

# PROTECTING YOUNG CHILDREN FROM VACCINE- PREVENTABLE DISEASES



**Disclaimer:**

The resource modules were authored by the individuals under the guidance of the UNICEF Regional Office for Europe and Central Asia. The text is presented in draft format and it is expected that it will be adapted and contextualized for use by interested countries. The material has not been edited to official publication standards. UNICEF accepts no responsibility for errors. The designations in this publication do not imply an opinion on legal status of any country or territory, or of its authorities, or the delimitation of frontiers.

**Coordination and Editing:**

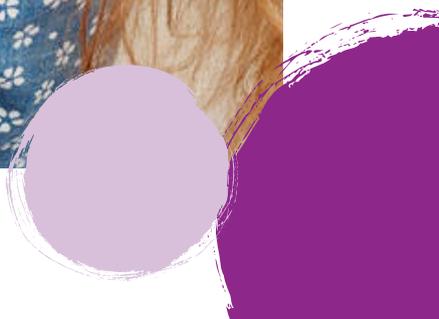
- Aleksandra Jovic, UNICEF, Early Childhood Development Specialist
- Silvia Sanchez R., UNICEF, Knowledge Management Consultant

**Lead Author:**

Bettina Schwethelm, UNICEF, Young Child Health and Development Specialist, Director, MCH-ECD

**Contributors:**

- Svetlana Stefanet, UNICEF, Immunization Specialist
- Sergiu Tomsa, UNICEF, Communication for Development Specialist
- Viviane Bianco, UNICEF, Communication for Development Consultant



## TABLE OF CONTENTS

<b>Key Messages – Why is this Topic Important to you?</b> .....	<b>6</b>
<b>Learning Outcomes</b> .....	<b>6</b>
<b>Pre-Test for this Module</b> .....	<b>7</b>
<b>Glossary and Definitions</b> .....	<b>10</b>
<b>I. Introduction</b> .....	<b>11</b>
1. Nurturing Care – A Holistic Approach to Young Child Health, Development and Wellbeing .....	11
2. Vaccination Trends Globally and in Europe .....	14
3. Working with Families to Protect Young Children from Vaccine-Preventable Diseases – Module Overview and Summary .....	15
<b>II. Immunization and Vaccine Preventable Diseases – A Major Public Health Achievement</b> .....	<b>16</b>
1. Childhood Immunization .....	16
2. How Vaccines Work .....	17
3. The Benefits of Vaccination to the Individual Child and Society .....	20
4. Vaccine Safety and Side Effects .....	22
5. Family-Held Vaccination Records .....	23
<b>III. Understanding Barriers to Vaccination</b> .....	<b>24</b>
1. Caregivers Along the Continuum of Vaccine Acceptance, Hesitancy, and Rejection .....	24
2. Understanding how Individuals Make Behavioural Choices .....	26
a. The Behaviour Change Journey .....	26
b. Factors Influencing Caregiver Decisions .....	27
c. Perception Biases, Beliefs, and Myths About Vaccines – The Internet and Social Media .....	31
d. The Role of Health Workers .....	34
<b>IV. Communication Skills and Tools to Support Vaccine Acceptance by Caregiver</b> .....	<b>37</b>
1. Active Listening Skills .....	37
a. Verbal Communication .....	37
b. Non-Verbal Communication .....	38
c. Empathy .....	39
2. Working with Caregivers Along the Continuum of Vaccine Hesitancy .....	39
a. Vaccine-Accepting Families .....	40
b. Vaccine-Hesitant Caregivers .....	41
c. Vaccine Refusers and Anti-Vaccine Advocates .....	44
3. Helping Caregivers Overcome Barriers to Vaccination .....	46
a. Preparing Caregivers for Vaccination and Helping Them Manage Mild Side-Effects .....	46
b. Helping Caregivers Problem-Solve .....	46
c. Addressing Rumours in the Community .....	47



<b>V. Summary of Key Points and Post-Test .....</b>	<b>48</b>
1. Summary of Key Points .....	48
2. Post-Test with Answers.....	49
<b>VI. Websites And Video Clips.....</b>	<b>53</b>
1. Websites .....	53
2. Relevant Video Clips .....	53
<b>Annexes: Information Cards.....</b>	<b>55</b>
<b>Information Card 1</b> - Common Vaccine-Preventable Diseases .....	55
<b>Information Card 2</b> - Frequently Asked Questions (FAQS) About Childhood Vaccinations.....	58
<b>Information Card 3</b> - Simple Ways to Show Empathy .....	62
<b>Information Card 4</b> - Responses that Encourage Communication.....	63
<b>Information Card 5</b> - Roadblocks to Communication .....	64
<b>Information Card 6</b> - Practical Communication Skills – Case Study .....	65
<b>Information Card 7</b> - The CASE Approach.....	66
<b>Information Card 8</b> - Steps to Address Negative Rumours in the Community.....	67
<b>Information Card 9</b> - Reducing Pain .....	68
<b>Information Card 10</b> - What is Community or Herd Immunity and Why is it Important? .....	70
<b>Worksheets.....</b>	<b>71</b>
<b>References.....</b>	<b>73</b>



## KEY MESSAGES – Why is this topic important to you?

- Vaccination is one of the world’s safest and most cost-effective public health interventions. Yet growing distrust in science, coupled with misinformation, means that vaccination coverage rates are declining in some countries and communities, resulting in an upsurge of vaccine-preventable diseases.
- The routine vaccination schedule brings families into frequent contact with the healthcare system, providing opportunities to reach children with life-saving vaccines and other crucial services for children and their families.
- Research shows that those caring for children tend to trust the advice of their health workers when it comes to vaccination, despite conflicting and often misleading information from other sources.
- That is why your role is so important: poor or disrespectful responses to caregivers and their concerns, coupled with a lack of uptake of vaccines (whether at a clinic or during a home visit), can have a strong and negative impact not only on their future demand for vaccination, but also for a whole range of other health services.
- As a professional who is trusted by the families you serve, you have a unique opportunity to identify vaccine-hesitant caregivers; understand their fears, dilemmas and choices; provide them with relevant information; help them overcome their vaccination hesitancy; strengthen their confidence in vaccines and immunization, and, in some instances, vaccinate their children.
- Using your communication skills and your knowledge about how individuals make behavioural choices, you can influence and guide parents to make decisions in the best interests of their children by listening to and understanding their concerns, providing answers to their questions, and helping them make the best choice for their child and their community.



