

TOPIC GUIDES

PIMUN 2018



THE WORLD
HEALTH ORGANIZATION



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INTRODUCTION LETTER

Dear delegates,

It is our pleasure to welcome you to PIMUN 2018 World Health Organisation committee. The theme for the committee this year is “Global Immunisation and Superbugs” and we will be addressing both of those issues throughout the conference through our two topics:

- Preparing for a ‘Disease X’ Epidemic;
- Combating the rise in anti-vaccination movements.

Although we will be focusing on diplomacy between different Member States, it is our wish that the resolutions produced by this committee will be quite technical in their nature. With WHO, bloc positions will not be as clear as with some other UN Committees but the topics are designed specifically to allow for some debate and disagreement whether it is about policies or the way they are implemented.

However, most importantly, we want you all to have fun throughout the conference! If you have any questions - please do not hesitate to get in touch with us through the MyMUN Committee chat.

We look forward to meeting you all in Paris!

Maria Slobodina - Director
Luke Chan - Co-Director



Introduction to the Committee

The World Health Organization

The World Health Organization is a specialised agency of the United Nations. It was established on the 7th of April, 1948. It became the first specialised agency to which every Member State subscribed. Headquartered in Geneva, Switzerland, WHO has regional offices in a range of UN Member States. It currently comprises of 194 member states that appoint delegates for the World Health Assembly. The World Health Assembly is the highest health policy setting body in the world - it meets every year in Geneva.

WHO deals with a range of health issues that evolved over time. For example, after its inception the World Health Organisation prioritised dealing with issues such as malaria, tuberculosis (TB), and sexually transmitted infections. Nowadays, WHO is still faced with a similar set of issues but now they are made more multifaceted by drug and antibiotic resistance.

In its constitution, WHO defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” and outlines its main objective as delivering “the highest attainable standard of health” (1). It outlines the following core functions in terms of its role in public health (2):

- 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.

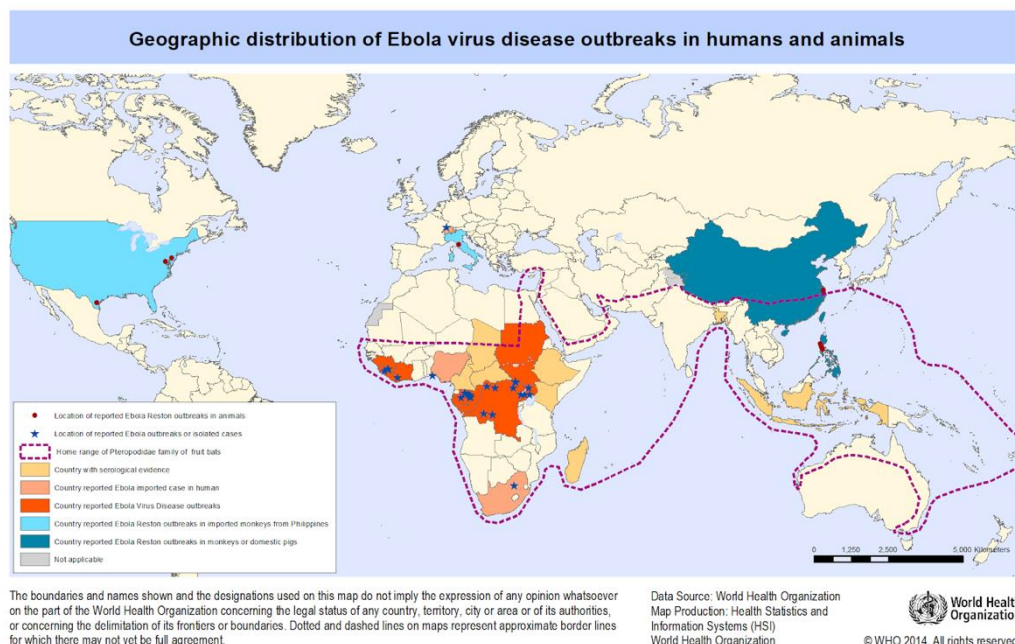
Dr Margaret Chan, the previous Director General of WHO has stated that “Our greatest concern must always rest with disadvantaged and vulnerable groups. These groups are often hidden, living in remote rural areas or shantytowns and having little political voice.” (3) Given this, we can see how the topic that we will be discussing during the conference is central to the World Health organisation’s mission and vision for the world.

The aim of the delegates should be to write a constructive and comprehensive resolution that would benefit people in the Member States they represent and abroad.

