World Health Organization

Promoting Strategies to Minimize Impact of Anti-Vaccination Movements

Study Guide

Juraj Oravec
Letter from the Chair

Dear Delegates,

First and foremost, let me welcome you to the Bratislava Model United Nations 2014 (BratMUN 2014), an event that offers to broaden your rhetoric and diplomatic skills, make new connections with interesting people, and obtain useful experience along the way, as we discuss some of the rather serious topics and together try to resolve them.

I will be your Chair for the World Health Organization (WHO) committee, my name is Juraj Oravec, but you can call me Juro. I am 19 and I live in Bratislava. This will be my second year at BratMUN, and first as a Chair, so I am wholeheartedly looking forward to this occasion. I got to BratMUN via the International Baccalaureate Programme which I am currently studying at Gymnázium Jura Hronca. On a different and more personal note, there are three topics that I always get passionate about, and these are music, films and film-making, and learning new skills. Beside those, I am also interested in sports, especially in bodyweight fitness. However, I try to be an all-round person, and I am open to any and all discussions, which I believe can be a useful attribute regarding the BratMUN. Therefore, would you have any questions or would you need my help, contact me at the e-mail address juraj.oravec.josefson@gmail.com and I will gladly help.

Looking forward to seeing you at the BratMUN 2014,

Juraj Oravec
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Background Information

About the World Health Organization

The World Health Organization, established on 7th April 1948\(^1\), is an agency of the United Nations focused on international public health with offices in 150 countries and headquartered in Geneva, Switzerland\(^2\).

Over its 66 years of existence, WHO achieved, among others, an improvement in health, an access to medical support and safe water, and decrease in mortality rate in countries around the world; eradication of smallpox; and prevention and control of diseases such as malaria, AIDS and tuberculosis\(^3\).

Currently, as set out in The Twelfth General Programme of Work entitled “Not merely the absence of disease”, the core functions of WHO which define the objectives of the Organization are\(^4\):

- providing leadership on matters critical to health and engaging in partnerships where joint action is needed;
- shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge;
- setting norms and standards and promoting and monitoring their implementation;
- articulating ethical and evidence-based policy options;
- providing technical support, catalysing change, and building sustainable institutional capacity
- monitoring the health situation and assessing health trends.

With the main principle that “Health is a state of complete physical, mental and social well-being, not just the absence of disease or infirmity”, whereas health is the “fundamental right of every human being, everywhere”\(^5\), WHO operates a large array of programmes with the aim of improving and maintaining health worldwide. These programmes include topics such as communicable and non-communicable diseases and their prevention and treatment; reproductive, maternal, child and adolescent

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\(^1\)History of WHO. [http://www.who.int/about/history/en/](http://www.who.int/about/history/en/)

\(^2\)WHO – its people and offices. [http://www.who.int/about/structure/en/](http://www.who.int/about/structure/en/)

\(^3\)Ten Great Public Health Achievements --- Worldwide, 2001—2010. [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6024a4.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6024a4.htm)

\(^4\)The role of WHO in public health. [http://www.who.int/about/role/en/](http://www.who.int/about/role/en/)

health; mental health and substance abuse; disabilities and rehabilitation; nutrition; ageing; health systems; access to medicines, health technologies, and strengthening regulatory capacity, and more.

Further reading:
WHO Website - [http://www.who.int/en/](http://www.who.int/en/)
Twelfth General Programme of Work - [http://www.who.int/about/resources_planning/twelfth-gpw/en/](http://www.who.int/about/resources_planning/twelfth-gpw/en/)
Overview of Anti-Vaccination Movement

Anti-Vaccine Movement or Anti-Vaccination Movement (AVM) is a movement rejecting vaccinations due to various religious, political or other socio-cultural or personal reasons. AVM came into existence alongside the first vaccines in the early 1800s, but similar movements were already present with the earlier versions of vaccination.

The first notable AVM was in England in the middle of the 19th century. The arguments for the refusal of vaccination were of religious and sceptical reasons. Later, as mandatory vaccination came into effect, the question of violation of personal freedom was raised. Towards the end of the 19th century, AVM was prominent in the United States, after a series of smallpox outbreaks.

Among one of the more recent activities of AVM is the controversy over the immunization against Diphtheria, Tetanus, and Pertussis in the 1970s. This time on an international scale, the controversy had its supporters in Europe and United Kingdom, Asia, Australia, and North America. Although studies had shown low risk, publicity given to this controversy stirred up numerous discussions.

The most recent controversy followed at the turn of the millennium. This was the controversy of alleged relationship between autism and vaccination. Despite the evidence from the scientific community, misinformation and media, with the Internet at the front, largely contributed to the spread of the AVM, which bears possible health risks.

