

# Messages: Why we must invest in immunization

This document is intended to support immunization managers and staff in their efforts to secure sustainable funding for immunization.

## **HOW TO USE THIS DOCUMENT**

Some stakeholders may not understand why it is crucial to continue investing in immunization. This document explains why.

## **Use the document:**

- **to prepare your messages before meeting a decision-maker or as a handout.**

The material consists of

- a list of good reasons to prioritize immunization;
- one individual page for each good reason.

**The pages can be used separately or together.**



# Why we must invest in immunization

Everywhere in the world, health care budgets are under great strain. Immunization managers often struggle to obtain the necessary funding to strengthen immunization programmes and introduce new vaccines. Even protecting current budgets can be a great challenge.


**Decision-makers normally fully acknowledge the success of immunization in preventing suffering and death. But the urgent need to increase – or at a minimum uphold investments to sustain this success and continue moving forward is often not supported.**

The lack of political prioritization of immunization in some countries is alarming. If threats faced by immunization programmes in the Region are not taken seriously, past successes will be jeopardized and opportunities for new and better vaccines may be lost. Why is investment in immunization so important? Some good reasons are listed below.



## Immunization is a right

Every individual has the right to access to the highest attainable standard of health. Saving millions of lives and preventing suffering and disability for many more, immunization is fundamental to reach this end. With current rates of immunization coverage, up to 1 million of the children born each year in the WHO European Region will not receive all of the recommended vaccinations in their lifetimes and thus will not receive the protection from disease that is their fundamental right.



## We have agreed to get rid of diseases

Viruses do not respect borders, and vaccine-preventable diseases can only be combatted through sustained efforts in all countries. In a common battle against these disease, all Member States of the WHO European Region have committed to two important goals: eliminating measles and rubella and sustaining polio-free status. However, achievement of the measles and rubella elimination goal remains a challenge, and the Region's polio-free status is under constant threat, as proved by a large outbreak of polio in the Region in 2010.

## Continued: Why we must invest in immunization



### Undervaccinated groups must be reached to avoid outbreaks

Even though general immunization coverage in the Region is high, some groups remain unprotected. As a consequence, a disturbing increase in outbreaks of vaccine-preventable diseases has been seen in the WHO European Region. Variable commitment in Member States is impeding progress, innovative solutions and the actions necessary to fulfil the rights of underserved, marginalized, migrant and disadvantaged children and families.



### Complacency and vaccine hesitancy are growing

A growing number of individuals have safety concerns and question the necessity of immunization. A trend of complacency, vaccine hesitancy and even vaccine refusal is growing. In some countries this is fuelled by effective communication by anti-vaccination groups. Most often, it is rooted in lack of knowledge and understanding and perhaps a general distrust in health authorities. Events of real or perceived side-effects of vaccines, and how these events are handled by authorities, also play a great role in the public's perception of vaccine safety.



### Immunization is an investment that pays back

Immunization is one of the most cost-effective public health achievements of modern times. It costs very little, but by saving lives and preventing disease and disability, it contributes to poverty reduction, education and socio-economic development. It is therefore also a key element in reaching the Millennium Development Goals (MDG) and in promoting equity.



### New vaccines give us new opportunities to save lives

Research and innovation have enabled the development of new vaccines that provide protection from more diseases. These developments represent tremendous progress. Failure to introduce new vaccines in national immunization programmes will be a lost opportunity to protect many more children and adults from suffering and death caused by diseases such as cervical cancer, pneumonia, meningitis and severe diarrhoeal diseases in young children.



Why we must invest in immunization

# A fundamental right for every individual

Immunization is a powerful tool to relieve human suffering and as such a fundamental right of every individual.

## THE UNIVERSAL DECLARATION OF HUMAN RIGHTS

→ “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family” (art. 25).

## THE CONVENTION OF THE RIGHTS OF THE CHILD

→ States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health (...). States Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures... to diminish infant and child mortality” (art. 24).

## WHO CONSTITUTION

→ “The States Parties to this Constitution declare, in conformity with the Charter of the United Nations, that (...) the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being.”

Every individual has a fundamental right to protection from avoidable disease.

As the most successful public health intervention ever, saving millions of lives and preventing suffering and disability for many more, immunization is fundamental to reach this end.



