

Committee: Special Conference on Children

Issue: Adopting the immunization program for children

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INTRODUCTION

Since 1796, doctors have created a method that strengthens the immune system of an individual and prepares it for a future infection. Apart from the individual protection, vaccination is capable of limiting the spread of a virus, thus meaning vaccination can protect even unvaccinated members of a society. In order to fully understand the positive impact of immunization through vaccination, one has to carefully examine communities that were threatened by a non-vaccine-preventable disease in the past.

When it comes to children, vaccination has proven to be essential, due to their vulnerability of their immune system. We should bear in mind that most of the diseases that once injured or killed thousands of children, have been eliminated completely or are close to extinction, due to the use of vaccines. By using effective vaccines, we decrease the risk of passing a virus to upcoming generations.

Even though, the importance of vaccination is globally acknowledged, certain Less Economically Developed Countries (LEDCs), like those in Sub-Saharan Africa, cannot provide the full needed range of childhood vaccination, due to decreased availability of resources and vaccination. This leads in greater morbidity and mortality rates due to infectious diseases. It is estimated that up to 1.5 million of children die each year due to vaccine-preventable diseases.

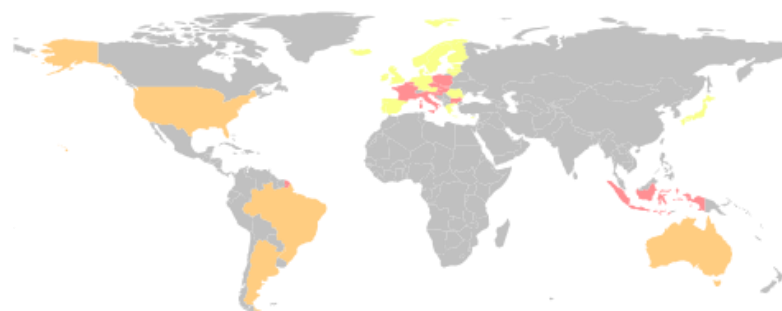


Image 1: countries and their vaccination policy (red: mandatory, orange required for schooling, yellow: recommended)¹

¹ "Vaccination Policy." *Wikipedia, the Free Encyclopedia*, Wikimedia Foundation, Inc, 5 Sept. 2007, en.wikipedia.org/wiki/Vaccination_policy. Accessed 10 June 2020.

In order to reduce the risk of a pandemic outbreak, governments all around the globe have employed policies concerning the mandatory vaccination for certain groups and citizens, in order to protect the whole community. These mandatory vaccines differ from country to country, due to the variety of viruses that exist.

DEFINITION OF KEY-TERMS

Community Immunity

Immunity community can be achieved when the majority of a community is vaccinated. When the majority is immunized, diseases cannot spread as easily. Through the implementation of community immunity, communities can protect groups that cannot be vaccinated, such as babies or people with weak immune systems due to medical treatments, pregnant woman, senior citizens and individuals that can develop any kind of allergic reaction through the injection of vaccines in their immune system, by limiting the chances of an infection.

Vaccination Policy

Since the invention of vaccination, governments have adopted a variety of policies and new laws concerning vaccination. These policies are commonly known as “vaccination policy”. However strong emphasis should be given to the fact that the so-called vaccination policy differs from country to country, since in some countries vaccination against certain diseases is considered mandatory, while in some others is only recommended.

National Immunization Program

A national immunization program (NIP) is the organizational component of Ministries of Health charge with preventing disease, disability, and death from vaccine-preventable diseases in children and adults. A NIP is a government program that operates within the framework of overall health policy.

BACKGROUND INFORMATION

Immunity

The immunization program has the primary goal to succeed immunity. Immunity is a condition where an individual is capable to resist a particular disease by preventing the development of pathogenic microorganisms or by simply counteracting the effects of its product. Immunity can be achieved either through active immunity or passive immunity.