Topic A: PREPARING FOR A DISEASE X EPIDEMIC

Introduction

WHO regularly reviews pathogens that are the most likely to cause the next pandemic. On the list, there is 'Disease X' a term that WHO uses to refer to a pathogen that is not yet known to cause human disease. (4) This year is the first time this unknown disease has been included in one of these lists. This could be a new mutation of an existing disease, like the influenza virus, or be something completely new. There is need for rapid evaluation of available potential countermeasures; the establishment of more comprehensive surveillance and diagnostics; as well as accelerated research and development of treatments that are effective for a range of pathogens.



All this has to exist within a robust framework that will enable a fast, internationally coordinated response. With the Ebola outbreak, for example, the disease was developing in the initial population for several months before it was recognised as a serious issue. The first Ebola outbreak happened in 1976, so the disease was known to the international community at the time, but thousands of people were still affected. During the 2014 epidemic, it took three months for Ebola cases to be reported to WHO by health officials (5), indicating that there are serious issues with global health communication systems.

Countries that were ground Zero for the Ebola outbreak in 2014 were not as prepared for it as their relative neighbours in Equatorial Africa where sporadic cases of the disease



have been happening for decades. When faced with an unknown disease - standardising the approach to tackling outbreaks will be critical to preventing a global health crisis.

Part A: Timeline of Events

1350: The epidemic of the Black Plague, caused by *Yersinia pestis* dies down throughout Europe, Asia and North Africa. The estimated death toll is around 75-200 million, amounting to 30-60% of the regional population at the time. (6)

1772: The plague is the cause of death of over 2 million people in Persia. (7)

1826: The first cholera pandemic ends in Asia and Europe. There are over 100,000 casualties. (8)

1851: The second cholera pandemic ends. It lasted 22 years. The death toll was comparable to that caused by the first pandemic of the disease (8).

1854: Broad Street cholera outbreak in London, England. Physician John Snow's study of the spread of the disease provided strong evidence that cholera was spread through water contamination and was not, in fact, airbourne. (9) This incident became significant for the future of public health and resulted in improvements in sanitation around the United Kingdom and also abroad.

1860: The third cholera epidemic ends in Russia, after 8 hard years and around a million deaths (8).

1890: The 1889-1890 worldwide flu pandemic ends with over a million casualties. (10)

1920: This year marked the end of the 1918 Spanish flu pandemic that was responsible for taking around 75 million lives worldwide. (11) The pandemic was caused by a particularly deadly strain of the influenza virus - H1N1.

1958: The Asian flu pandemic ends with about 2 million succumbing to the disease. (12) A vaccine was developed in 1957 to stop the spread of the disease. The virus was of the H2N2 variety.

1960: The Human Immunodeficiency Virus (HIV) / Acquired Immunodeficiency Syndrome (AIDS) pandemic begins. As of 2010, 30 million individuals have lost their lives due to immunodeficiencies caused by advanced stages of the virus. (15)

1969: The worldwide pandemic of the Hong Kong Flu is responsible for a million deaths. (12) There were significantly fewer deaths than during the Asian flu outbreak (14) because of several reasons including better access to antibiotics against secondary infections, possible retention of immunity to H2 type viruses from the Asian flu pandemic and improved global medical care.



2009: Swine Flu pandemic receives a lot of media attention with over 14 thousand casualties. Virus involved was very similar to the Spanish Flu virus. (16)

2010: Cholera outbreak in Haiti starts following the earthquake (17). Recently, the UN admitted that poor management of its peacekeeping forces was responsible for the outbreak (18).

2016: West Africa Ebola Outbreak has subsided, after a 3-year battle. (19)

2018: WHO puts 'Disease X' on its pathogen watch list. (4)

Part B: Discussion

- **Research and development**

Under the Research and Development (R&D) Blueprint, WHO has started working with Member States to increase epidemic preparedness by evaluating and developing relevant products in between epidemics. Selection of proposals is done in two rounds, with the best proposals being promoted by WHO for funding. At present, WHO does not offer any direct funding for the proposals and delegates may wish to consider whether they think this is the best approach as well as think about how to go about attracting funding for epidemic R&D. Currently, medical R&D is primarily market-driven, and does not cater well to sporadic and unpredictable diseases. (20)

Because no one knows what Disease X is going to be, this funding and research isn't going to originate from big pharmaceutical companies, making WHO's role in bridging the R&D gap even greater.

Furthermore, delegates may wish to consider the legal aspect of the question in terms of intellectual property pertaining to these proposals as it is balanced with the need for a degree of transparency and cooperation when it comes to epidemiological research.

The focal point of the R&D Blueprint are the platform technologies for developing new vaccines. These are especially applicable to viral diseases. These platform technologies allow for vaccines to be customised more quickly based on the genetic code of the virus once a sample has been obtained (21). However, these cannot be funded in a vacuum as these technologies require robust surveillance and detection systems for a variety of diseases. If successful, these approaches can shorten the time it takes to develop a vaccine from years to months.