## Why we must invest in immunization

# We have agreed to get rid of diseases

Viruses do not respect borders, and vaccine-preventable diseases can only be combatted through sustained efforts in all countries. In a common battle against these diseases, all Member States of the WHO European Region have committed to a set of goals:

The WHO European Region is close to elimination of measles and rubella. But ultimately, the success or failure of this goal is rooted in political will and commitment and access to sustainable funding.

### MEASLES AND RUBELLA GOAL

→ Eliminating measles and rubella in the WHO European Region by 2015

**Even beyond elimination, national immunization programmes need to be resilient to tackle the ever-present challenges of measles and rubella.**

A resurgence of measles and rubella will remain a constant threat as long as immunization gaps persist.

We will not be free of measles or rubella in any near future. They are highly infectious diseases, and since viruses can easily cross borders importation will always be possible.

## Tremendous progress has been made! Measles and rubella in the WHO European Region:

1980-1984



70%

VACCINATED

30%

UNVACCINATED

2006-2013



94%

VACCINATED

6%

UNVACCINATED



## Why we must invest in immunization

We have agreed to get rid of diseases

The WHO European Region has been certified polio-free since 2002<sup>1</sup> and continued effort has been invested in sustaining this status.

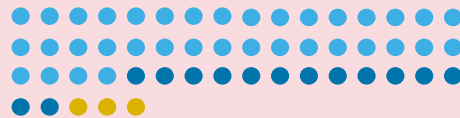
### POLIO GOALS

- Sustaining polio-free status in the WHO European Region
- Global eradication of wild polio virus by 2018

## The polio-free status is under constant threat

- 14 Member States in the WHO European Region are at intermediate risk and 3 Member States are at high risk of transmission following importation of poliovirus<sup>2</sup>.

### RISK OF POLIO TRANSMISSION



36

MEMBER STATES AT  
LOW RISK

14

MEMBER STATES AT  
INTERMEDIATE  
RISK

3

MEMBER STATES AT  
HIGH RISK

<sup>1</sup> Indigenous transmission of wild poliovirus has ceased.

<sup>2</sup> Conclusions of the European Regional Certification Commission for Poliomyelitis Eradication (RCC), June 2015, based on 2014 reporting: <http://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/publications>



Why we must invest in immunization

# Undervaccinated groups must be reached to avoid outbreaks

**Despite their overall high routine immunization coverage, every country has population groups that are not fully immunized. As a consequence, a disturbing increase in outbreaks of vaccine-preventable diseases has been seen in the WHO European Region.**

Viruses do not respect borders. As long as disease is circulating anywhere in the world, we need to ensure the protection of all population groups.

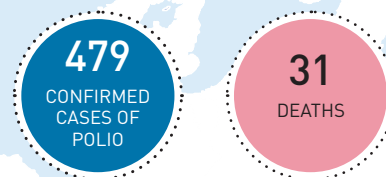
To reach the undervaccinated, immunization programmes need to tailor communications and programme delivery to overcome existing barriers.

But variable commitment in some Member States is impeding progress, innovative solutions and the actions necessary to fulfil the rights of underserved, marginalized, migrant and disadvantaged children and families.

## Even with high coverage, there is a risk of outbreaks

- 11.2 million children are born each year in the WHO European Region. With current immunization rates it is estimated that 700 000 – 1 000 000 of them will not receive all recommended vaccinations in their lifetime.
- More than half a million babies born in the Region do not complete the three-dose series of diphtheria/tetanus/polio (DTP) vaccine before age one.
- 22 of the Region's 53 Member States have interrupted endemic transmission of measles<sup>1</sup>.

- A large polio outbreak in 2010 with 479 confirmed cases of polio and 31 deaths in four European Region Member States bears witness to the need for constant vigilance.





## Why we must invest in immunization

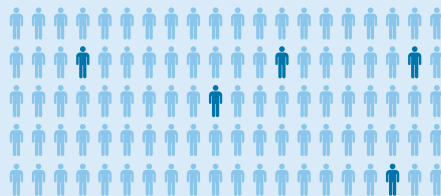
### Undervaccinated groups must be reached to avoid outbreaks

#### Herd immunity

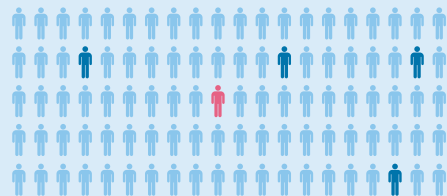
When enough people are immunized, diseases cannot spread. This is called herd immunity. However, this only works if unvaccinated individuals are scattered across geographical areas. If the unvaccinated are gathered in one location, diseases can cause large outbreaks – even if national vaccination coverage is high.

