



## Closing the Immunization Gap: Celebrating World Immunization Week

*This special series reviews the current global and national status of immunization, a summary of the immunization related studies carried out by HERD and the way forward in terms of progressing forward in terms of better immunization status.*

### Introduction

World Immunization Week is a global public health campaign to raise awareness and increase rates of immunization against vaccine-preventable diseases around the world. It takes place each year during last week of April. World Immunization Week sprung out of the efforts taking place across different countries and regions for a week-long immunization awareness commemoration. The event is one of eight official campaigns marked by the WHO, along with World Health Day, World Blood Donor Day, World No Tobacco Day, World Tuberculosis Day, World Malaria Day, World Hepatitis Day and World AIDS Day

World Immunization Week aims to promote one of the world's most powerful tools for health i.e. the use of vaccines to protect, or "immunize", people of all ages against disease. The observance gives countries around the world a focused opportunity to raise public awareness of how immunization saves

lives. **Activities conducted during this day include vaccination campaigns, trainings and workshops, round-table discussions, public information campaigns, and more.**

The Expanded Programme on Immunization (EPI), launched by the World Health Organization in 1974, originally containing vaccines to protect against 6 major diseases: tuberculosis, polio, measles, diphtheria, whooping cough and tetanus. Since then, the EPI programme has reached into every country in the world and has expanded to include other life-saving vaccines. The lives of more than **2 million children could be saved if Hib, pneumococcal, and rotavirus vaccines were used** in all countries. Using these vaccines can result in at least a 40% reduction in the deaths caused each year by pneumonia and diarrhea among children younger than 5 years old.

## Status of Immunization

Immunization is a global health priority at Center for Disease Control and Prevention (CDC) focusing on polio eradication, eliminating measles and rubella, and strengthening immunization delivery systems. CDC works closely with a wide variety of partners and national governments in more than 60 countries to ensure that children are protected, and provides scientific and technical support to ministries of health to strengthen and expand countries' capacities to ensure effective and efficient national immunization programs that reach every child. Today, **an estimated 18.7 million infants – nearly 1 in 5 children – worldwide are still missing routine immunizations for preventable diseases**, such as diphtheria, pertussis and tetanus.

Immunization is, and should be recognized as, a core component of the human right to health and an individual, community and governmental responsibility. **Vaccination is known to prevent an estimated 2.5 million deaths each year.** Protected from the threat of vaccine-preventable diseases, immunized children have the opportunity to thrive and a better chance of realizing their full potential. These advantages are further increased by vaccination in adolescence and adulthood. As part of a comprehensive package of interventions for disease prevention and control, vaccines and immunization are considered essential investment.

Immunization can protect against 25 different infectious agents or diseases, from infancy to old age, including diphtheria, measles, pertussis, polio and tetanus. **22.6 million Infants worldwide are still missing out on basic vaccines, mostly in developing countries.** Inadequate immunization coverage rates often result from limited resources, competing health priorities, poor management of health systems and inadequate surveillance. The goal of World Immunization Week is to raise public awareness of how immunization saves lives, and support people everywhere to get the vaccinations needed against deadly diseases for themselves and their children.

Immunization prevents between 2 and 3 million deaths every year. Without vaccines, global eradication of smallpox and elimination of poliomyelitis and measles from large parts of the world would have been impossible. New and improved vaccines are now available to protect not just children, but also adolescents and adults. **Yet 1 in 5 children (22.6 million), and many adults, are missing out every year.** A lack of awareness about the value of vaccination is a key reason why some adults consciously choose not to get vaccinated themselves or to vaccinate their children.