It is important to make sure that funding and interest in R&D doesn't stop when an outbreak stops - this is the only way that the world can be truly prepared for new epidemics.



- **Technology and epidemic prevention**

Investments in more conventional forms of technology can also augment epidemic preparedness. (22) For example, many countries in Africa have improved economically and technologically, making mobile phones, for example, much more widespread in the population. Access to quick messaging tools can help coordinate epidemic responses within rural communities and urban areas and Member States should critically evaluate their own domestic situations in this respect. However, although mobile phone use is more common now, smartphones remain an unattainable goal for the majority of the global population. When making plans to improve phone usage for epidemic preparedness, delegates should consider that SMS-only tactics are likely to generate more widespread positive results.

Mobile computing has also been shown to be effective for training health workers in otherwise hard to reach areas. (23) Remote learning can teach health workers how to properly wear protective clothing, administer injections, take blood samples and carry out analysis on the acquired data. In terms of Disease X prevention, these tactics can be adapted to teach general disease vigilance and up-to-date diagnostic protocols.

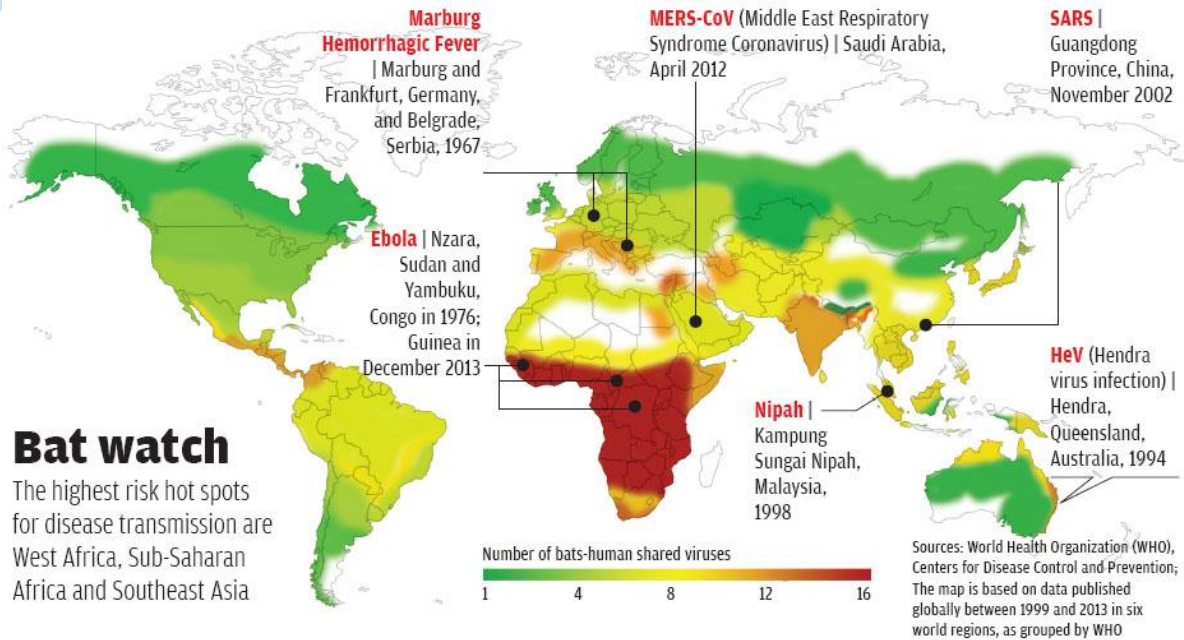
However, the penetration of such technologies remains low in rural regions (24) so Member States might wish to consider how WHO and local governments can engage with local populations to improve technology use.

Developing better internet capabilities even in remote areas is therefore essential to maintain effective communication in case of an outbreak. (22)

- **Animal to human transmission**

Zoonotic diseases are those that cross into the human population from other animals. Many of these are generally very treatable and preventable with good hygiene. Microorganisms transmitted from vertebrate animals (including livestock) to humans account for an estimated 60% of human pathogens (25), thus, having an effective way of carrying out diagnostics and surveillance of livestock and the people who deal with livestock might be crucial for early detection of a brand-new disease.

However, not all animals that are central to spreading of disease are livestock. Most people are familiar with the role of rodents as carriers of fleas that spread the bubonic



plague but smaller proportions are aware that bats are suspected of carrying around 60 viruses that can be transferred to humans (26).

Delegates might wish to consider whether further study of a shortlist of animal species would be beneficial for epidemic preparedness and whether additional research funding should be dedicated to studies of migration patterns and behaviours of certain animals.