95%  
COVERAGE

With unvaccinated individuals scattered across the country



Herd immunity, low risk of spread of disease



95%  
COVERAGE

With specific undervaccinated community



Insufficient herd immunity, moderate risk of spread of disease







## Why we must invest in immunization

# Complacency and vaccine hesitancy are growing

A growing number of individuals have safety concerns and question the necessity of immunization. A trend of complacency, vaccine hesitancy and even vaccine refusal is growing.

In some countries this is fuelled by effective communication by anti-vaccination groups. **Most often, it is rooted in lack of knowledge and understanding and perhaps a general distrust in health authorities.**

The barriers to vaccine demand are complex and context-specific and include social, cultural and other behavioural determinants. Immunization programmes need to invest in research and improved immunization data to monitor perceptions, knowledge and atti-

tudes towards immunization in all population groups. Based on this, they must develop tailored and innovative strategies to raise awareness and ensure that individuals make evidence-informed choices, understand the benefits and risks of vaccination and the diseases it prevents – and ultimately demand vaccination as both their right and their responsibility.

Events of real or perceived side-effects of vaccines, and how these events are handled by authorities, play a great role in public perception of vaccine safety. Failure to respond immediately to such events, including with transparent and targeted communication, often leads to widespread and long-term distrust in vaccines as well as the health authorities that deliver them.

## Barriers to vaccination demand are complex and context-specific

→ »I do not trust health authorities. There have been too many scandals.«

→ »It is a long and expensive trip to go to the nearest health facility.«

→ »It is difficult for me to take my child to the health facility during work hours.«

→ »We move around a lot. I am not sure about my child's vaccination status.«

→ »Is it really necessary?«

→ »I tried to find some credible, official information about vaccines, but I did not find it.«

→ »The immune system will grow much stronger through diseases.«

→ »My religious beliefs prevent me from being vaccinated.«

→ »I read a blog written by a mother of an autistic child – the mother is certain that the condition was caused by the MMR vaccine.«

→ »When everyone else is vaccinated, I am protected as well. So why should I?«

→ »I heard that someone died following vaccination.«

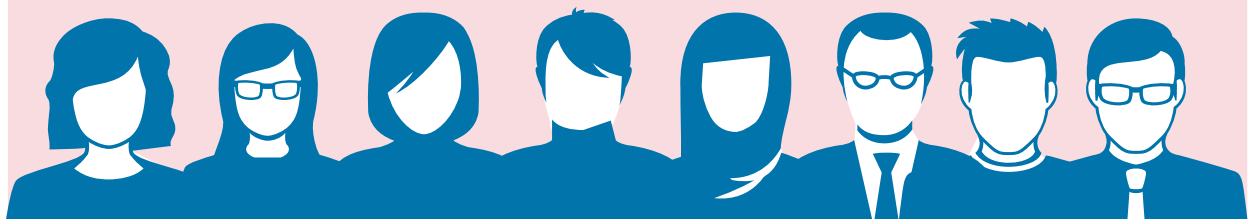
→ »My mother-in-law says that vaccination is not safe.«

→ »A well-renowned doctor in our country warns against vaccination.«

→ »I forgot about it.«

→ »I was uncertain, and I was not able to find satisfactory information anywhere.«

→ »My child caught a fever from the last vaccine – I do not want her to go through this again.«





## Why we must invest in immunization

# An investment that pays back

Immunization is one of the most cost-effective public health achievements of modern times. It costs very little, but by saving lives and preventing disease and disability, it delivers immense social and economic returns.



### Cost-effectiveness

Immunization has high returns on investments.

**Example: Simulation of the impact of hepatitis B immunization in the 20 years following its introduction in Italy.<sup>1</sup>**  
**Clinical costs of two scenarios: 1) vaccination and 2) no vaccination.**

	SCENARIO: NO VACCINATION	SCENARIO: VACCINATION	AVOIDED COSTS	% REDUCTION
Symptomatic acute HBV infection	572 051 723	362 160 953	209 890 771	37
Chronic hepatitis B	649 157 949	210 059 569	439 098 380	68
Compensated cirrhosis	18 485 689	8 914 521	9 571 168	52
Decompensated cirrhosis	1 193 807	575 700	618 107	52
Hepatocellular carcinoma	8 330 359	2 830 361	5 499 999	66
Liver transplantation	3 135 545	1 117 773	2 017 771	64
<b>Total</b>	<b>1 252 355 072</b>	<b>585 658 877</b>	<b>666 696 195</b>	<b>53</b>



### Productivity

When infected adults and caregivers of infected children are prevented from going to work, they do not contribute to growth and production.