Immunization prevents illness, disability and death from vaccine-preventable diseases including cervical cancer, diphtheria, hepatitis B, measles, mumps, pertussis (whooping cough), pneumonia, polio, rotavirus diarrhea, rubella and tetanus. Global vaccination coverage is generally holding steady and uptake of new and underused vaccines is increasing. Immunization currently averts an estimated 2 to 3 million deaths every year. More than **60% of children who are unvaccinated live in 10 countries: the Democratic Republic of the Congo, Ethiopia, India, Indonesia, Iraq, Nigeria, Pakistan, the Philippines, Uganda and South Africa.**

## Progress in the Past

In the last 10 years, great advances have been made in developing and introducing new vaccines and expanding the reach of immunization programmes. As a result of immunization combined with other health care and development interventions—including improved access to clean water and sanitation, better hygiene and education—the annual number of deaths among children under five years of age **fell from an estimated 9.6 million in 2000 to 7.6 million in 2010, despite an increase in the number of children born each year.** Last year saw some major breakthroughs. India had joined Cambodia, Madagascar and Mauritania in eliminating maternal and neonatal tetanus. It had also improved coverage of the diphtheria-tetanus-pertussis-containing vaccines (DTP3) to 83%.

Despite challenges imposed by Ebola, including for routine immunization coverage, the African Region became one-step closer to being certified polio-free with the removal of Nigeria from the list of polio-endemic countries. As recently as 2012, the country accounted for more than half of all polio cases worldwide. Now, only two countries – Afghanistan and Pakistan – remain polio endemic.

The Region of the Americas became the first to eliminate rubella, a contagious viral disease that can cause multiple birth defects as well as fetal death when contracted by women during pregnancy. Additionally, 5 years after the introduction of an affordable conjugate meningitis A vaccine, immunization of more than **230 million people has led to the control and near elimination of deadly meningitis A disease in the African “meningitis belt” that stretches from Senegal to Ethiopia.**

New vaccines against dengue, Ebola and malaria have the potential to be game-changers in immunization in the near future. For example, through a “ring-vaccination” strategy, the Ebola vaccine is being given to anyone who has been exposed to a person infected with Ebola, as well as contacts of theirs.

## Policy Perspectives

### *Global Vaccine Action Plan*

In 2012, the World Health Assembly endorsed the Global Vaccine Action Plan (GVAP), a commitment to ensure that no one misses vital immunizations. Despite gains in vaccination coverage in some regions and countries the past year, global vaccination targets remain off track. **During the past 5 years, 86 low- and middle-income countries have made 128 introductions of the following vaccines: Hib-containing vaccine, pneumococcal conjugate vaccine (PCV), rotavirus vaccine, human papillomavirus vaccine (HPV), rubella and inactivated polio vaccine.** The target is to

introduce 1 or more new or underutilized vaccines in at least 90 low- and middle-income countries by 2015.

GVAP was the product of the Decade of Vaccines (DoV) Collaboration, an unprecedented effort that brought together development, health and immunization experts and stakeholders. The leadership of the Bill & Melinda Gates Foundation, GAVI Alliance, UNICEF, United States National Institute of Allergies and Infectious Diseases and WHO, along with all partners – governments and elected officials, health professionals, academicians, manufacturers, global agencies, development partners, civil society, media and the private sector – are committed to achieving the ambitious goals of the GVAP. Many more are expected to add their support in the future as the plan is translated and implemented at the country and regional levels.

### ***Comprehensive Multi-Year Plan of National Immunization Programme (2011-2016)***

The aim of this to reduce child mortality, morbidity, and disability associated with vaccine preventable diseases. The plan has outlined the following **objectives**:

- Objective 1: Achieve and maintain at least 90% vaccination coverage for all antigens at national and district level by 2016
- Objective 2: Ensure access to vaccines of assured quality and with appropriate waste management
- Objective 3: Achieve and maintain polio free status
- Objective 4: Maintain maternal and neonatal tetanus elimination status
- Objective 5: Achieve measles elimination status by 2016
- Objective 6: Accelerate control of vaccine-preventable diseases through introduction of new and underused vaccines
- Objective 7: Strengthen and expand VPD surveillance
- Objective 8: Continue to expand immunization beyond infancy

### **Immunization status in Nepal**

National Immunization Programme is one of the priority programmes of Ministry of Health. Nepal is one of the countries recognized for the well-functioning immunization system. According to Annual Report of Department of Health Services (2013/14), the accessibility of immunization has reached to the 97% population. Nepal achieved polio free status in March 2014, sustained maternal and neonatal tetanus elimination since 2005, and Japanese Encephalitis (JE) is in control status and conducting measles case based surveillance to meet the target of elimination by 2019. The national coverage of BCG is the highest of all antigens indicates that almost 99% mother have access in immunization services, while DPT-HepB-Hib and OPV- 3 coverage is more than 91%. The measles/rubella vaccine coverage is 88% and Td2+ coverage (Td2 and Td2+) coverage is 75%. The JE coverage (in 31 districts) is 75%.

