurance for those over 65 and health coverage for those with limited resources, respectively.[17] In China, the Urban Resident Basic Medical Insurance (URBMI), Urban Employee Basic Medical Insurance (UEBMI), and New Cooperative Medical Service (NCMS) provide medical insurance for over 97% of people in China.[18] Similarly, in Chile, the Fondo Nacional de Salud (FONASA) and Instituciones de Salud Previsional (ISAPRE) give health insurance to citizens.[19] These insurance programs can provide more accessibility to healthcare, even in countries without universal healthcare.

Ultimately, the issue of healthcare accessibility is created by many distinct factors – it is a complex issue that requires collaborative effort by many countries to find effective and cost-efficient solutions to bring universal healthcare to everyone. While it is largely a socioeconomic problem associated with funding disparities across different countries and income brackets, other factors also play a role; for instance, the United States has over 700 billion dollars in reserve assets, yet it doesn't have universal healthcare.[20] Thus, it is clear that if a solution is to be found, it must create a balance between these intricate factors.

Timeline

9th Century CE – The Mihintale hospital is established in present-day Sri Lanka, treating monks and locals using advanced healthcare practices. It is the earliest known architectural evidence of a hospital providing treatment for the general public.

Late 1700s-1930s – Urbanization fueled by the Industrial Revolution along with widespread mobilization leads to six new global pandemics that spread through commerce and migration paths. Urban sanitation becomes a large concern for countries across the world as new factory industries become popular.[21]

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[17] HHS.gov. "Answers FAQs Category," n.d. https://www.hhs.gov/answers/medicare-and-medicaid/index.html
[18] Wikipedia contributors. "Healthcare Reform in China." Wikipedia, July 18, 2024. https://en.wikipedia.org/wiki/Healthcare_reform_in_China.

[19] Wikipedia contributors. "Healthcare in Chile." Wikipedia, July 18, 2024. https://en.wikipedia.org/wiki/Healthcare_in_Chile.
[20] Statista. "U.S. Official Reserve Assets 2000-2022," July 5, 2024. https://www.statista.com/statistics/188835/official-reserve-assets-of-the-united-states-since-1990/
[21] Wikipedia contributors. "Timeline of Global Health." Wikipedia, May 27, 2024. https://en.wikipedia.org/wiki/Timeline_of_global_health.

1851 – The International Sanitary Conferences is hosted for the first time in Paris, France. It was a series of international meetings held in response to concerns about the emerging global epidemics such as the Cholera epidemic.[22]

1902 – The Pan American Health Organization, a specialized agency in charge of international health cooperation in North and South America is founded. Its member states now consist of all 35 countries in the Americas, with many other participating states from Europe.[23]

1948 – The World Health Organization is founded to help healthcare quality in developing countries. Programs include giving loans going toward healthcare, disease prevention, and health education.

1965 – The Social Security Amendments, which brought Medicare and Medicaid, were signed by then-president Lyndon B. Johnson. It served as a model upon which other countries could adapt and implement to fit their own healthcare needs.

1982-1990s – The Child Survival Revolution occurs after UNICEF started the effort to reduce child mortality rates in developing countries.[24] It included numerous programs and conferences aimed at assisting the developing world with child deaths. By the early 2000s, it had lost much of its momentum.

1989 – The Novo Nordisk Foundation is founded as a nonprofit charity focusing on medical treatment and research.[25] It is now the largest charitable foundation in the world, with over 120 billion USD in endowment, and it is involved in many pressing health concerns such as diabetes, obesity, inflammatory diseases, cancer, and Alzheimer's.

2002 – The Global Fund to Fight AIDS, Tuberculosis, and Malaria is founded.[26] Since then, it has raised over 3.3 billion USD and saved an estimated 59 million lives by providing free therapies and treatments for those with HIV/AIDS, Tuberculosis, and Malaria.

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[22] Wikipedia contributors. "International Sanitary Conferences." Wikipedia, April 21, 2024. https://en.wikipedia.org/wiki/International_Sanitary_Conferences.
[23] Wikipedia contributors. "Pan American Health Organization." Wikipedia, June 25, 2024. https://en.wikipedia.org/wiki/Pan_American_Health_Organization.