Active Immunity

Active immunity, also known as “Herd Immunity”, stimulates the immune system to produce antibodies against a particular infectious disease. Active immunity can be raised in a natural way when someone is exposed to any pathogen. Typically, when a virus enters the human organism its reproductive activities cause a lot of damage.

For our immune cells to remove these foreign bodies from the organism, antibodies and modified proteins must be developed. When an individual recovers from a first case of a disease, its immune system becomes immune to a further infection. It has been proven that natural active immunity is not the most efficient option. First of all in order for an individual to develop those before mentioned antibodies, he must first become infected by the virus and second of all the entrance of a virus in an individual's organisms, especially to those with a weak immune system (like newborns or children), can be proven deadly. However, scientists have developed an artificial form of active immunity which can basically be achieved through vaccination. Vaccines typically provide the immune system with harmless copies of an antigen. When immune cells detect this harmless form, the same procedure begins. The only difference is that in this case the immune system is fighting the before mentioned harmless form. Through vaccination we achieve the development of antibodies in a safer way. Even though it is considered a scientific fact that vaccines may cause some side effects, these are not dangerous and are quite rare.

Passive Immunity

Passive immunity is another form of immunity. When an individual's immune system cannot develop the before mentioned antibodies, this individual can receive immune system components from another person through passive immunity. Again, passive immunity can be achieved through a natural and an artificial way. Newborns can naturally develop this kind of immunity through their mother's antibodies, that can be transferred through breast milk. Artificially passive immunity can be achieved through the injection of antibodies. Even though passive immunity can provide immediate protection it has been proven that it lacks in providing long lasting protection, since experimentation has shown that it can only last for a few weeks till months.

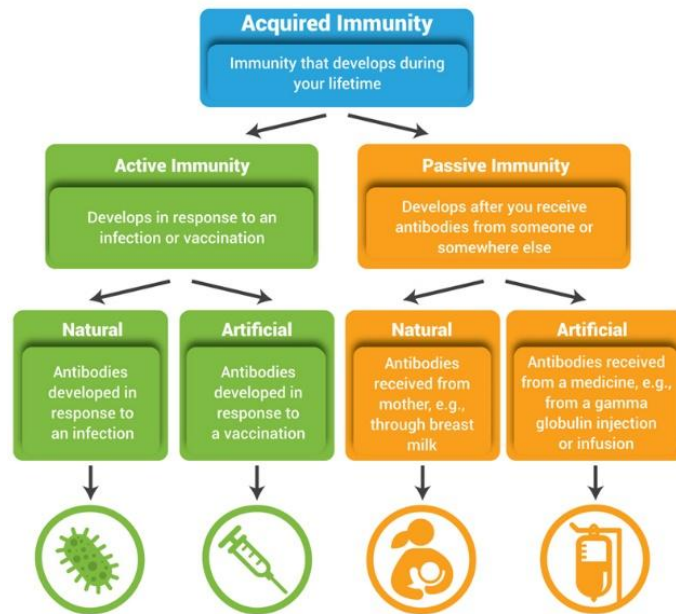


Image 2: the difference between active and passive immunity and how they are developed²

Community Immunity

As it was previously mentioned in order to protect both unvaccinated and vaccinated members of a society from vaccine-preventable diseases, a certain percentage of the total population should be vaccinated. By having the majority of citizens immune against a disease, the spread of the virus is limited, thus protecting the whole community. Community Immunity can be achieved both through active and passive immunity.

² "Acquired Immunity Definition." *AIDSinfo*, 20 May 2020, aidsinfo.nih.gov/understanding-hiv-aids/glossary/2/acquired-immunity.