## LEARNING OUTCOMES

Once you have completed this module you will:

- Have a good understanding of vaccine-preventable diseases and the importance of immunization.
- Understand the role of health workers – particularly home visitors – in guiding families in their decisions to have their children protected against vaccine-preventable illnesses.
- Understand the importance of checking the immunization status of the child during each relevant visit and reminding caregivers about upcoming vaccination appointments.
- Understand that the views of caregivers range across a continuum from vaccine acceptance, to hesitancy and rejection, and that tailored approaches and actions are required from you to ensure that as many infants and children are protected against vaccine-preventable diseases as possible.
- Be able to apply evidence-based techniques and approaches to address hesitancy and influence caregivers’ decisions and behaviours.
- When checking a child’s records, know how to give their caregivers the space to voice concerns and ask questions so that you can provide facts about vaccination benefits and address rumours and misinformation.
- Know how to identify caregivers who are hesitant about vaccines and respond to their questions and concerns with facts and empathy to help them make informed decisions and move towards vaccination.
- Communicate with caregivers who are rejecting vaccines in a respectful and empathetic way, reminding them that vaccines are safe, advising them of the dangers and symptoms of vaccine-preventable diseases, and reinforcing their responsibilities, as caregivers, to inform health workers if their child has not been vaccinated.
- Show your appreciation and validation of families that have accepted vaccination and that might be willing to become ‘vaccine advocates’ in your community.
- Be able to advise parents on how to deal with the possible common side effects of vaccination.



## PRE-TEST FOR THIS MODULE

Some of these questions may refer to topics that are unfamiliar to you at this early stage, but do not worry. The module will cover all of these issues and features a post-test (with answers) at the end so that you can assess your own progress.

1. Costing studies have shown that childhood vaccinations constitute one of the most cost-effective public health interventions.
  - ▶ True
  - ▶ False
2. The number of parents refusing vaccinations for their infants and young children is increasing. This group should, therefore, be the main target for education by home visitors.
  - ▶ True
  - ▶ False
3. Increasing herd/community immunity is not a good argument for increased support for immunization programmes.
  - ▶ True
  - ▶ False
4. Several countries in Europe have had a high number of measles cases. Some of the reasons for this include (please mark all answers that apply):
  - a. Shortages of measles vaccine in these countries
  - b. Caregivers who are complacent, because they do not know that measles is a dangerous and very infectious disease
  - c. Researchers who have been unable to dis-prove the myth that measles vaccine causes autism
  - d. Measles brought in by travellers from poor, under-developed countries
  - e. Falling immunization coverage.
5. The reason for vaccine hesitancy is simple: caregivers just lack the evidence about the benefits of vaccines.
  - ▶ True
  - ▶ False
6. Some of the strategies to overcome vaccine hesitancy among parents include (please mark all answers you consider correct):
  - a. Improving the interpersonal and communication skills of health workers
  - b. Listening to the concerns of caregivers and showing empathy
  - c. Understanding how behaviour change takes place and using a solid behaviour-change approach
  - d. Ensuring that health workers welcome caregivers who may feel socially excluded and stigmatized
  - e. Telling caregivers that health professionals know best and that they should not question immunization, as they are not experts
  - f. Improving the quality of health services.
7. Some of the challenges to the achievement of high immunization coverage rates for measles and rubella coverage (please circle the answers you consider correct)
  - a. The rejection of vaccines by some families in small communities and urban areas creates pools of unprotected children, increasing the risks of the rapid spread of epidemics
  - b. Measles vaccine is routinely provided to children when they are one year of age: a time when some caregivers may feel that their young children have already received enough vaccines to be protected

- c. Lack of trust in vaccine safety
  - d. Shortage of vaccines in some countries as a result of recent epidemics.
8. Home visitors should be prepared to respond flexibly to the concerns of parents about vaccinations, with brief, tailored and fact-based 'elevator' speeches (short enough to be presented during an elevator ride of just a few floors).
- ▶ True
  - ▶ False
9. Polio has been eradicated and will soon be removed from all immunization schedules.
- ▶ True
  - ▶ False
10. Arrange the following stages into the correct sequence for an expanded behaviour-change model:

Stages	Step
Decision	
Advocacy	
Pre-contemplation	
Maintenance	
Preparation	
Contemplation	
Trigger	
Fine-tuning	
Trial	

11. List some non-verbal communication features you can use to make caregivers feel more comfortable:
- - 
  - 
  -
12. Giving young infants multiple vaccines at the same time can overwhelm their immune system.
- ▶ True
  - ▶ False
13. Naturally acquired immunity works better and is safer than vaccine-acquired immunity.
- ▶ True
  - ▶ False
14. The following approaches need to be avoided when addressing the concerns of caregivers about vaccines (mark all that apply):
- a. Reflective listening
  - b. Solving any problems the caregiver has in getting to the clinic
  - c. Empathy for their concerns about whether they are making the best decision for their child
  - d. Praising them by telling them that they are your 'best' parents and that you are so proud of them
  - e. Rebuking caregivers for missing vaccination appointments
  - f. Reminding caregivers that they are not experts and should not question immunization.

15. Caregivers who refuse vaccines are likely to include individuals with some of the following characteristics (mark all that apply)
- They are from marginalized populations
  - They question science and are often highly educated
  - They come from poor and uneducated families in urban areas
  - They don't trust their health care system or health workers.
16. The 'three Cs' are (mark all that apply)
- Complacency
  - Concern
  - Convenience
  - Confidence.
17. Vaccination programmes are expensive because of the costs of vaccines, cold-chains and the salaries needed to deliver so many vaccines to so many children. It is an important public health intervention, but not very cost-effective.
- True
  - False
18. 18. Measles is so dangerous because ... (mark all that apply)
- The disease kills most unvaccinated children because the vaccine only starts working when a child is around two years old
  - It is so infectious that herd immunity cannot be achieved
  - It can wipe out much of the immune 'memory' that a young child had acquired before contracting measles
  - Survivors of measles have an increased likelihood of death in the 2-3 years after contracting the disease
  - The infection spreads rapidly when a group of unvaccinated individuals is exposed to a case of measles.
19. There are no good sources of credible information about vaccines and vaccine safety.
- True
  - False
20. Vaccine 'rejectors' have a responsibility to inform health workers that their child has not been protected against vaccine-preventable diseases and should know about the signs and symptoms of these diseases.
- True
  - False
21. While vaccination contributes primarily to Sustainable Development Goal 3 (SDG 3) on good health and wellbeing by reducing the number of vaccine-preventable deaths, it also contributes indirectly to many other SDGs.
- True
  - False



## GLOSSARY AND DEFINITIONS

**Caregiver.** The parent or primary guardian of the child. This module uses the terms ‘parent’ and ‘caregiver’ interchangeably, recognizing that while most children are cared for by their parents, this is not always the case. For the purposes of this module, the terms ‘parent’ or ‘caregiver’ refer to the adults responsible for children and who make critical decisions on their behalf around immunization.

**Closed questions.** Questions that are generally answered with a simple “yes” or “no”, in contrast to “open-ended” questions that encourage the other person to elaborate on their answer and encourage a genuine, two-way dialogue.

**Empathy.** The capacity to understand or feel what another person is experiencing from their point of view, i.e. putting yourself in their shoes. This contrasts with ‘sympathy’, which often conveys pity for someone else, but not necessarily an understanding of their situation.