[24] Wikipedia contributors. "Child Survival Revolution." Wikipedia, May 30, 2024. https://en.wikipedia.org/wiki/Child_survival_revolution.
[25] Wikipedia contributors. "Novo Nordisk Foundation." Wikipedia, June 10, 2024. https://en.wikipedia.org/wiki/Novo_Nordisk_Foundation.
[26] "Home - the Global Fund to Fight AIDS, Tuberculosis and Malaria," n.d. https://www.theglobalfund.org/en/.

2015-present – Progress in healthcare accessibility across the world stagnates. The WHO reports that advances in improving healthcare services availability has slowed down significantly since 2015.[27] An estimated 4.5 billion people, over half of the world population, are not yet fully covered by essential health services.[28]

Historical Analysis

With the rise of civilization comes the concept of healthcare –earliest known examples of this include medical services provided to soldiers fighting for the Roman Empire during the 5th century BCE.[29] However, these services were largely aimed at injured soldiers returning from war, not illnesses transmitted among the general public. The first known evidence of a hospital serving the local community is the Mihintale hospital in Sri Lanka, dating back to around the 9th century CE. Though it mainly helped monks, it also provided healthcare services through advanced medical practices to the public.

The Industrial Revolution brought about many new global epidemics and diseases that spread quickly due to bad factory conditions and healthcare practices. For example, the 18th century meat-packing industry in New York had appalling and hazardous conditions with workers being exposed to musculoskeletal disorder-inducing chemicals, as highlighted in Upton Sinclair's 1905 book *The Jungle*. The densely populated industrialized areas of this time were characterized by diseases such as cholera, typhoid, and typhus, which were easily spread causing new epidemics to emerge. However, despite this, healthcare services became more accessible for the general public, as more initiatives were being taken in response to the rise in new global epidemics.

The germ theory of disease was postulated in the 19th century and became widely popular as the theory behind many diseases.[30] It claims that diseases are caused and spread by bacteria known as

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[27] World Health Organization: WHO. "Billions left behind on the path to universal health coverage." *World Health Organization*, September 18, 2023. https://www.who.int/news/item/18-09-2023-billions-left-behind-on-the-path-to-universal-health-coverage.
[28] Ibid
[29] Ibid
[30] Admin. "Germ Theory of Disease - Spontaneous Generation." BYJUS, August 4, 2022. https://byjus.com/biology/germ-theory-of-disease/

pathogens, or germs, and is currently the accepted theory behind diseases. It was highly important to understand not only interactions between bacteria and our bodies but also how to reduce the spread of new diseases. In the past, people would try to prevent breathing in bad air by carrying herbs and flowers.[31] Now, however, we can more effectively prevent epidemics by wearing facemasks, using sanitizers, and isolating to ensure pathogens aren't transmitted between people.

As healthcare practices spread across the world, the cost of administering drugs and diagnosing conditions also rose. Between the 1950s and 1960s, healthcare prices increased by an average of 7% every year due to rising consumer demands.[32] New technologies such as machines, new types of drugs, and systems managing patients were largely only accessible to developed countries. Medical innovation, though saving millions of lives, widened the healthcare gap between richer and poorer countries. These advancements throughout the 20th century left developing countries far behind in terms of healthcare quality. Not only do they have less funds in general, they also have to import technologies from other parts of the world.[33] In addition, developing countries tend to have a worse record of government corruption, leading to less funding for healthcare.[34] These factors all contribute to healthcare gaps between countries.

Clearly, despite current efforts, healthcare access is still a prominent issue around the globe. Thousands of organizations exist helping communities in developing countries with healthcare. Prominent examples include the Novo Nordisk Foundation and The Global Fund, each contributing billions of dollars to fighting disease in developing countries. Individual designs have also been invented to help the cause, including the PaperFuge, a contraption costing only 20 cents that can diagnose anemia, malaria, and HIV with high accuracy. However, there are still many issues to be addressed. More than half the world's population still does not have access to healthcare, and low-income countries account for 90% of the world's burden for disease, but only 12% of global spending in healthcare.[35] This leaves much to discuss as countries collaborate to finally obtain free healthcare for all.

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[31] BBC Bitesize. "Preventing Disease in the Medieval Period - Medicine in Medieval England, c.1250-c.1500 - Edexcel - GCSE History Revision - Edexcel - BBC Bitesize," December 13, 2022. https://www.bbc.co.uk/bitesize/guides/zfkt6g8/revision/3

[32] Craft, Edward M. "Health Care Prices, 1950-1967." *JAMA* 205, no. 4 (July 22, 1968): 231. https://doi.org/10.1001/jama.1968.03140300049013.