The Origin of vaccination

Even though there is reliable evidence that inoculation against diseases like smallpox was first practiced over 2000 years ago in China or sometimes even in India, Edward Jenner, a physician who lived in Britain in 1786, is generally credited for inventing the concept that is today called cold vaccination. More specifically, in 1796 Edward Jenner practiced an experiment whose theory is quite similar to the theory behind our common vaccines. He took fluid from a cowpox blister and scratched it into the skin of an eight-year-old boy. Even though the boy developed signs of the virus, he was able to quickly recover due to the harmless form of the virus. One month later Edward Jenner inoculated the boy again, however this time no signs of smallpox appeared. This brings us to the confusion that Edward Jenner was able to vaccinate and provide protection against the smallpox-virus, by developing antibodies. Thanks to Edward Jenner humanity was able to create more than five human virus vaccines by 1900, thus ensuring the eradication of smallpox virus in 1979 which was announced by the World Health assembly. Thanks to Edward Jenner children all over the world are protected from fatal diseases through vaccination by 1990, which proves its importance.



Image 3: Edward Jenner³

The impact of vaccination on children

As previously mentioned, vaccines have proven to be essential when ensuring the healthy growth of a child. However apart from ensuring the individual's

³ "History." BBC - Home, 13 May 2013, www.bbc.co.uk/history/historic_figures/jenner_edward.shtml.

health, vaccination has played a key role in completely eradicating infectious diseases (like Smallpox Rinderpest Community). This proves the before mentioned statement that vaccines can protect even unvaccinated individuals through community immunity.

Side effects of vaccination

However, while discussing this issue, the fact that vaccines, like any other medical procedure, may cause side effects, like low grade fever or tiredness, should be taken into serious consideration. These side effects along with objections on the ground of ethical, political and religious matters have been supported by anti-vaccination movement. The anti-vaccination movement is convinced that vaccination is actually causing harm, especially when ejected to children.

National Immunization Technical Advisory Group

National Immunization Technical Advisory Group, also known as NITAG, is an advisory committee with the purpose of providing essential information, technical resources, guidance and recommendation to governments concerning their policy making on vaccination. The vaccination policy, that is adopted by countries separately, was guided by national immunization technical advisory group. National immunization technical advisory groups have differences from country-to-country when it comes to their names.

Advisory Committee on Immunization Practices (ACIP)

The Advisory Committee on Immunization Practices, also known as ACIP, is a committee within the United States that has the before mentioned responsibilities of providing guidance. ACIP is constantly developing written recommendations concerning the use of vaccines and it is also providing a vaccination schedule.

Joint Committee on Vaccination and Immunization (JCVI)

The Joint Committee on Vaccination and Immunization, also known as JCVI, was established in 1963. It is a committee within the United Kingdom that has the same responsibilities with the ACIP. The JCVI is considered essential for policy making considering vaccination schedules and vaccine safety.

MAJOR COUNTRIES AND ORGANISATIONS INVOLVED

Australia

Australia has always been active concerning immunization and its promotion. First and foremost, in 1997 the Australian government adopted the NIP with the primary goal to increase national immunization coverage and reduce the

number of vaccine-preventable diseases. In 2016 the “no jab, no pay” policy was created in order to support patients in lower earning scales by containing financial incentives. Last but not least, in order to further reduce the small mislead proportion that still refused to vaccinate, the government mandated the mandatory vaccination of children against certain diseases.

Burkina Faso

Undoubtedly, immunization has made a significant contribution in the whole African region, when it comes to elimination, education and even control of life-threatening diseases, specially to those that threaten children have proven to be the key to success. However, Burkina Faso remains one of the regions with the highest problem concerning Accessibility to vaccination. Reliable sources have shown that cases of inequity in access to immunization service continue to exist, despite the overall help that was provided by the United Nations. Other challenges that may occur in the region are the ones of sustainable funding and resources for immunization, while data issues and laboratory infrastructure still exist. In support of the government’s efforts, UNICEF has been providing the routine vaccines and accessories, as well as the cold chain equipment necessary for transporting the vaccines and ensuring that this equipment remains functional.