The Government through its policy documents has emphasized on reaching poor and marginalized population with equitable services including immunization. Since the past decades new vaccines are available in the markets, and the Government is keen to provide all available means to reduce morbidity and mortality. In this regard, it is essential to have a long term immunization plan with priority

activities identified and as well as a financial sustainability plan and Strategy to meet the goal of “reducing infant and child mortality and morbidity associated with vaccine-preventable diseases. **The multi-year plan has been developed with extensive discussion and participation of government, non-governmental organizations (NGOs) and partner agencies National Infant Immunization Week.**

## Immunization related studies conducted by HERD

### *Rapid Assessment of New Vaccines in Nepal*

In this regard, to generate evidences regarding the knowledge, skills and perception of health service providers and perception of beneficiaries (mother and father of under 1 children, teachers) on immunization programme and introduction of new vaccines, the study on ‘Rapid Assessment of Knowledge and Perception of Health Service Providers, FCHVs and Beneficiaries on Immunization Program in Nepal’ was conducted by HERD in three districts of Nepal: Rasuwa, Illam and Bardiya in collaboration with WHO.

The main objectives of the rapid assessment were to explore knowledge and perception of health service providers on new vaccines in EPI and determine their source of information; to explore perception of beneficiaries on importance of immunization and introduction of new vaccines in EPI and to determine the barriers perceived by health service providers and beneficiaries in introducing new vaccines and the possible solutions to overcome those barriers.

The study reflected that there is awareness among service users regarding routine immunization programme. They are also satisfied with the services – in terms of availability and accessibility of vaccines, performance and behaviour of service providers. Among community beneficiaries, very few members of mothers group and local teacher had heard of some new vaccines but lacked detailed knowledge.

Despite having very less information regarding new vaccines, most of the health workers and community beneficiaries showed positive attitude towards new vaccines and mentioned it to be important for children as it prevents from diseases. Few local teachers had expressed their reservation about the new vaccines considering the vaccines might have been used just for trial. Health workers, community beneficiaries, WDOs and FCHVs of all three districts very supportively mentioned that they and the community people will accept the new vaccines after receiving proper information regarding vaccines including both pros and cons. Few health workers and community beneficiaries stated that the introduction of new vaccines would be more effective and acceptable if the vaccines are brought by government in routine immunization.

While discussing about multiple injections in single clinic visit, most of the beneficiaries, health workers and FCHVs mentioned that parents might hesitate the provision because of the fear of side effects and pain that the children might face after the vaccination and would prefer single injection. Apart from all these, according to health workers mobility of parents from one place to another and economic condition of parents would affect the completion of all three doses and tracking out the dropouts of vaccine programme.

Creating awareness among community people was mentioned as the most effective way to lower the risk of unacceptability of vaccines by most of the participants from all groups. The success of this immunization programme rests upon proper implementation of the programme through effective dissemination of the information regarding the new vaccines, their availability, and service delivery through well-trained health workers as well as effective monitoring of the entire programme. As mentioned by the health workers of all three districts, there is proper storage system of vaccines only in districts. However, electricity cut off is the main issue affecting the storage system. Health workers from sub health post mentioned that they carry vaccines in a vaccine box just before the vaccination campaign and return the remaining vaccines to the district.

The findings from this study will further help in developing effective training packages for health services providers and communication strategies and advocacy materials to increase community awareness and acceptability of the new vaccines.

### ***Integration of Family Planning into Expanded Programme on Immunisation (EPI)***

This one-year operational research project was conducted in Kailali with the support of Nepal Health Sector Support Programme (NHSSP) in 2012 and 2013.