**European Centre for Disease Prevention and Control (ECDC).** “EU agency aimed at strengthening Europe’s defenses against infectious diseases. The core functions cover a wide spectrum of activities: surveillance, epidemic intelligence, response, scientific advice, microbiology, preparedness, public health training, international relations, health communication, and the scientific journal Eurosurveillance.”<sup>1</sup>

**Herd/community immunity.** It is achieved when the vast majority of a population (at least 95% of children for childhood vaccination) is vaccinated, ensuring the protection of the whole community, including individuals who have not been vaccinated.

**Immunization.** The process by which a person develops resistance to an infectious illness, usually through the application of a vaccine.

**Interpersonal communication.** The exchange of information, thoughts, and feelings – both verbal and non-verbal between two or more people that leads to dialogue, mutual understanding, respect for different perspectives and positions and immediate feedback. It can take place in a face-to-face setting or via video or audio settings by phone or Internet.

**MMR.** Measles-mumps-rubella vaccine.

**Vaccination.** Act of introducing a vaccine into the body to produce immunity to a disease.

**Vaccine hesitancy** (WHO, 2019). The reluctance or refusal to vaccinate despite the availability of vaccines. Vaccine hesitancy is complex and context-specific, varying across time, place and vaccines, and is influenced by multiple factors, such as complacency, convenience and confidence.

<sup>1</sup> European Centre for Disease Prevention and Control. <https://www.ecdc.europa.eu/en/about-ecdc>



## INTRODUCTION

### 1. Nurturing Care – A Holistic Approach to Young Child Health, Development and Wellbeing

Recent decades have seen a surge of research on neuroscience and child development that has identified what newborns and young children need to survive, thrive, and lead healthy and productive lives. In May 2018, this critical body of scientific knowledge was brought together and used to create the *Nurturing Care Framework* by the World Health Organization (WHO), UNICEF, the World Bank and other partners. Compelling and robust scientific evidence was translated into five easily understandable and mutually supporting components that are essential for children to thrive (also shown in Figure 1):



© UNICEF/Kudrvtsev

- Good health
- Adequate nutrition
- Opportunities for early learning
- Responsive caregiving, and
- Security and safety.

Figure 1. The Nurturing Care: five interconnected components





© UNICEF/Voronin

and will be able to respond in a way that protects the child's wellbeing. Similarly, a responsive caregiver is sensitive to the signs that a child is feeling well, alert, and ready to play and explore, and will be able to respond with appropriate activities.

While parenting is perhaps the most challenging task for any adult, measures and support to prepare people for parenthood and education in parenting are more often available in high- and middle-income countries. Where such support is available in low-income countries, it tends to be accessed most frequently by high- and middle-income families.

Families in many countries in the Europe and Central Asia region are fortunate to benefit from universal health care and home-visiting services provided by the public sector during the critical times of pregnancy and the first few years of a child's life. While the number of visits provided to all families is often limited, home visiting can be an effective entry point and opportunity to provide reliable and valid information and advice on child development, child rearing and parenting. Universal home-visiting services can also be used to identify families that are vulnerable or that need additional and targeted services. Providing all families with trusted and evidence-based information and advice and identifying the families with additional needs require knowledge and special skills in working with families from all walks of life to build a genuine and supportive partnership.

### About the resource package for home visitors and its modules

The resource package for home visitors 'Supporting Families for Nurturing Care' is a growing set of training modules (see Figure 2). It aims to strengthen the **knowledge** of home visitors on the key components of Nurturing Care, and enhance their **skills** in working with families to enable and empower them to provide the best start to their children. While targeting home visitors, many of these modules are also suitable for other health and non-health professionals who interact with pregnant women and the families of young children.

Each of the modules responds to one or more components of Nurturing Care and builds capacity and skills needed by the home visitor to provide supportive home visits. In addition, each module aims to help home visitors reflect on professional attitudes and strengthen practices to engage inclusively and respectfully families that are diverse and face different needs and challenges.

The modules have been developed by well-known experts and can be translated and adapted to different country contexts. In some countries, the modules have already become a mainstay of lifelong learning and continuing professional development for health workers and social-service providers engaged in promoting the comprehensive wellbeing of young children and their families. You can find hard copies of all modules on the International Step by Step Association (ISSA) website at [https://www.issa.nl/modules\\_home\\_visitors](https://www.issa.nl/modules_home_visitors) and on UNICEF Agora.

To survive, thrive and reach their full developmental potential, infants and young children need all five components of the Nurturing Care wheel. The components are not stand-alone, nor do they work as additions to each other: they are indivisible and synergistic. 'Responsive caregiving', for example, creates an enabling environment that can safeguard the other components: that is, a caregiver who is responsive to a child will be able to detect early signs that the child is feeling ill, tired, overwhelmed, anxious or threatened

**Figure 2. The ‘Supporting Families for Nurturing Care’ resource package and its modules**  
(asterisks indicate complementary pre-existing training packages)



Knowledge
Module 1: The Early Childhood Years - A Time of Endless Opportunities
Module 7: Parental Wellbeing
Module 11: Working against Stigma and Discrimination - Promoting Equity, Inclusion and Respect for Diversity
Module 12: Children Who Develop Differently - Children with Disabilities or Developmental Difficulties
Module 18: Gender Socialisation and Gender Dynamics in Families - The New Role of the Home Visitor

Skills
Module 2: The New Role of the Home Visitor
Module 10: Caring and Empowering - Enhancing Communication Skills for Home Visitors
Module 13: Developmental Monitoring and Screening
Module 15: Working with Other Services
Module 17: Supervision - Supporting Professionals and Enhancing Service Quality
Module 22: Protecting Young Children from Vaccine-Preventable Diseases

## 2. Vaccination Trends Globally and in Europe

Since the development of the first vaccination against smallpox more than a century ago, vaccine programmes for children have become an integral component of preventive primary health care in every country on earth.

- Vaccination programmes prevent between 2 and 3 million deaths globally each year (WHO, 6.12.2019).
- In 2019, about 86 per cent of infants worldwide (116.3 million infants) received 3 doses of diphtheria-tetanus-pertussis (DTP3) vaccine, protecting them against infectious diseases that can cause serious illness, disability or death.
- Individuals and governments benefit from vast cost-savings as a result of the prevention of illness (EU and WHO, 2019). Based on the costs of illnesses, including treatment costs and productivity losses, that have been averted, every dollar invested in vaccines during the Decade of Vaccines (2011-2020) is estimated to have yielded a net return of about \$16 (Ozawa et al., 2020).
- Two of the three strains of wild polio virus strains have been eradicated.
- A growing number of countries have achieved 'disease-free' certifications (i.e. the European region has sustained its polio free status since 2002).
- The growing number of combination vaccines (i.e. the child is vaccinated against several diseases with one injection) is reducing the number of injections needed.