Pakistan

Pakistan is another country facing difficulties when it comes to accessibility to vaccines. Therefore, a lot of vaccine-preventable disease still threaten the lives of citizens in Pakistan. For example, Polio, that is a highly infectious virus targeting the nervous system of children, still remains endemic in Pakistan. In October 2015, an eastern meditation vaccine action plan was introduced in order to combat the vaccination problem in the region and to guide governments into the successful prevention and the further control of vaccine-preventable diseases from the period of time 2016 to 2020. Apart from the before mentioned lack of accessibility in the region, the Pakistani government is dealing with another issue, the armed religious groups (like the TTP). Such groups allege the vaccine as part of a plot to sterilize or infect children, a belief that has been disseminated through many mosques and clerics in Pakistan.

National Immunization Program (NIP)

As described and further elaborated in the section concerning definitions, the national immunization program, also known as NIP, is a government program that operates within the framework of overall health policy. Its goal is to provide immunization in order to reduce vaccine-preventable diseases and protect citizens from a virus outbreak. The national immunization program mainly focuses on babies, young children, elderly citizens and basically individuals who are at greater risk of serious harm from certain diseases. The aforemen-

tioned program was created in 1997 and has proven to be essential ever since.

Expanded Program on Immunization (EPI)

In order to create immunization against diphtheria, tetanus and measles to every child in the world by 1919, the expanded program on immunization was established in 1974. Its main goal was to develop and further expand all immunization programs throughout the world.

Global Alliance for Vaccines and Immunization (GAVI)

The cooperation between the Global Alliance for Vaccines and Immunization and other NGOs and organizations like the World Health Organization, UNICEF, the World Bank and the Bill and Melinda Gates Foundation play a key role by providing accessibility to vaccines for more than 4 million children, by boosting the economies of low income countries in order to succeed the sustainable development goals that were adopted in 2016.

Vaccines for Children Program (VFC)

Due to their costs, vaccines are not affordable for all citizens. The *Vaccines for Children Program* was created in 1993 in order to provide free of charge vaccines for those in need. It is estimated that more than 44,000 stations that provide vaccines from the VCP exist only in the US.

The World Health Organization (WHO)

The World Health Organization was established in 1948 and its goals are to promote health and to ensure that all people have a universal health coverage. Concerning the promotion of the immunization program for children, WHO has provided useful and credible reports for vaccination and its importance.

United Nations International Children's Emergency Fund (UNICEF)

UNICEF is dedicated in helping children in more than 190 countries and territories. Since its establishment, this organization has played a key role not only in the promotion of vaccination but also in the protection of children, especially in countries in need.

Doctors Without Borders (MSF)

The MSF is a non-profit, self-governed and member-based organization that was created in 1971 with the goal to provide medical assistance to individuals, especially children that are facing any form conflict, epidemic, disaster or exclusion from healthcare.

TIMELINE OF EVENTS

DATE	Description of event
1600	The practice of immunization, roots to the 17th century where immunity to snake bites was developed. It is believed that this is the first known practice of immunization.
1798	In 1798 the first smallpox vaccine was developed, thanks to Edward Jenner, who is credited as the founder of functionality.
December 1946	The United Nations International Children's Emergency Fund, commonly known as UNICEF, was created. UNICEF became one of the most important and most recognizable organization concerning the protection of children.
April 1948	When the United Nations were created the need of setting up a global Health Organization was recognized immediately. In 1948 WHO was created in order to coordinate authority on international health work and to provide technical cooperation.
1959	The WHO took actions against smallpox for the first time. However, this global complain was lacking funds and commitment of countries.
1963	The Joint Committee on Vaccination and Immunization was the first independent committee, that its purpose was to further guide and provide information to the UK's government by providing recommendations concerning