- **Multidisciplinary approaches to studying disease**

Although WHO has recently reduced its cohort of anthropologists, anthropology experts have been previously helpful during the Ebola outbreak. Because infectious diseases carry a lot of stigma in many communities around the world, anthropologists can shed light onto tackling this barrier to treatment (27). Furthermore, anthropologists can help bridge the gap in understanding between health professionals and communities.

Historically, anthropologists helped shed light on the spread of disease. For example, Kuru disease - a serious neurodegenerative condition - was spotted in large numbers among the Fore people in Papua New Guinea. Researchers couldn't, at first, explain why the disease was more prevalent in women in children but later integration of epidemiological and anthropological studies revealed that the underlying cause for this was cannibalistic traditions of the Fore people following funerals. Corpses of the deceased were consumed in order to free the spirit. Men usually ate the meat whilst women and children ate less desirable parts like the brain where there was a high concentration of disease-causing prions.



- **Epidemic preparedness and policy integration**

Delegates might also want to consider whether epidemic preparedness should be a part of a wider context of international development. If we wish to integrate frameworks for epidemic preparedness in this way, cooperation with a wide variety of UN organs, such as the United Nations Development Programme (UNDP) will be essential to achieve long-term goals of this calibre. It might also be worth considering the role organisations such as the World Bank as well as private funding bodies can have on this issue.

- **Bioterrorism and unnatural epidemics**

Although there is a high chance that 'Disease X' will have natural causes, it is important not to discount the possibility that an epidemic might be caused by bioterrorism. It is estimated that 16 countries have bio weapon capabilities, including the US and North Korea; the latter is particularly known for its volatile foreign policy and frequent threats towards the rest of the international community. (21)

Delegates might wish to consider whether they, as WHO, should push for more awareness of bioterrorism and campaign for more regulation in this area.



TOPIC B: COMBATTING THE RISE IN ANTI-VACCINATION MOVEMENTS

Introduction

According to US experts, just a 5% drop in vaccination rates against measles, mumps and rubella could cause a 3-fold increase in outbreaks of those diseases. (29) This would cost millions to their public health sector.

According to data from WHO, in Great Britain, a drop in pertussis vaccination in 1974 was followed by an epidemic of over 100,000 cases of the disease as well as 36 deaths by 1978. In Japan, around the same time, a drop in vaccination rates from 70% to 20%-40% led to a jump in pertussis from 393 cases and no deaths in 1974 to 13,000 cases and 41 deaths in 1979. In Sweden, the annual incidence rate of pertussis per 100,000 children of 0-6 years of age increased from 700 cases in 1981 to 3,200 in 1985. (28)

In more economically developed countries, where vaccination rates have been relatively high for years, many stopped worrying about these deadly diseases and instead started worrying about reported side-effects and dangers of vaccination, causing a drop in vaccination rates in several countries around the world. Most of these fears stem from fake news and cases of extremely bad science journalism. International effort is needed to dispel vaccination rumours and deal with those that call for vaccination boycotts.

PART A : Timeline of Events

1661: Emperor K'ang of China supported inoculation against smallpox after his father died from the disease. (30)

1721: Lady Mary Montagu brought the practice of variolation (inserting small fragments from recently infected or variolated individuals into others) to the UK, after she had Dr. Charles Maitland variolate her two-year-old daughter. (30)

1791: Stricter laws passed regarding inoculation in Virginia, imposing penalties for anyone spreading smallpox in manners other than the ones allowed by the state. (30)

1801: The Empress Dowager of Russia encouraged vaccination, even naming an orphan first given the smallpox vaccine "Vaccinoff" and providing her with a life pension. (30)

1840: Britain passes the National Vaccine Act. The Act offered free vaccination for infants (the first instance of free medical service in the country) and banned variolation, despite the fact that many still died from smallpox. (30)

1853: Vaccination Act of 1953 has been passed in the UK, making vaccination compulsory for infants under 3 months of age. (31)



1867: Vaccination Act of 1967 has been passed in the UK, expanding on the one passed in 1853, making vaccination compulsory for children under 14 years of age. Opposition to the government laws was immediately seen with The Anti Vaccination League and the Anti-Compulsory Vaccination League forming later on in the same year. (31)

1874: Germany passes compulsory vaccination and revaccination laws regarding smallpox, significantly reducing deaths from the disease in the subsequent years. (30)

1879: The Anti Vaccination Society of America is founded. (31)

1882: The New England Anti Compulsory Vaccination League was founded in the US. (31)

1885: The Leicester Demonstration March was an anti-vaccination march numbering at 80,000-100,000 people in response to the new vaccination laws. (31) In the same year,

1893: Low vaccination rates in Muncie, Indiana have led to an outbreak of the disease. Consulting physicians have noted that the population there have neglected vaccination after the last outbreak in 1876. (30)