Further reading:
The History of Vaccines - [http://www.historyofvaccines.org/](http://www.historyofvaccines.org/)

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6Taken from The History of Vaccines: History of Anti-Vaccination Movements. [http://www.historyofvaccines.org/content/articles/history-anti-vaccination-movements](http://www.historyofvaccines.org/content/articles/history-anti-vaccination-movements)
Detailed Explanation of the Problem

Dangers of Anti-Vaccination Movement

AVM does not pose a possible threat only to the unvaccinated individuals, but also to the health of the public. AVM contributes to the outbreaks of diseases such as measles and whooping cough, which usually start by infecting unvaccinated individual who spreads the disease further (97% of all measles cases in the USA for the year 2014 were linked to the importation of the disease from a foreign country7). Due to the uneven distribution of vaccination opponents (usually it is whole communities, not individual opponents who reject vaccination), it is easy for the diseases to spread. This type of infection propagation compromises the so-called “herd immunity”8, thus placing more individuals at risk, and rendering the overall vaccination less efficient.

Figure 1 – The consequences of AVM. Dots show “vaccine-preventable outbreaks” over the years 2008-2014. Green represents whooping cough, red measles. The exact fraction of the outbreaks which were caused by the unvaccinated individuals is unknown, however, outbreaks of measles, which are considered to be eliminated in the USA, and endemic to the regions of developing countries, and outbreaks of whooping cough mostly in the regions of the USA raises a red flag.9 10

Another outcome of the AVM is the economic loss. It is estimated that the routine US childhood immunization saves $5 and $16 through direct (the cost of immunization

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7Measles cases in the United States reach 20-year high
http://www.cdc.gov/media/releases/2014/p0529-measles.html
8What is herd immunity? http://www.vaccinestoday.eu/vaccines/what-is-herd-immunity/
9The toll of the anti-vaccination movement, in one devastating graphic
10Map taken from http://kottke.org/14/01/world-map-of-vaccine-preventable-outbreaks
vs. the cost of treatment) and indirect means (societal benefits vs. the loss of productivity due to mortality caused by the disease) respectively, compared to the unvaccinated group\textsuperscript{11}. The prevalence of unvaccinated groups decreases the vaccination efficiency, hence decreasing the savings made through vaccination.

![Measles, U.S., 2001-2014*](image)

Figure 2 – The increasing prevalence of AVM. Of the 288 measles cases, 90% were in individuals who either were not vaccinated or their vaccination status was unknown. 85% of the unvaccinated individuals were not vaccinated due to the “religious, philosophical or personal reasons”\textsuperscript{12 13}.

Furthermore, AVM contributes to the spread of misinformation and the trend of refusal of scientific facts and professional expertise, which further places the public safety at risk. More about the vaccination myths can found in \textit{Myths and Realities: Responding to arguments against vaccination}\textsuperscript{14}.


\textsuperscript{12}Measles cases in the United States reach 20-year high \url{http://www.cdc.gov/media/releases/2014/p0529-measles.html}

\textsuperscript{13}Graph taken from \url{http://www.cdc.gov/media/releases/2014/p0529-measles.html}.

\textsuperscript{14}Available at \url{http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/1FC63A2886238E6CC A2575BD001C80DC/$File/full-publication-myths-and-realities-5th-ed-2013.pdf}
Importance of Vaccination

Since its first application, vaccination has been an essential aid for the control of diseases. To understand the importance of vaccination, it is vital to know of its benefits. Benefits of vaccination are:\n
- **Disease control**
  Disease control can lead to eradication of a pathogen, as in the case of smallpox, on a larger scale, and local elimination on smaller. Furthermore, prevention and control of mortality, morbidity and complications caused by certain diseases is achieved.

- **Mitigation of disease severity**
  Vaccinated individuals who develop the disease they were vaccinated against usually demonstrate lesser symptoms than non-vaccinated individuals.

- **Prevention of infection**
  Vaccines do not only prevent the development of disease, but certain vaccines also protect against infection, thus successfully preventing the spread of the disease.

- **Protection of the unvaccinated population**
  Higher number of immune individuals in the population offers benefit also to the unvaccinated population by decreasing the chance of the spread of a disease. This is due to reduced duration and/or absent symptoms of the disease and decreased chance of interaction of unvaccinated and infected individuals, through which it could transfer.

- **Prevention of related diseases and cancer**
  Certain diseases are accompanied by other complications and/or might increase the chance of developing cancer. Preventing the development of the disease also prevents these side effects from developing.

- **Societal and other benefits**
  Vaccines are economically effective due to their relative inexpensiveness compared to the cost of the treatment. Extended life expectancy and prevented mortality allows for economic growth due to prevented productivity loss. With the ever-growing globalization and travel, vaccination permits safe travels even to regions with higher infection rates. Vaccination against diseases more frequent in lower-socioeconomic groups promotes equality across higher- and lower-socioeconomic groups.

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15Vaccination greatly reduces disease, disability, death and inequality worldwide.  
http://www.who.int/bulletin/volumes/86/2/07-040089/en/
These scientifically proven benefits greatly outweigh the possible risks of rejecting vaccination, and therefore the impact of AVM does not put at risk only the unvaccinated individuals, but additionally their surroundings and all aforementioned benefits.

Media, especially the Internet, allows for sensationalization and fast spread of misinformation, due to which the dangers caused by AVM are proliferating. Hence, means of minimizing the impact of AVM should be sought, and appropriate strategies should be discussed.