**Example: Impact of measles infection – duration of symptoms, time off school or work and hospitalisation<sup>2</sup>**

	ALL CONFIRMED MEASLES CASES
Mean duration of perceived symptoms (days)	13.8
Individuals reporting time off work or school (%)	63.1 %
Mean time off work or school (days)	9.6
Individuals reporting time off work for primary caregivers (%)	39.6 %
Mean time off work for primary caregivers (days)	7.3
Individuals reporting at least one night in hospital (%)	36.5 %
Mean number of nights spent in hospital	4.2

<sup>1</sup> Boccalini S, Taddei C, Ceccherini V, Bechini A, Levi M, Bartolozzi D, Bonanni P. Economic analysis of the first 20 years of universal hepatitis B vaccination program in Italy: An a posteriori evaluation and forecast of future benefits. *Human Vaccines & Immuno-therapeutics*. May 2013, 9(5): 1119-1128.]

<sup>2</sup> The effect of measles on health-related quality of life: a patient-based survey. *Thorrington D, Ramsay M, van Hoek AJ, Edmunds WJ, Vivancos R, Bukasa A, Eames K. PLoS One*. 2014 Sep 9;9(9):e105153. doi: 10.1371/journal.pone.0105153. eCollection 2014. ]



## Why we must invest in immunization

### An investment that pays back

#### Poverty

The burden of disease often falls on the socially and economically disadvantaged. Absence of disease means that parents can uphold their incomes and thus removes an important obstacle to breaking out of poverty.



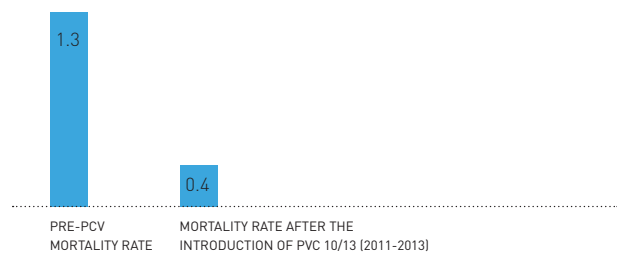
#### Child mortality

With vaccination, child mortality rates decline dramatically.



#### Example: Impact of pneumococcal conjugate vaccine on child mortality rate in Denmark<sup>1</sup>

After introduction of PCV10/PDV13 vaccine Denmark experienced a 71% reduction in the 30-day mortality rate per 100 000 children under age 2 with invasive pneumococcal disease.



#### Life expectancy

An immunized population lives longer, considerably increasing the country's life expectancy.



#### Education

Healthy children attend school more regularly, whereas diseases affect both their cognitive development, physical strength and educational achievements.





Why we must invest in immunization

# New vaccines – new opportunities to save lives

Research and innovation have enabled the development of new vaccines that provide protection from more diseases. These developments represent tremendous progress. Failure to introduce new vaccines in national immunization programmes will be a lost opportunity to protect many more children and adults from suffering and death caused by diseases such as cervical cancer, pneumonia, meningitis and severe diarrhoeal diseases in young children.

## HPV VACCINES

→ HPV vaccines prevent the types of human papillomavirus infections that cause 70% of all **cervical cancers** and precancerous cervical lesions. Worldwide, cervical cancer is the fourth most frequent cancer in women, representing 7.5% of all female cancer deaths [2012].

## PNEUMOCOCCAL VACCINES

→ Pneumococcal vaccines prevent transmission of *Streptococcus pneumoniae*, the leading cause of pneumonia – the world's number one killer of children under five. *Streptococcus pneumoniae* can also cause **bacterial meningitis**, which can cause severe brain damage as well as blood poisoning and infection of the middle ear, in some cases leading to permanent deafness.

## ROTAVIRUS VACCINES

→ Rotavirus vaccines prevent rotavirus – the most common cause of **severe diarrhoeal disease** in young children throughout the world. Untreated, it can be life-threatening. It can also cause vomiting, fever and abdominal pain.