1898: In response to the widespread protests, the British government passed the Vaccination Act of 1898 that removed penalties for failure to vaccinate and included a 'conscientious objector' clause that allowed people to opt out of vaccination with an official permission slip. (31)

1902: Henning Jacobson from Cambridge, Massachusetts in the US faces criminal charges after refusing to accept a smallpox vaccination mandated by the state's authorities. He loses the court battle and makes an appeal to the US Supreme Court. (31)

1905: Supreme Court rules in favour of the state of Massachusetts in the Henning Jacobson case, stating that it is in their power to enact compulsory laws to protect public health in an event of a communicable disease. This was the first instance of a US Supreme Court ruling commenting on the state's' power in regard to public health law. (31)

1974: A study published by scientists from the Great Ormond Street Hospital in London, United Kingdom, alleged that 36 children suffered from neurological conditions following the administration of the Diphtheria, Tetanus and Pertussis (DTP) vaccine (32). As a result the Association of Parents of Vaccine Damaged Children (APVDC) was formed. The Joint Commission on Vaccination and Immunization (JCVI) an independent vaccination expert advisory board dispelled the rumours, but by that point, the public was already sufficiently confused about the risks of the vaccine. Although APVDC members applied for compensation in British courts, none was given due to insufficient evidence linking the DTP vaccine to neurological damage. (31)

1982: The DTP vaccine controversy spreads to the US with the release of the documentary DPT: Vaccination Roulette that highlighted adverse effects and did not pay



as much attention to the benefits. Similarly, to the UK, groups of affected parents quickly formed. The counter response from the Academy of Paediatrics and the Centres for Disease Control and Prevention was stronger than the one from equivalent organisations in the UK, so overall the controversy affected vaccination rates in the US less than it did so in the UK. (31) However, the negative media attention caused an inflation in vaccination prices and stopped some companies from making DTP. (33)

1998: British doctor Andrew Wakefield published a paper (35) linking the Measles, Mumps and Rubella (MMR) vaccine to bowel disease and autism, also claiming that the vaccine wasn't properly tested before widespread use began (31). The journal where the paper was originally published later released a statement saying they should not have published the paper in the first place. (34) Despite this, the media had already swiftly picked up Wakefield's controversial claims and the myth regarding vaccination and autism is still in circulation to this day.

2001: Comprehensive study finds no links between the MMR vaccine and autism. (36)

2009: "Green Our Vaccine" movement picks up speed, calling for the elimination of potentially harmful substances, such as thimerosal, from vaccines. (31, 37)

2014: Current US President, Donald J. Trump, tweets about the link between autism and vaccination, highlighting the prevalence of vaccination myths and their spread.



Donald J. Trump ✓

@realDonaldTrump

Follow



Healthy young child goes to doctor, gets pumped with massive shot of many vaccines, doesn't feel good and changes - AUTISM. Many such cases!

5:35 AM - 28 Mar 2014

13,000 Retweets 11,172 Likes



4.2K



13K



11K



Part B: Discussion

- The spread of vaccination fears: where did they originate?

Following Andrew Wakefield's controversial paper about the link between the MMR vaccine and autism and its subsequent discretization, Wakefield was stripped off his medical license. (38)

In his book 'Bad Science' British investigative journalist Ben Goldacre wrote the following (39):

'Wakefield was at the center of a media storm about the MMR vaccine, and is now being blamed by journalists as if he were the only one at fault. In reality, the media are equally guilty.

Even if it had been immaculately well conducted – and it certainly wasn't – Wakefield's "case series report" of 12 children's clinical anecdotes would never have justified the conclusion that MMR causes autism, despite what journalists claimed: it simply didn't have big enough numbers to do so. But the media repeatedly reported the concerns of this one man, generally without giving methodological details of the research, either because they found it too complicated, inexplicably, or because to do so would have undermined their story.'

The spread of vaccination myths is only one part of a general trend of 'fake news' regarding everything from elections to celebrity rumours. A comprehensive study of fake news trends from Massachusetts Institute of Technology (MIT) revealed that falsehoods spread much faster than true news stories and that social media platforms such as Twitter greatly contribute to fake news proliferation. (40) The fact that all this false information generates more internet traffic only serves to perpetuates the problem, and the fears spread.

Delegates should consider how Member States can decrease instances of bad journalism, especially with regards to the public health sector.

- Prevalence of anti-vaccination movements

A study of anti-vaccination sentiments on Facebook found it to be a global phenomenon (41) with an alarming following in the United States of America, United Kingdom, Romania, France and Russia amongst many others.