*"In the absence of disease, fear of disease has been replaced by fear of vaccines for some people" (WHO, 2017).*



© UNICEF/Bershadskyy Yuriy

In recent years, however, vaccination programmes have become victims of their own hard-earned success: few caregivers remember epidemics of polio, measles, pertussis or chickenpox that took the lives of many children, left many more with disabilities, and undermined their health and development. They may be unaware that measles is one of the world's most contagious diseases, and that its transmission can only be halted if at least 95 per cent of the population is protected by immunization.

In addition, misinformation that links vaccines to autism is easy to find and continues to circulate through social media and on websites, despite being discredited repeatedly, including by large-scale population studies (Hviid et al., 2019). Misinformation is sometimes disseminated deliberately to contradict (and appear alongside) evidence-based information about the benefits of vaccination.

As a result of such challenges, countries around the world, and particularly in the Europe and Central Asia Region, have seen a resurgence of measles as the number of unprotected children and adults has grown. Measles cases have reached their highest level in Europe in 20 years (The Guardian, 21.12.2018). In total, 49 of the 53 countries in WHO European Region reported more than 192,943 measles cases and more than 100 measles-related deaths between 1 January 2018 and 31 December 2019, with a regional coverage with 2 doses of measles vaccination of only 91 per cent for the two doses of measles vaccination, which is too low to ensure herd immunity. Large disparities at the local level persist: some communities report over 95% coverage, and others below 70%. Several countries in the region – Albania, the Czech Republic, Greece and the UK – have recently lost their measles free certification.

### 3. Working with Families to Protect Young Children from Vaccine-Preventable Diseases – Module Overview and Summary

*“Immunization is one of the most cost-effective ways to save lives and promote good health and well-being. Every year, vaccines save 2-3 million lives, and millions more are protected from disease and disability. It routinely reaches more households than any other health service and brings communities into regular contact with the health system. This provides an effective platform to deliver other primary health care services and upon which to build universal health coverage”. (Gavi – The Vaccine Alliance, 2019)*

Because of the frequency of the contact required with families, especially during the early months of a child’s life, the quality of immunization services can either enhance or endanger the trust families place in health care services and professionals. As a health visitor for families with young children, you are in a unique position to educate the families you meet on the importance of vaccines and the vaccination schedule and identify caregivers who have some concerns or who may even reject vaccines.

In their own home, and when talking to someone the family trusts – their home visitor – caregivers may feel more comfortable asking questions and voicing fears that have not been addressed during crowded vaccination sessions or in a busy doctor’s office. Your knowledge of the benefits and safety of vaccines, your communication skills and empathy for families, and your understanding of their concerns are your major tools for the promotion of this crucial health intervention.

Once you have completed this module, you will be able to answer questions and provide practical tips to caregivers on how to support their child while they are being vaccinated and help them deal with common side effects. You will also be able to provide evidence-based information to counter any misinformation that might be spreading through the caregiver’s network or social media. Because you have the information about the child’s vaccination status, you can tailor your response and refer families to other experts and specialists where necessary.

The quality of your support is vital. It may influence whether caregivers complete the vaccination schedule for their children, and the way in which they engage with health services in the future. You may never know for sure, but you may have saved a child’s life, while protecting other young children who cannot be vaccinated because of counter-indications, as well as infants who have not yet received their first vaccines!



© UNICEF/ Krepkih Andrey



## IMMUNIZATION AND VACCINE PREVENTABLE DISEASES – A MAJOR PUBLIC HEALTH ACHIEVEMENT

### 1. Childhood Immunization

In its listing of 100 objects that have shaped public health, Global Health NOW of the Johns Hopkins Bloomberg School of Public Health called “immunization one of the most important public health achievements in human history.”<sup>2</sup>

The development of vaccines has accelerated since the first use of a smallpox vaccine in 1798, and particularly since the middle of the 20th century. Today more than 30 infectious diseases can be prevented with vaccines (see **Information Card 1** in annexes for information about common vaccine-preventable childhood diseases). Even though the world’s population has grown by almost 70 per cent, Gavi – The Vaccine Alliance reports that cases of common vaccine preventable diseases have fallen by around 90 per cent (Gavi, 29.01.2019). Smallpox has been eradicated, as well as two of the three wild polio strains (WHO, 24.10.2019), and a number of countries have achieved measles-free status.

Today, WHO recommends 10 vaccines during infancy and the early childhood years, plus one (for HPV) during adolescence – recommendations that apply to every country (WHO, April 2019).

- Bacillus Calmette Guerin (BCG) (1 dose – protects against tuberculosis)
- DTP-containing vaccine (3 doses – protects against Diphtheria, Tetanus, and Pertussis)
- Td (Tetanus and Diphtheria) booster at 9-15 yrs
- Hepatitis B (3–4 doses - protects against hepatitis type B)
- Hib (3 doses - prevents Haemophilus influenzae type b)
- Pneumococcal (3 doses - protects against pneumococcal disease)
- Polio (OPV and/or IPV, 3–4 doses - protects against poliomyelites)
- Rotavirus (2–3 doses - protects against rotavirus disease)
- Measles (2 doses - protects against measles)
- Rubella (1 dose - protects against rubella)
- HPV (2 doses - protects against human papilloma virus that can cause cervical and other types of cancer) (adolescent girls)

Most of the countries in the ECA region use the MMR vaccine, a combined vaccine against measles, mumps and rubella. WHO recommends vaccination against mumps in high performing immunization programmes with the capacity to maintain coverage over 80% and where mumps reduction is a public health priority.

Unfortunately, there has been a **30 per cent** increase in cases of measles globally, and many countries in Europe and Central Asia have reported falling immunization coverage: half of the countries in the Region have DTP3 and MCV1 coverage below the 95 per cent minimum needed to ensure herd immunity. In 2019 WHO declared vaccine hesitancy as one out of 10 threats to global health. As we will discuss in more detail below, the WHO Vaccines Advisory Group has attributed this to the ‘three Cs:’ **C**omplacency, **C**onvenience, and lack of **C**onfidence, which contribute to vaccine hesitancy among parents and caregivers.

Health workers, especially home visitors who work closely with their communities, have a critical role to play, as their advice is trusted by parents and can influence decisions around vaccination. To fulfil this role, however, home visitors need clear, factual information on vaccines, as well as communication tools to tackle the global threat to health posed by vaccine hesitancy (WHO, 2019).

<sup>2</sup> Global Health NOW. One hundred objects that shaped public health. Retrieved from <https://www.globalhealthnow.org/object/vaccines>



## 2. How Vaccines Work

As a home visitor, you often have very little time to cover a large range of relevant topics with the families you visit. That is why you need to be able to explain, in concise and understandable terms, how vaccines work and why it is important to vaccinate all children.

To be efficient, apply the **'Elevator speech'** approach (Karam et al., 2019a, b) to

make your most important points in the time that it would take for a ride in an elevator. It is important to tailor your messages to each family, taking into account their existing level of knowledge, as well as their concerns and attitudes around vaccination. Visuals can often be very powerful, helping you to make a point quickly and convincingly.



