



World Health Organization: Topic 2

Pandemic preparedness and vaccination programs

Background:

A pandemic is defined as “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people”.¹ To mitigate the potential impact of a pandemic, governments usually employ two strategies. The first strategy is a non-pharmaceutical approach, including such measures as social distancing, infection control, standard precautions for all patient care based on risk-assessment and common sense, in addition to transmission-based precautions where transport is limited and cleaning/disinfecting rooms is prioritized.

The other strategy opted for by governments is a pharmaceutical approach. This strategy includes treatment with antivirals and prophylaxis (treatment given or action taken to prevent disease) and vaccines.

Immunization is an essential public-health intervention, and thus the critical elements of pandemic preparedness are the development and deployment of vaccinations. The main influenza vaccine producers operate and supply nearly exclusively in Australia, Europe, North America and some regions of Asia and Latin America. Many countries, however, are not able to access seasonal influenza vaccines and are likely to face many challenges during an influenza pandemic. Planning for availability of vaccines to manage a pandemic response is essential, not only in developing a vaccine but also in producing and distributing it.

Current Situation:

COVID-19 has confirmed how vulnerable the world can be when faced with a biological weapon, vulnerabilities that were repeatedly identified in intelligence assessments on pandemic threats two decades prior to the pandemic we face today. Because of the lack of preventive measuring and unpreparedness, COVID-19 has taken more lives than the world can digest. COVID-19 has revealed several truths about shortcomings in our current global and national capacities to prepare for, detect, and respond to pandemics. As of November 12th 2020 the pandemic has claimed 1.28 million lives globally, that is 0.02% of our population gone at the hands of one deadly, merciless virus.

¹ Kelly, Heath. "The Classical Definition of a Pandemic Is Not Elusive." *Bulletin of the World Health Organization* 89, no. 7 (2011): 540-41. doi:10.2471/blt.11.088815.



This pandemic will not be the last nor will it be the only one to claim many lives; there will be others. To better prepare for the next crisis, and future waves of the current one, the world must strengthen its vulnerabilities and find ways to develop strategies so that we are always one step ahead.

On Monday, November 09, 2020 at 06:45am PFIZER and BIONTECH announced a vaccine candidate against COVID-19 achieved success. The vaccine candidate was found to be more than 90% effective in preventing COVID-19 in participants that had no evidence of prior SARS-CoV-2 infection. The study enrolled 43,538 participants, with 42% having diverse backgrounds, and so far no safety hazards have been observed.

As much of a success as this vaccine is for science and humanity, world leaders in this field still face problems surrounding the development and distribution of large batches of the vaccine. Having to supply vaccines to 7.8 billion people, the next phase will be to produce a program that allows a large supply of vaccinations to be distributed to a large group of people worldwide.

Important positions:

One important position will be the Geo-Political aspect. As the world faces hardships, countries with ongoing conflicts will face greater challenges in coming together in order to combat the virus.

Another important bloc position will be the economic capabilities of being able to front the high costs of running vaccination programs.

Possible solutions:

- Granting government subsidies to help create and/or help already established pandemic preparedness programs as well as vaccination programs.
- Discussing a waiver of local pharmacological homologation to favor international co-operation.
- Promoting scientific research and development for new vaccination programs.
- Supplying less economically developed countries who are resource-restricted with vaccines.
- Creating a new body of the UN to specifically manage COVID-19 and prepare for future pandemics.



Further reading:

- Pandemic-proofing the planet (<https://www.economist.com/science-and-technology/2020/06/25/pandemic-proofing-the-planet>)
- The Next Pandemic? (<https://eiuperspectives.economist.com/healthcare/next-pandemic>)
- Infection Control (<https://www.cdc.gov/infectioncontrol/basics/index.html>)
- Homologation: A Versatile Molecular Modification Strategy to Drug Discovery (<https://pubmed.ncbi.nlm.nih.gov/31393250/>)
- Global Pandemic Influenza Action Plan To Increase Supply (collegeboard.org)
- Improving Pandemic Preparedness: Lessons From COVID-19 (<https://www.cfr.org/report/pandemic-preparedness-lessons-COVID-19/findings/>)
- PFIZER and BIONTECH COVID-19 vaccine (<https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-announce-vaccine-candidate-against>)

Bibliography:

- Apps.who.int. 2006. Global Pandemic Influenza Action Plan To Increase Supply. [online] Available at: <https://apps.who.int/iris/bitstream/handle/10665/69388/WHO_IVB_06.13_eng.pdf;jsessionid=8F76F22923E66FE34E848C58BA9C14D7?sequence=1> [Accessed 10 November 2020].
- Cdc.gov. 2020. Infection Control Basics | Infection Control | CDC. [online] Available at: <<https://www.cdc.gov/infectioncontrol/basics/index.html>> [Accessed 10 November 2020].
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