[33] Peters, David H., Anu Garg, Gerry Bloom, Damian G. Walker, William R. Brieger, and M. Hafizur Rahman. "Poverty and Access to Health Care in Developing Countries." *Annals of the New York Academy of Sciences* 1136, no. 1 (June 1, 2008): 161–71. https://doi.org/10.1196/annals.1425.011.

[34] The Economist. "Corruption Is Getting Worse in Many Poor Countries." *The Economist*, January 27, 2022. https://www.economist.com/graphic-detail/2022/01/25/corruption-is-getting-worse-in-many-poor-countries.

[35] Ibid

Current Situation

Economic Inequalities

The largest factor contributing to the lack of healthcare access is the lack of funding. Of the 195 countries in the world, 152 are classified as developing.[36] Clearly, the majority of the world is still developing. This means that on average, these countries have less funding dedicated to healthcare. Additionally, it is estimated that only 73 countries have universal healthcare, and in many that do, it is difficult for people to obtain it.[37] This results in limited access to crucial medical services, such as vaccinations and treatments for chronic diseases. The economic disparity also means that poorer countries are more vulnerable to health crises, as they can't invest in preventive measures or respond effectively to outbreaks. Global collaboration is a requirement to fix these issues, along with the need for support to address these fundamental inequalities and ensure better healthcare outcomes for everyone.

Rural Areas

Healthcare accessibility comes down to more than just cost. Although many countries have universal healthcare, many rural areas don't have easy access to hospitals in urgent situations, even in developed countries. They receive less funding in general due to the lesser population and isolated nature, and there are less healthcare workers in the first place who can assist with medical emergencies. For example, in the United States in 2020, there were 2.9 more primary care physicians per 10,000 residents in urban areas compared to rural areas.[38] In some countries, the number of rural healthcare workers can be up to 10x less than the number of urban healthcare workers, clearly showing this disparity in healthcare support for urban and rural areas of the same country.[39] Over half the rural population is estimated to

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[36] "Yahoo Is Part of the Yahoo Family of Brands," n.d. https://finance.yahoo.com/news/top-30-developing-countries-world-145910701.html

[37] VisualCapitalist. "Which Countries Have Universal Health Coverage?," 2024. https://www.visualcapitalist.com/which-countries-have-universal-health-coverage/.

[38] "Availability of Healthcare Providers in Rural Areas Lags That of Urban Areas," n.d. https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=106208.

[39] Health Labour Market and partnerships UHL. "Summary - WHO Guideline on Health Workforce Development, Attraction, Recruitment and Retention in Rural and Remote Areas," May 6, 2021. https://www.who.int/publications/i/item/9789240025318.

not have adequate healthcare coverage, clearly showing the need for support in these areas.[40] Developing countries across the world struggle to provide full healthcare accessibility to their citizens, and even in developed countries with proper funding for healthcare, many rural communities still have limited access to medical services.

Possible Solutions

Government Policies

Historically, government policies have helped profoundly the healthcare accessibility crisis. Medicare and Medicaid are the most successful examples of this, as they now provide free healthcare for over 12 million Americans. In other countries, similar policies and acts have helped as well, such as the URBMI and UEBMI in China, aiding 1.3 billion Chinese citizens. These policies are largely implemented by countries with large spending budgets, especially considering that covering healthcare costs generally takes up a considerable portion of annual spending. In addition, government policies don't always guarantee full healthcare access, especially in rural areas–though policies may be implemented, they can't help those who have no access to the benefits. Thus, caveats with this solution include not being viable for poorer countries, and not covering all citizens of that country. Delegates seeking this solution pathway should consider their country's available funds and geographics to ensure proper distribution across rural and urban areas.

Funding Research

One of the main reasons why healthcare accessibility is an issue is due to the high cost often associated with high-quality treatment. Thus, funding research can potentially lower the cost of drugs and machinery to cure diseases and illnesses. By reducing costs, affordability issues become less impactful and countries can more easily fund the purchases of medical equipment and antibiotics to provide better healthcare services to more people. Of course, there's no guarantee that funding research will result in cheaper medical products, especially considering that in the world, healthcare is monopolized with large pharmaceutical companies charging much more than production cost. In addition, it is difficult to create products on a mass scale, even if the production cost is cheap. The previously mentioned PaperFurge costs only a few cents to produce, but malaria is still a large issue in the

[40] Ibid

developing world. Finally, tariffs on exports and imports can increase the costs of medical products, possibly mitigating the price decrease granted by research. Despite these potential issues with this solution, it can still be highly effective as medical innovation often results in ease of access for citizens. In particular, the funding of research supports all countries with access to these medical products, not just the country performing research.