© UNICEF/Krepkih Andrey



### Reflection and discussion

There are many reasons why children are not vaccinated or vaccinated incompletely, but the following four steps can help you prepare short, clear responses to families that have concerns.

- First write down some of the questions and concerns you and your colleagues have heard from the caregivers you visit.
- Then choose several questions related to how vaccines work and develop brief 'elevator speeches' with your colleagues or on your own. For your responses, use simple language, avoid jargon and technical terms; use analogies or simple examples and comparisons.
- Then try out your elevator speeches on others (family, caregivers, etc.)
- Finally, compare your responses to those provided by experts from WHO and the European Centre for Disease Prevention and Control (ECDC) and modify your elevator speeches as needed.

Here are your practice questions: the kind of questions you may well be asked by the families you visit. Look through them and prepare some answers. When you have finished, compare your answers to the information provided in Box 1 below:

- How do vaccines work?
- Why it is better to be vaccinated than to acquire natural immunity (have the child fight the disease on his/her own)?
- Are the vaccines, especially multiple doses, too strong for a small fragile baby to handle?
- Can vaccines cause the infection they are supposed to prevent?
- What happens when a child has been sick with a vaccine-preventable disease? Doesn't this make them more resistant and stronger in fighting new diseases?
- I have heard that vaccinating my child also protects other children. What is community/ herd immunity and why is it important?

### Box 1. How vaccines work

#### How do vaccines work?

“Vaccines contain either a much-weakened form of the virus or bacterium that causes a disease, or a small part of it. When the body detects the contents of the vaccine, its immune system will produce the antibodies required to fight off infection and eliminate the disease-causing virus or bacterium. When a person later comes into contact with the virus or bacterium, the immune system will recognize it and protect the person by producing the right antibodies before any disease can be caused.” (ECDC, Questions and answers about childhood vaccinations)

#### Why it is better to be vaccinated than to acquire natural immunity (have the child fight the disease on his/her own)?

Infants and young children are vaccinated in controlled settings (doctors’ offices or clinics), and parents are informed about possible side effects, how to manage these, and when to seek additional advice. “With vaccines, the immune system is stimulated to develop protection without infection, hence it is more effective” (WHO, 2017).

The only way a child can acquire natural immunity is to become sick with the disease itself. Even when the impact on the child is mild, it may mean additional caregiving and expenses for some families. But the disease could also result in complications, long-term illness, disability and even death, and many other children may become exposed in the process.

For measles, the [Center for Disease Control and Prevention \(CDC\)](#) has reported complications with 30 per cent of measles cases, most commonly diarrhoea, ear infections and pneumonia. For every 1,000 cases of measles, one child may also be affected by encephalitis and two may die. What’s more, the measles infection can destroy much of the wider immunity a child has built up, increasing their risk of contracting other diseases.

#### Are the vaccines, especially multiple doses, too strong for a small fragile baby to handle?

“Newborns commonly manage many challenges to their immune systems at the same time. The mother’s womb is free from bacteria and viruses, so newborns immediately face a host of different challenges to their immune systems. From the moment of birth, thousands of different bacteria start to live on the surface of the intestines. By quickly making immune responses to these bacteria, babies keep them from invading the bloodstream and causing serious diseases. In fact, babies are capable of responding to millions of different viruses and bacteria because they have billions of immunological cells circulating in their bodies. Therefore, vaccines given in the first two years of life are a drop in the ocean of what an infant’s immune system successfully encounters and manages every day.” (ECDC. [Questions and answers about childhood vaccinations](#))

#### Can vaccines cause the infection they are supposed to prevent?

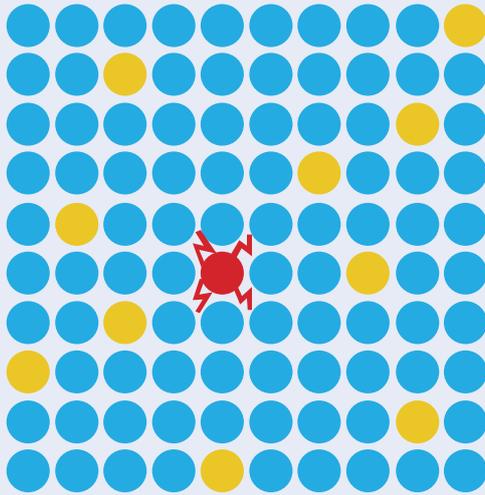
“Inactivated vaccines do not have live germs and cannot cause infections. Live vaccines have weakened germs that are unable to cause disease in healthy people. Rarely a mild form of infection may occur.” (WHO, 2017)

#### What happens when a child has been sick with a vaccine-preventable disease? Doesn’t this make them more resistant and stronger in fighting new diseases?

The defences of children who have survived a vaccine preventable-disease are not necessarily stronger. On the contrary, the disease tends to make the child weaker and more vulnerable. Recent research on measles has shown that having suffered and survived this deadly disease may make it harder for a child to fight other infections for years to come. It has been known for some time that children who had measles were 2-3 times more likely to die from pneumonia, diarrhoea or other conditions in subsequent years. Now, we have learned that the measles virus infects and destroys memory B-cells. These are the cells where the immune system stores information about past

infections that can help it in fighting new infections. In addition, the measles virus also reduces the ability of the immune system to respond to new and dangerous pathogens. It now seems possible that “there could be actually five times more indirect deaths from immune amnesia (caused by the measles virus) than the initial infection caused.” (Gallagher, 2019)

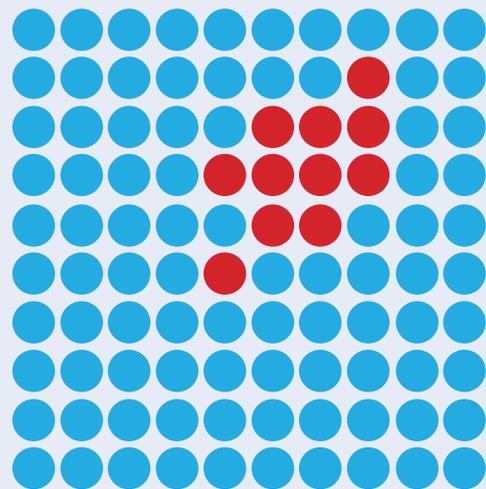
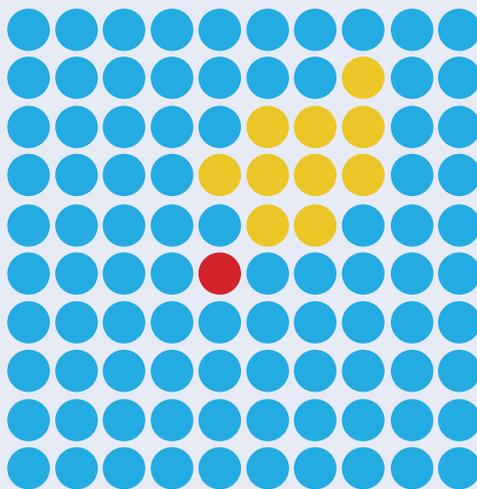
**I have heard that vaccinating my child also protects other children. What is community/herd immunity and why is it important?**



“Vaccination protects you and your family, and it also helps protect others. It contributes to ‘community immunity’. This is achieved when enough people in a population are immune to an infectious disease (through vaccination and/or prior illness) so that it is unlikely to spread from person to person. Even those who cannot be vaccinated because they are too young, are allergic to vaccine components, or vaccination is contraindicated for them, are offered some protection because the disease cannot spread in the community and infect them. This is also known as ‘herd or community immunity’.