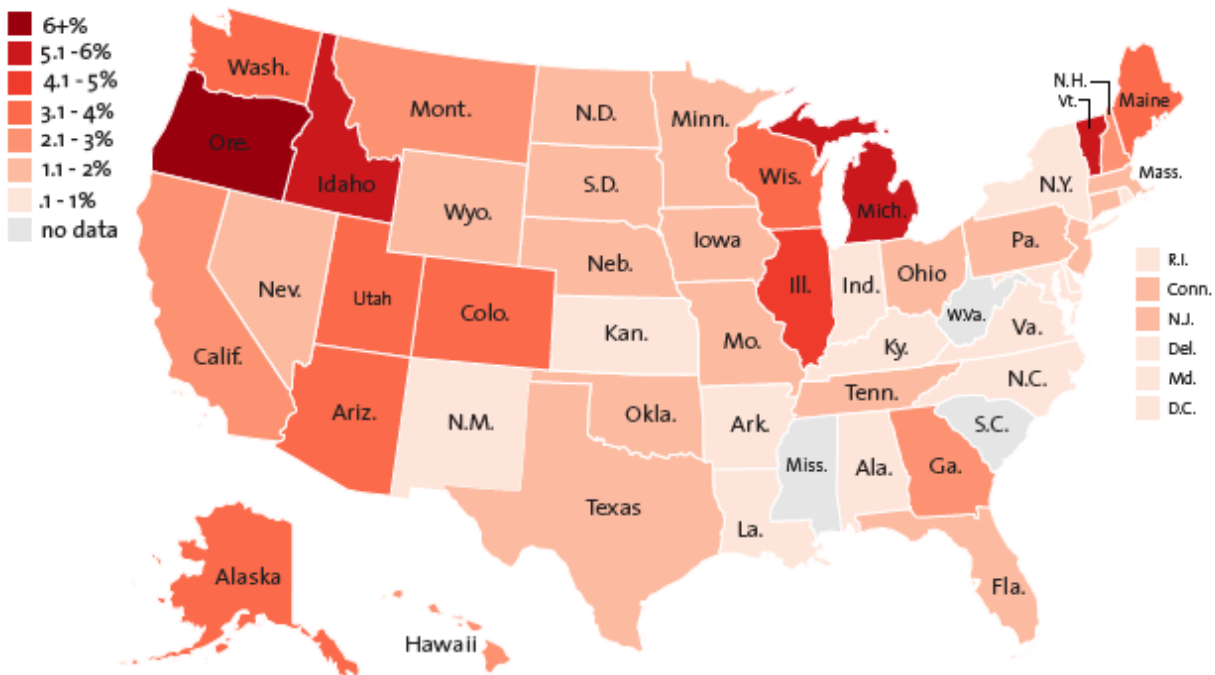
The study, once again, highlights the role of social media platforms in spreading anti-vaccination sentiments. It is important to recognise, however, that these trends do not

necessarily represent organised movements - they are more often online gatherings of like-minded individuals that are not registered as an official organisation and do not have centralised governing or administrative bodies.

Delegates should consider whether different approaches would be needed to tackle the harm of organised anti-vaccination movements vs targeting the ignorance of individuals.

Rate of Nonmedical Vaccine Exemptions By State

Percentage of kindergartners with nonmedical exemptions, 2012-13 school year



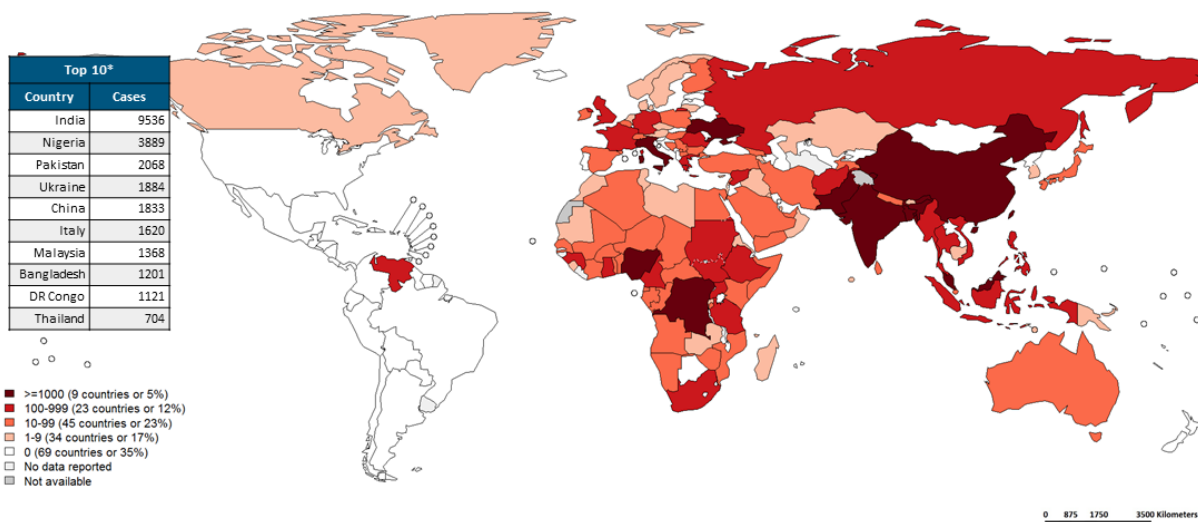
Note: Children with exemptions may still be vaccinated.
Source: Centers for Disease Control

Mother Jones

The map above shows rates of nonmedical vaccine exemptions in different US states, signifying that some regions may be potentially more affected by anti-vaccination rhetoric than others. However, other unknown factors may also be contributing to the differences.