#### **Key Findings**

1. During the 12 months of implementation in the integrated clinics in Kalikot district, the registration data showed that 1539 clients received family planning from these clinics, which is more than the number of family planning users from primary health care outreach clinics in the previous 12 months in the district.
2. Thirty-two percent of women attending the integrated clinics reported using a family planning method with 56% of them having received the method from the integrated clinics. The model has successfully increased access to family planning information and counselling for the women who attended EPI services.
3. Two-thirds of the women attending the integrated service accessed the group health education provided at the clinics. The research found that some clients feared the side effects of family planning and did not have accurate information on some family planning issues.
4. More than half of the women interviewed did not realize that they were at risk of pregnancy if they gave children supplementary food — nearly 60% gave 'irregular menses' as a reason for not using family planning.
5. The women who did not recognize they were at risk of pregnancy are unlikely to be seeking family planning information or counselling or services from any other source. Group education is an opportunity to provide family planning information to women who are vulnerable to unplanned pregnancies.
6. EPI performance did not suffer as a result of the integrated family planning/EPI service, with performance remaining in line with or above the previous year's performance for the duration of the research.
7. The women clients reported that integration had no negative impact on their experiences of the service. In fact they reported a better experience of immunisation services.

8. The women clients reported that they liked the ability to access family planning and EPI at the same place.
9. The EPI clinics were seen as convenient places to go for family planning services, although no clients reported that they would attend the clinic for family planning alone.
10. Ensuring the availability of Depo Provera must be a priority as this is the method chosen by most women and is not available through FCHVs. If shortages of Depo are experienced by women, there are risks to the reputation of the service.
11. Over half of women reported that they particularly like Depo Provera because it stops menstruation.
12. Twenty-six percent of family planning users were Dalit, who represent 24% of Kalikot's population. This suggests that this group is not marginalized from the service —rather that integration increased their access to family planning services.

### **Comprehensive District Assessment of Maternal and Child Health in Mugu**

Figures from recently completed study, 'Comprehensive District Assessment of Maternal and Child Health in Mugu' implemented by HERD among 360 households with the support of KOICA shows the following results:

<b>Immunization among Children under 5 years of age</b>	<b>Total</b>
BCG	96%
OPV3	87.5%
DPT3	87%
Measles	80%
Full Immunization among children under 5	78%
Full Immunization among children between 12-23 months of age	96.5%

### **The Way Forward**

To improve vaccination coverage, WHO is calling on countries to reach more children missed by routine delivery systems, especially those living in countries, districts or areas where less than 80% of them are receiving vaccines or those living in countries affected by conflicts or emergencies. **More than 60% of children who are unvaccinated live in 10 countries:** the Democratic Republic of the Congo, Ethiopia, India, Indonesia, Iraq, Nigeria, Pakistan, the Philippines, Uganda and South Africa.

The WHO Global Vaccine Action Plan (GVAP) - endorsed by the 194 Member States of the World Health Assembly in May 2012 - has the ambitious goal of reaching universal coverage with vaccines worldwide by 2020. The GVAP aims to:

1. Accelerate control of vaccine-preventable diseases with polio eradication as the first milestone and step up efforts to eliminate measles, rubella and maternal and neonatal tetanus and other diseases
2. Strengthen national routine immunization programs to meet vaccination coverage targets
3. Introduce new and improved vaccines
4. Spur research and development for the next generation of vaccines and technologies.

Equally, when a child or adult who is unvaccinated or not fully vaccinated visits a health facility for any reason, their vaccination record should be checked by healthcare workers and they should be given all vaccines they are missing. However, recent field assessments in American and African Regions have shown that **between 23-96% of eligible children who visited a health facility for vaccination or for medical care, left the health facility without receiving** the vaccine doses they needed.

Progress towards reaching the goals of the current Decade of the Vaccine has stalled in some countries. **Lack of access to health services, a shortage of accurate information about immunization, insufficient political and financial support and inadequate supply of vaccines in some areas all play a part.**

WHO encourages governments and health partners to join the 2016 campaign and help raise awareness about the importance of immunization, increase demand for it by communities and improve vaccination delivery services so the benefits of immunization are available equitably to all people. A variety of resources are being made available to support local campaigns, including fact sheets, infographics, posters and multi-media materials.

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