**Reasons behind Anti-Vaccination Movement**

In order to effectively minimize the effect of AVM, it is advised to be aware of the reason why AVM exist in the first place. These reasons are as follows:16:

- **Person freedom**
  Individuals supporting AVM reject vaccination on the basis of personal freedom. These individuals consider obligatory vaccination to be violation of their rights and claim that governments should not be allowed to interfere with the medical decisions of individuals.

- **Religious, philosophical and political beliefs**
  Personal beliefs play a major role in the unvaccinated individuals. Rejections based on the unnaturalness of vaccination is among many of beliefs the unvaccinated individuals support. Conspiracy theories, alternative medicine and morality are another example of contributing beliefs.

- **Side effects**
  Although usually very low, vaccination bears a possibility of causing undesirable effects. These range from mild effects, such as headaches and abdominal pain, to diarrhoea and fever.

- **Fear and distrust**
  Fear of the act of vaccination, distrust towards medical institutions, pharmaceutical companies and governments each encourages the refusal of vaccination among the public.

- **Unnecessary vaccination**
  Whether it is due to personal beliefs or other reasons, supporters of AVM claim it is not necessary to be vaccinated, which needlessly puts them at risk.

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16Pro & Con Arguments: “Should any vaccines be required for children?”
[http://vaccines.procon.org/#arguments](http://vaccines.procon.org/#arguments)

17Possible Side-effects from Vaccines [http://www.cdc.gov/vaccines/vac-gen/side-effects.htm](http://www.cdc.gov/vaccines/vac-gen/side-effects.htm)
• **Media sensationalization**

Media, and the Internet in particular, largely contribute to the dissemination of the ideas of AVM. Misinformation about vaccination, skewed science and censorship towards opposite opinions are some of techniques used to persuade other individuals to support AVM.

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18A postmodern Pandora’s box: Anti-vaccination misinformation on the Internet

19Anti-vaccine activists, Web 2.0, and the postmodern paradigm – An overview of tactics and tropes used online by the anti-vaccination movement
Potential Solutions

Due to the reasons AVM exist in the first place, the solutions to lessen the impact of AVM have to bear in mind these reasons in order to be effective. The strategies should consider the involvement of governments, public opinion on the subject, and the origin of AVM and its means of dissemination. The solutions should be also looked at from the perspectives of their efficiency and economic costs. All aspects considered, potential solutions are as follows:

- **Pro-vaccination media campaigns**
  The ideas carried by AVM are usually based on misinformation. WHO-led campaigns focused on dissemination of scientifically proven information would contradict the statements held by AVM. Utilization of the same media used by the AVM supporters might be beneficial. This solution should be analysed regarding the economic aspect, the coverage of the campaigns, and the region of interest. However, this solution might be only a short-term solution. Nevertheless, it respects the fears and beliefs of the supporters of AVM, which is essential.

- **Education of youth**
  Promoting the education of the youth is a similar approach to the problem as the media campaign solution. It might prove to be successful in correcting the flawed information spread by the AVM supporters. However, this strategy requires longer timespan for it to come into effect and fruition, and the conflict between scientific facts and personal beliefs renders the success of this approach unreliable.

- **Mandatory vaccination**
  Encouraging countries to make the vaccinations mandatory would help to increase the percentage of vaccinated population. Economically, this solution should be low-costing. However, this solution might be rendered controversial, and face objections by the USA, which is one of the countries most concerned about the impact of AVM, due to violation of personal freedom and possible violation of the first amendment.

Further reading:


*Vaccination, Confirmation Bias, and Knowing Your Audience*  

Suggestions for delegates

It is necessary to reflect not only the stance of WHO, but also of your country. In order to help you decide the exact stance of your country towards the promotion of vaccination/discouragement of AVM, answering these questions might prove to be beneficial.

- What is the stance of your country towards vaccination?
- Does your country promote vaccination?
- What laws regarding public safety does your country have?
- What laws regarding personal rights does your country have?
- Does Anti-Vaccination Movement have a strong support in your country?
- How can Anti-Vaccination Movement endanger the safety of your country?
- What is the percentage of vaccinated in your country?
- What is the annual mortality rate of vaccination-preventable diseases in your country?
- How much does your country spend annually on vaccination?
- What is the average level of education in your country?

It is important to realize the severity of the problem relative to your country. Countries such as the USA and the UK are the epicentres of this problem. Therefore it might be in their interest to lessen the impact of the AVM.

In other developed countries, the situation is less serious, although the cases differ from country to country, hence these countries might keep their distance, but still keeping in mind the objectives of the WHO and the worldwide importance.

Closing remarks

The Anti-Vaccination Movement should be taken seriously and all its aspects should be considered equally, as this is an issue where all the infrastructure has already been built, yet AVM jeopardizes its efficacy. Nevertheless, it should be on one’s mind that this conflict is against a belief based on misinformation. Hence it is strongly recommended to read up on the issue thoroughly. This study guide, along with the footnotes and references in the further reading parts offer you a good starting point on the issue, however, additional research is preferable in order to be well prepared for the debate.