Despite the availability of the MMR vaccine, many member states have high measles incidence rates which shows that combatting vaccination fears is important for tackling the disease.

Number of Reported Measles Cases (6M period)



World Health
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Map production: World Health Organization, WHO, 2017. All rights reserved
Data source: IVB Database

Disclaimer:
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

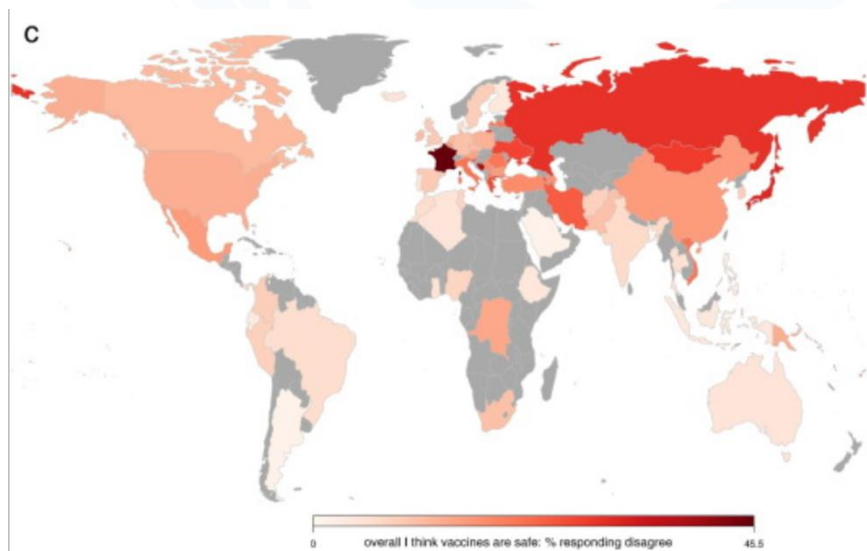
Based on data received 2018-01 - Surveillance data from 2017-06 to 2017-11 - * Countries with highest number of cases for the period

11



World Health
Organization

A 2016 study of vaccine sentiments (42) revealed interesting trends in regards to people's attitudes to vaccines, especially when contrasted with the above map.



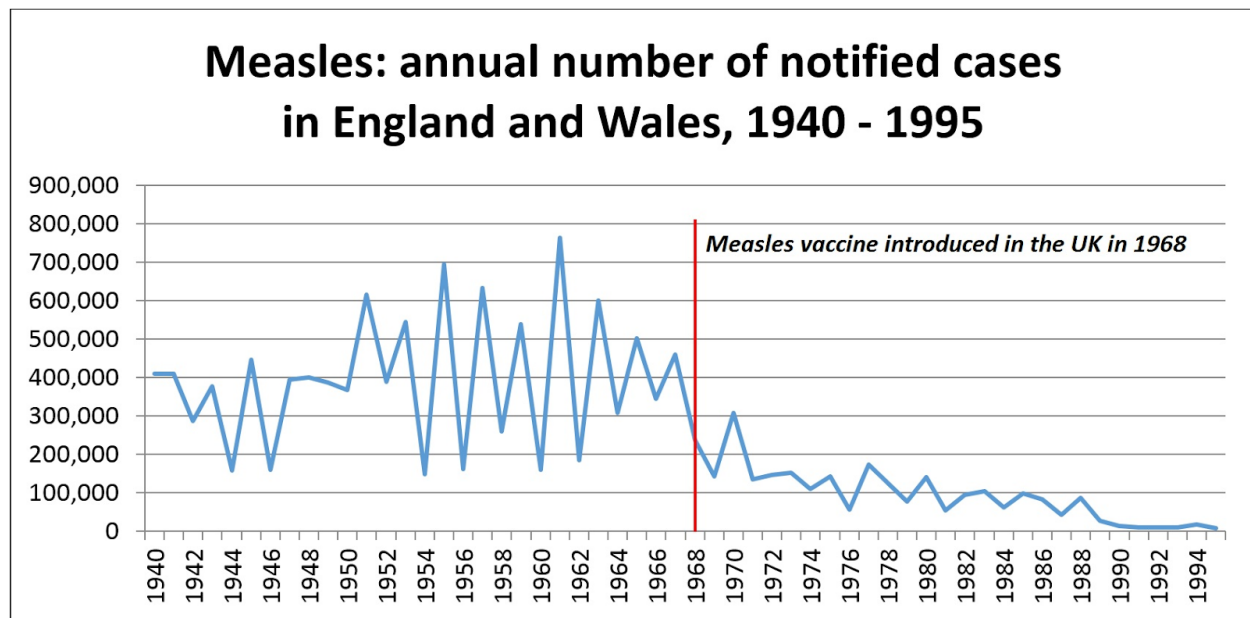
Firstly, it shows alarming rates of vaccination fears all around the world, although studies directly investigating the link between vaccination fears and preventable disease