Rural Healthcare Support

Another main cause of the healthcare accessibility crisis is the lack of support for rural communities that have worse accessibility to healthcare services. A solution to this is to allocate funds specifically to support these areas. Doing this would allow millions of people living in rural communities to gain access to better healthcare. In addition, any government policies implemented would be able to have more coverage and aid more citizens. However, in order to be able to do so, the country must have the necessary funding to support such a program. Some countries have already started implementing such systems, such as the United States, which has numerous organizations including Rural Healthcare Information Hub, which allows a person to find nearby healthcare grants in order to fund their healthcare. Of course, the United States is one of the richest countries in the world, with the ability to fund organizations such as this. Thus, this solution may be more viable for countries with more funding, though less wealthy countries can also implement these systems with the necessary budget.

Bloc Positions

Americas

Most countries in North and South America have some form of healthcare insurance, and generally more available funding for healthcare. The United States, in 2021, had 66.3% of those aged between 18 and 64 with private insurance, and 21.6% with public coverage, leaving only 14.0% uninsured.[41] Canada, Brazil, and Argentina, among others, all have free universal healthcare, ensuring 100% of their citizens have access to medical services, while other countries such as Mexico, Columbia, and Ecuador

[41] Agency for Healthcare Research and Quality (US). "ACCESS TO HEALTHCARE AND DISPARITIES IN ACCESS." 2021 National Healthcare Quality and Disparities Report - NCBI Bookshelf, December 1, 2021. https://www.ncbi.nlm.nih.gov/books/NBK578537

have universal healthcare funded by the government.[42] The main cause of healthcare accessibility issues in these countries is rural populations–large countries such as Canada, the United States, and Brazil have a very dispersed population, leaving many areas in a rural state. Thus, it is in the best interest of these countries to seek solutions that benefit rural communities by funding them with larger grants or by implementing programs to do so.

Africa

Of the 54 countries on the African continent, 33 are classified as developing nations.[43] Africa also has the highestmost percentage of citizens in poverty, with nearly 50% of the population living under the poverty line.[44] Many countries simply don't have funding to support healthcare, and even if they do, much of it goes to other more pressing matters, such as improving the economy and quality of life. Thus, it is difficult to support government policies if the funding necessary must go somewhere else. In addition, funding research may not be possible within the country's borders, though funding external research to potentially lower the costs of pharmaceutical equipment and drugs could be possible. These countries are likely to seek collaborations with larger countries in order to cooperate and obtain the necessary funding to improve healthcare access for theirits citizens.

Europe

European countries generally have the best healthcare quality and the highest rate of universal healthcare of all continents. Of the 44 European countries, 31 have universal healthcare, with many countries such as Norway, the Netherlands, and Denmark consistently ranking top in the world for healthcare quality.[45] Countries are also smaller in size and have a higher population density, reducing the number of rural communities in need of medical services. Finally, the European Union can and countries fund healthcare programs and policies. Countries in Europe can fund research to further reduce the cost of covering healthcare expenses and createcreating higher quality medicine for its citizens while simultaneously aiding poorer countries with improving healthcare accessibility.

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[42] Visual Capitalist. "Which Countries Have Universal Healthcare?," 2024. https://www.visualcapitalist.com/which-countries-have-universal-health-coverage/.
[43] UNCTAD. "UN List of Least Developed Countries," n.d. https://unctad.org/topic/least-developed-countries/list
[44] SOS Children's Villages. "On The Poorest Continent, the Plight of Children Is Dramatic," n.d. https://www.sos-usa.org/about-us/where-we-work/africa/poverty-in-africa
[45] Ibid

Discussion Questions

1. What are the main causes of healthcare inaccessibility in your country?
2. What economic streams does your country use to fund healthcare?
3. Are there many rural communities in your country?
4. What healthcare infrastructures and programs already exist in your country?

Additional Resources

1. https://www.who.int/news/item/18-09-2023-billions-left-behind-on-the-path-to-universal-health-coverage
2. https://www.pwc.com/jp/en/knowledge/column/the-role-of-global-health-02.html
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8716399/
4. https://www.commonwealthfund.org/international-health-policy-center/system-profiles