When more than 95% of population is (blue dots) in a community they can protect those who are not yet vaccinated (yellow dots) from those who are infectious (red dots)

When groups of unvaccinated people build up and are in close proximity, community immunity doesn’t work and the disease spreads.”



For additional brief answers to common questions and concerns (developed by WHO and ECDC communication experts), check **Information Card 2 – Frequently Asked Questions (FAQs) about Childhood Vaccinations** (in annexes), which also includes links to additional information. However, keep in mind that you will have to tailor your answers to the needs of individual families, their attitudes towards vaccination, and level of knowledge, so just learning some standardized answers by heart is not enough.

### 3. The Benefits of Vaccination to the Individual Child and Society

*“Immunizing children is one of public health’s ‘best buys’. Vaccines are relatively easy to deliver and, in most cases, provide lifelong protection. They boost development both through direct medical savings and indirect economic benefits such as cognitive development, educational attainment, labour productivity, income, savings and investment” (Gavi – The Vaccine Alliance, 2019)*



**Reflection and discussion**

Immunization for vaccine-preventable diseases provides one of the strongest financial returns of any public health intervention, but its benefits go far beyond the health sector alone. Take a look at Figure 3, which sets out all of the Sustainable Development Goals.

- Can you list ways in which the benefits of immunization can be felt across all of these goals?

To help you, the potential links between immunization and the SDGs are set out in Table 1: perhaps you can think of others! When you see how vaccination supports the achievement of the SDGs, you can feel confident and proud in promoting such a cost-effective and safe service to your community and to the families you serve.

**Figure 3. Sustainable Development Goals (SDGs)**



**Table 1.** Vaccination and the achievement of the Sustainable Development Goals (SDGs)

Sustainable Development Goal	Vaccination programmes
1. No poverty	Prevent expensive illnesses and associated health-care costs, reducing the number of people forced into poverty.
2. Zero hunger	Protect children’s nutritional status, because illness impairs absorption of essential nutrients. Malnourished children are also at a higher risk of death from vaccine-preventable diseases.
3. Good health and wellbeing	Reduce mortality and morbidity and provide the platform for the delivery of other health services.
4. Quality education	Vaccinated children have better nutrition and health status, and have, therefore, better chances to learn and achieve.
5. Gender equality	Globally, this is a gender-equal intervention, with similar rates of vaccination for girls and boys
6. Clean water and sanitation (WASH)	Prevent diarrhoeal diseases, alongside WASH programming.
8. Decent work and economic growth	Contribute to the growth of healthy children who attain education and become a productive workforce. Caregivers are more likely to be able to work when children are not affected by vaccine-preventable diseases.
10. Reduce inequality	Protect all communities and children, including the most marginalized, those living in rural areas and in conflict zones, which can be further devastated by epidemics of infectious disease.
11. Healthy cities	Protect children from increased risk of exposure to vaccine-preventable diseases in cities where infections are more able to spread quickly.
16. Peace, justice and strong institution	Contribute to equity and strong health services.

Source: Gavi, 2019



## 4. Vaccine Safety and Side Effects



Before you respond to concerns about the safety of vaccines in general and vaccine side effects in particular, emphasize to families the risks associated with not vaccinating their child: **Vaccines prevent serious illness, long-term negative consequences for health, nutrition and child development, and even death in young children and sometimes adults.**

### a. Vaccine safety

Given the influence of a strong anti-vaccination lobby, as well as misinformation spread via social media, you need to know where you can find reliable information on vaccine safety.

The **Vaccine Safety Net** (<https://www.vaccinesafetynet.org/vsn/vaccine-safety-net>) is a membership platform established by WHO, with member websites that can be accessed for reliable information on vaccine safety in a number of different languages.<sup>3</sup>

Remember that there are strict measures and procedures to ensure that vaccines are safe from the point of manufacturing, right through the supply and cold-chain, to the vaccination of every individual child. Working with collaborating centres (e.g. the ECDC) and Member States, WHO is actively involved in ensuring the quality and safety of every vaccine available in international markets by developing norms and standards for vaccines, providing guidelines and support to national regulatory authorities; and through the WHO vaccine prequalification process.

You could share some useful and brief facts with parents and other caregivers who are concerned about vaccine safety:

- Vaccine production starts with evidence that a vaccine is effective (efficacy) and safe before it is released.
- Quality standards for vaccines include the testing of every batch for potency (to ensure that it is effective against the specific disease), purity (to ensure that it only contains the necessary components), and sterility (to ensure that there are no outside germs). No matter which country produces the vaccine, they all follow the same quality control procedures.
- Vaccines are monitored continuously for Adverse Events Following Immunization (AEFI).

Vaccines also use additional ingredients, such as adjuvants (substances that enhance the body's immune response to an antigen), stabilizers and preservatives. Vaccines with adjuvants can cause some redness, swelling, and pain at the injection site, as well as mild fever and body aches. However, adjuvants such as aluminum salts, as well as other vaccine components, are added in very small doses that do not cause harm to the human body. They have been used safely for decades, and are monitored continuously by international agencies such as the CDC.

Every country in the Europe and Central Asia region has processes for: the registration and procurement of licensed vaccines from vetted international and national manufacturers; local testing of batches; the management of the cold-chain; and vaccination procedures to the point of vaccine delivery. To provide accurate information to parents you need to be well informed about your national system (its licensing, quality control, and regulations for tracking the vaccine batches that have been used).

<sup>3</sup> These websites are vetted based on strict criteria, i.e. not driven by industry, transparent about who owns, manages and pays for the website, and with processes to validate information that is published on the website and are reviewed and updated every two years.



To learn more about the process of vaccine safety, watch **The Journey of Your Child’s Vaccine** (CDC, September 18, 2018). This video describes the journey of a vaccine for children from its development through its monitoring after it has been granted a license in the United States. While this vaccine journey focuses specifically on the USA, the processes are similar across countries. <https://www.youtube.com/watch?v=Fcvgp6gNh6o>

**b. Vaccine side effects**

As a health worker, you already know that no vaccine is completely risk-free, which is also true for any other drug. Vaccines can have side effects, but severe reactions are extremely rare. Therefore, when you are talking with parents and caregivers about vaccine safety, it is important to mention the potential reactions children may have after vaccination. If they are not informed, parents may take these side effects as proof that there is something wrong with the vaccine.