instances are needed, it is possible to see how an increase in vaccination fears could be related to higher incidence rates of diseases like measles.

- Vaccination myths and misconceptions

WHO has published literature to discredit anti-vaccination myths. Despite this, many still fear them.

Some vaccine critics, for example, argue that better sanitation and hygiene would have lowered cases of diseases without introduction of vaccines. However, instances of measles were shown to have dropped after the introduction of the measles vaccine. (43)



Furthermore, if improved sanitation was indeed the cause of the fall in disease rates than more economically developed countries wouldn't experience outbreaks following falls in immunisation rates. As we have seen previously (28), this is simply not the case.

Other myths cite the supposed ineffectiveness of vaccines and that vaccinated individuals still get the disease they have been vaccinated against. Although this is sometimes the case as vaccinations are about 85-95% effective, they still protect the majority of the vaccinated class. (44) Whereas for unvaccinated individuals for extremely infectious diseases like measles, the chances of them contracting the disease are almost 100% if they come in contact with another infected individual.

Some misconceptions regarding vaccines arise from the public's poor understanding of how vaccinations work (45). For example, many parents try and track the 'most dangerous' vaccination lots without regard to the fact that correlation does not imply causation when it comes to adverse effects seen around the time of vaccination as well

as the vast differences of vaccination lots that regularly differ in size and the duration of their administration in a particular population.

Many families are also becoming increasingly more complacent with regards to vaccinations when incidences of particular diseases have fallen to values close to 0 (due to the effectiveness of vaccination). Delegates should think about new ways to raise awareness of falling immunisation rates and also think about how best to deliver those messages to the general public.

In this respect, it is important to consider how sensationalist headlines seem to make more of an impact on the general population and that most people do not have the expertise to properly assess and report on scientific literature. When tackling this question, delegates might want to include more general measures to improve scientific journalism with the goal of making a positive impact on public health.

Diseases like Measles, Mumps and Rubella that are routinely vaccinated against have incredibly low incidence rates which decreases their perceived dangers. Disputes over routine vaccinations have resulted in lawsuits in the UK (47) and the US, with one mother from Michigan even facing a 7-day jail sentence over her refusal to comply with a court order to vaccinate her child (48).

Dr Zsuzsanna Jakab, WHO regional director for Europe was quoted saying: "Every new person affected by measles in Europe reminds us that unvaccinated children and adults, regardless of where they live, remain at risk of catching the disease and spreading it to others who may not be able to get vaccinated. Over 20,000 cases of measles, and 35 lives lost in 2017 alone, are a tragedy we simply cannot accept." (49)

A person infected with measles will infect 90% of non-immune individuals that come in close proximity to the infected (50). The figures pertaining to the number of fatal cases might seem low for some, however, given the high infection rate of the disease, falling vaccination levels put populations at risk of an exponential increase in the number of such cases.



Questions a Resolution Should Answer

Topic A

As you are preparing to deal with a possible Disease X epidemic, we would like you to consider the following questions:

- Are there current underfunded research and development projects around the world that should be supported financially?
- Should WHO fund more studies on diseases in animal populations that have the potential to develop human transmission?
- Should countries implement non-specific diagnostic and surveillance methods, considering they don't know what they are looking for?
- Certain animals, like bats and birds are known carriers of all sorts of diseases, should their migration patterns be investigated further in order to monitor possible epidemics?
- Cultural practices and living conditions have an impact on the spread of disease, should WHO invest into more anthropological studies to account for this?
- Should epidemic preparedness be part of a wider policy of International Development?

Topic B

As you are preparing to tackle the spread of anti-vaccination movements, you should consider the following questions:

- What are the vaccination rates in your country and are there prominent anti-vaccination campaigns?
- How should we address long-standing myths and misconceptions about vaccines?
- How can we persuade those against vaccines to vaccinate themselves and their children?
- Should we modify our campaigning approaches based on the culture of member states, or implement universal strategies?
- Can we prevent future anti-vaccination movements in countries which currently have no such issues?

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