	the vaccination schedules and their safety.
1964	One year after the creation of the Joint Committee on Vaccination and Immunization, the United States proceeded with creating their own committee, within their government. The Advisory Committee on Immunization Practices share the same duties and responsibilities as the JCVI.
1967	The World Health assembly voted in favor of a global education program for the smallpox-disease.
1974	The WHO establish the Expanded Program on Immunization (EPI) in order to develop and further expand the before mentioned immunization programs throughout the world.
1977	In 1977 global policies concerning the immunization established an international goal, that called for the universal immunization for all children by 1990.
1979	In 1979, the last Polio case was reported, which meant that WHO's actions were successful.
1994	The Vaccines For Children (VFC) program was created in order to provide free vaccines for children in need.
2000	The Global Alliance for Vaccines and Immunization (GAVI) is an international program and its goals are to reduce poverty and protect the world from academics. Part of its work was the vaccination of more than 760 million children, especially in LEDC's.
2011-2020	In 2012, the Global Vaccine Action Plan (GVAP) was accepted by the 194 member states of the World Health assembly
January 2016	The UN defined 17 ongoing issues as 17 sustainable development goals, also known as SDGs. The UN's goal is to implement those goals by 2030.

RELEVANT UN RESOLUTIONS, TREATIES AND EVENTS

United Nations World Health Assembly Resolution

Adopted on 29/5/2017, it focused on strengthening immunization in order to achieve the goals of the global vaccine action plan, by urging all member states to further reinforce the governance and leadership of national immunization programs.

United Nations General Assembly resolution 44/25

Adopted on 20/10/1989, it constitutes the standard in the promotion and protection of the rights of a child Including its right to protection against diseases

The Global Vaccine Action Plan (GAVP)

The global vaccine action plan, also known as GAVP, was endorsed in World Health Assembly in 2012. GAVP provided member nations with valuable information, concerning the effectiveness of vaccination between 2011 until 2020 and also 15 recommendations for the development and implementation of the next decades' global immunization strategy.

Sustainable Development Goals (SDG)

The sustainable development goals were adopted by all United Nations member states in 2015 in order to further take action to end global challenges like poverty, protection of our environment and ensure that all people enjoy peace by 2030. Strong emphasis should be given to the third SDG, which calls for the good health and well-being of all individuals.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

Due to the importance of the issue and its ongoing developing nature, the UN and its member states have remained generally active on the adoption of the immunization program for children.

When it comes to the UN's contribution, the UN has not only passed resolutions, proposition effective solutions, but it has also provided international supervision and guidance to its member states. Such UN organization are the World Health Organization (WHO), the National immunization Program (NIP) and the Extended Program on Immunization (EPI). Additionally, the UN has also called for the creation of organizations that focus on helping countries by providing funds or even safe vaccination when needed, like the United Nations International Children's Emergency Fund (UNICEF) or the Vaccines for Children program.

Concerning the individual attempts of nations, there is a variety of policies that have been adopted by nations in order to solve the issue. All actions and measures that have been taken, by governments, are supervised by the National Immunization Technical Advisory Group. Bear in mind that each nation has a different point of view, since all countries are facing different issues concerning their immunization program.

POSSIBLE SOLUTIONS

Even though development has been made in recent years, the immunization program has proven to be one of the most complicated ongoing issues. A lot of factors are still prohibiting nations from achieving global immunization.

First and foremost, a lot of countries still have not developed a National Immunization Technical Advisory Group or an organized health system, thus are not able to comply with the national immunization program. In this case national supervision and guidance could be the most efficient way to achieve improvement. Supervision can be provided by UN organizations like the expanded program on immunization or the World Health Organization

Moreover, even in countries known for their developed health system, a lot of citizens and families do not have access to vaccination due to its expensiveness. The reason behind the expressions of vaccination lies in the investment and production of vaccines, that is mainly achieved by private companies. It is commonly believed that through the government's investment in research and further production the expense of vaccination will be lowered and therefore more accessibility will be ensured.

Another still unsolved factor is the anti-vaccination movement and the lack of knowledge from parents. This issue prohibits the successful vaccination and immunization of communities. Awareness should be raised through organizations like The Who or UNICEF in order to combat this problem

Last but not least, a further problematic factor is immigration. Even though countries with a structural system and immunization, like Germany, were almost able to eradicate certain diseases, the uncontrolled immigration from countries that still haven't completely eradicated such diseases, may possibly lead to an outbreak.

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