There are three types of adverse reactions: local, systemic and allergic. When preparing parents for the vaccination of their children, it is important to emphasize that these are individual reactions and that they can, in general, be well-managed by the caregiver.

If there are any side effects, they tend to start within a few hours after vaccination and last for several hours or days. There may be some **local** effects, i.e. redness, swelling, and sensitivity at the injection site, as well as **systemic** effects, i.e. slight fever, sore muscles, headache or loss of appetite (WHO Euro, 2017). You can advise parents that they can apply a cold cloth to the injection site and use paracetamol for fever or pain. In cases of higher temperature, extra breastfeeding or fluids, cool clothing, a tepid sponge bath and paracetamol can be helpful (WHO Euro, 2017). Severe allergic reactions are rare. If the caregivers are concerned that their child’s reaction is more severe than a local or systemic effect, they should contact the child’s doctor.

**5. Family-Held Vaccination Records**

When you visit families, ask them if you can review the children’s vaccination status together, using the child’s family-held record or vaccination card. This family-held record is an important tool for you. The way in which caregivers keep it safe, alongside other family documents, will tell you that they understand its importance. If the record is complete and up-to-date, praise the caregivers for the way they are protecting their child and the community and ask if they have any questions. If the family does not have a vaccine record, check the child’s file in the clinic before your next visit or provide advice in line with the age of the child at the visit.



© UNICEF/Maloletka

Your visit is an opportunity to talk about the family’s most recent experience of vaccination (if any) and how it went for the caregiver, as well as the child. This will give you a better understanding about any barriers they may have encountered, their questions and concerns, and their attitudes towards vaccination. As we will review in the later sections, the way you look at a family’s vaccination records together with the caregivers and engage them in a dialogue about vaccination might increase their commitment to come to their next appointment and have their child vaccinated. **You should never scold parents** or provide them with too much information without showing an interest in – and respect for – their reasons not to vaccinate their children.



## UNDERSTANDING BARRIERS TO VACCINATION

### 1. Caregivers along the Continuum of Vaccine Acceptance, Hesitancy, and Rejection

Even if vaccination services are accessible, parents may **choose** to **delay** or **refuse** vaccinations for their children. Because you always need to keep the child’s wellbeing in mind, one of your responsibilities is to understand the parents’ reasons and their feelings about vaccines and vaccinations.

Caregivers can be broadly grouped into **acceptors**, those that are **hesitant**, and those that **refuse** all vaccines. However, we see diverse groups within these three categories, with those who are hesitant about vaccination ranging across a wide continuum (as shown in Figure 4). There are caregivers who:

- accept all vaccines
- accept all vaccines, but have some concerns or doubts about all or some vaccines
- accept some vaccines, and delay or refuse other vaccines, often for a variety of reasons
- refuse vaccines but are not completely sure whether this is the right decision
- refuse all vaccines, sometimes taking a vocal ‘anti-vaxxer’ position.

**Figure 4. Vaccine hesitancy continuum**



**Source:** Karam et al., 2019a, p. 9.

The ECDC (2016) has grouped caregivers somewhat differently, into those who are:

- **hesitant** (for various reasons)
- **unconcerned** (seeing vaccination a low priority, because they do not see a risk for their child)
- **poorly reached** (e.g. groups that are marginalized by society and are not vaccinated for that reason)
- **active resisters** (resisting based on personal, cultural, or religious beliefs).

There are many and varied reasons why families fall into different categories or different positions on the continuum of vaccine uptake, and this reinforces the need for messages that are very targeted. Each type of family should be reached with the most effective arguments – the ones that will resonate with them – to ensure the protection of children and society against the high human and financial cost of vaccine-preventable diseases.

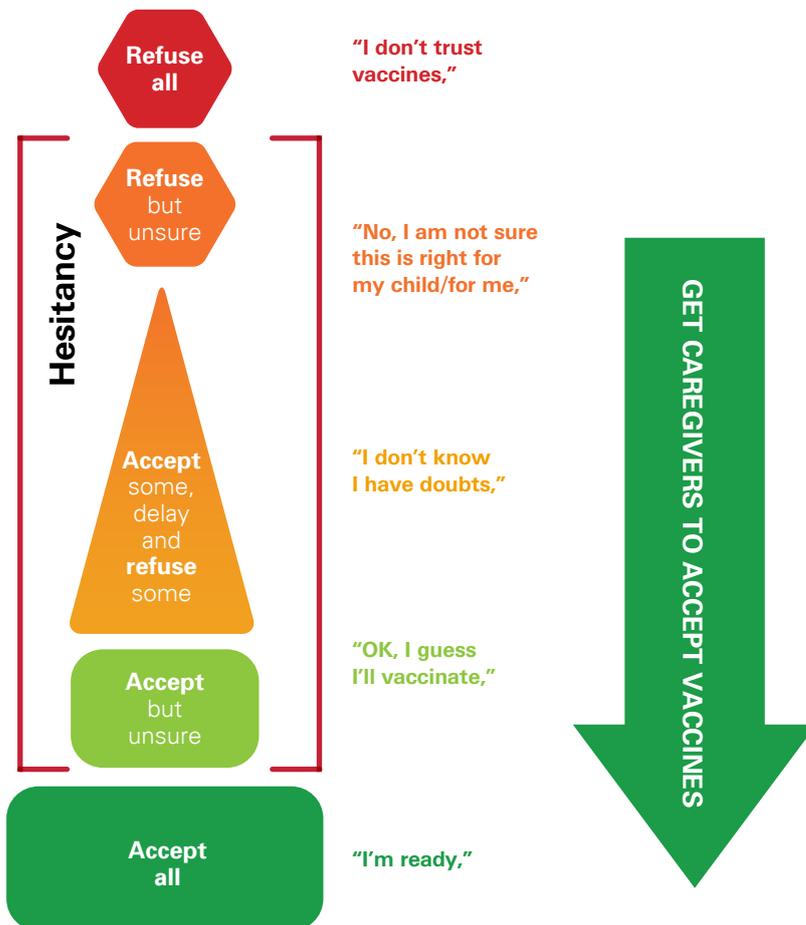
During busy immunization sessions, frontline workers may not always have the time to explore, understand or address families' concerns. And because their questions and concerns were not heard, some families may fail to complete the vaccination schedule.

As a home visitor, you have a unique opportunity to review a child's vaccination status with their caregiver/s, listen to and understand their concerns, show your empathy, and provide the information, advice and support they need to move towards vaccination. As always, it is important for you to keep the child in mind, and assume that the motivation of the caregivers is also to do what is best for the child.



**Important:** As shown in Figure 5, **your objective is to move as many families to vaccine acceptance as possible** to ensure that each child is fully protected against vaccine preventable diseases and contributes, therefore, to community immunity.

**Figure 5. Moving from refusal to acceptance**



Source: Karam et al., 2019a

## 2. Understanding how Individuals Make Behavioural Choices



© UNICEF/ALEKSEY FILIPPOV

It is important to understand how we all make behavioural choices so, in this section, we will look at some behaviour-change models. This will help you to become more aware about what needs to be in place for families to engage in a behaviour, i.e. to complete their child’s immunization schedule. With this information and the communication tools we will cover below, you will be better able to support families on this and other behavioural choices.

### a. The behaviour change journey

The following video explains the behavioural journey with a simple example: a person who is making exercise part of her daily life.



W. Guess (2015). Improve Your Life Using the Stages of Change (Transtheoretical) Model. <https://www.youtube.com/watch?v=Twlow2pXsv0>

#### Reflection and discussion



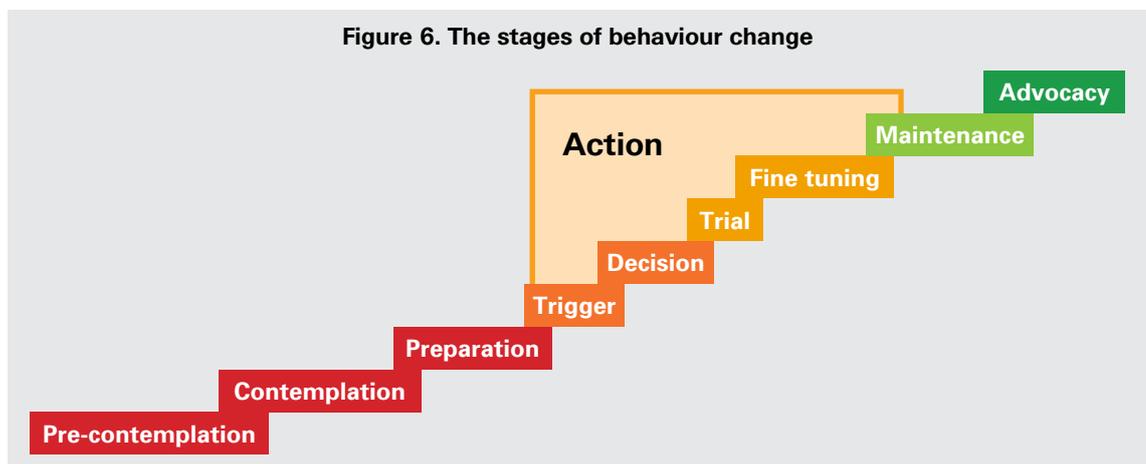
Let’s now step back and talk about childhood vaccines. During your professional experience:

- What are some of the most common reasons caregivers have given you to explain why their children did not receive a vaccine?

Make a list of these reasons and discuss and compare them with your colleagues. Keep this list, as we will use it in the next exercise.

When learning about a new behaviour, most people will not adopt it immediately and embrace it fully in their daily life, as you saw in the video clip about getting into exercise.

**Figure 6** describes the behaviour change journey, with additional sub-stages for the action stage. Remember also from the video, that there may be setbacks, so that the journey is not always linear.



Source: Karam et al., 2019a, p.39.



**Reflection and discussion**

Take the list of caregiver reasons and try to group them by the stage of the vaccine journey. Table 2 below provides some examples, but you will find a blank worksheet in the Annex to use with the examples you and your colleagues have collected.

**Table 2.** The behaviour journey to vaccination

Stage	Reasons provided by caregivers
Pre-contemplation	A mother has not heard or thought about vaccination or vaccines.
Contemplation	She hears about vaccines and the reasons why individuals get vaccinated and is thinking about the pros and cons for her newborn baby.
Preparation	She sees an announcement for the immunization clinic times at her polyclinic and notes down the date.
Action: a. Trigger	Her best friend shares a good immunization experience over coffee, and says she intends to go to the next immunization day.
Action: b. Decision	The mother sets of for the polyclinic.
Action: c. Trial	With reassurance from the nurse, her baby gets the first set of vaccines and with good advice from the nurse, the mother manages some minor side-effects.
Action: d. Fine-tuning	After her positive experience, the mother comes to the next vaccination appointment.
Action: e. Maintenance	Even with some side-effects, the mother completes her baby’s immunization schedule.
Advocacy	The mother gives a speech at her local preschool to remind other parents to get their infants and children vaccinated, praising the support of health workers in managing minor side effects and the benefits of vaccination to the community.

**b. Factors influencing caregiver decisions**

The decision-making of parents and caregivers during the contemplation and action stages about whether to vaccinate their child is a complex process influenced by the following factors – known as the ‘three Cs’:

- **Confidence.** “Trust in the effectiveness and safety of vaccines and in the system that delivers them, including the reliability and competence of the health services and health professionals and having trust in the motivations of the policy-makers who decide which vaccines are needed and when they are needed. Vaccination confidence exists on a continuum, ranging from zero-to-100% confidence.”
- **Complacency.** “The perceived risks of vaccine-preventable diseases are low and vaccination is not deemed a necessary preventive action. Besides perceptions of the threat of disease severity and/or transmission, complacency about a particular vaccine or about vaccination in general can be influenced by under-appreciation of the value of vaccine (effectiveness and/or safety profile) or lack of knowledge. Immunization program success may result in complacency and ultimately, hesitancy, as individuals weigh risks of vaccines against risks of diseases that are no longer common as a result of immunization.”



© UNICEF/Pirozzi

- **Convenience.** “The quality of the service (real and/or perceived) and the degree to which vaccination services are delivered at a time and place and in a way that is considered appealing, affordable, convenient and comfortable, also affects the decision to vaccinate. Vaccination convenience and complacency are also determined by the priority that an individual places on vaccination.” (WHO SAGE Vaccine Hesitancy Working Group, 2013)

From the description above, and from Figure 7 below, you can see that these three factors overlap (WHO, 2017). The caregivers who are the most hesitant may be those who have no confidence in the health system and the vaccine, and who believe their child’s risk is low and that getting vaccinated is both inconvenient and cumbersome.

**Figure 7. The three Cs: Factors that affect vaccine hesitancy**



**Source:** Karam et al., 2019a, p.65.



**Reflection and discussion**

In Table 3 below, match the five statements with the respective Cs that may be contributing to the caregiver’s decision.

**Table 3.** A sample of caregiver statements about why they chose not to vaccinate

Caregiver statement	Is it Confidence, Complacency, Convenience – or a combination of these?
<i>We had an appointment for the measles vaccine last night, but my son was hungry, so we stopped at my sister’s house to get some food. We’ll get the vaccine some other time. There hasn’t been a case of measles in years in our village anyway, and I have heard that our neighbour also did not get his son vaccinated because this vaccine can cause autism.</i>	Convenience Complacency Confidence
<i>I thought I heard that polio was eradicated.</i>	Complacency
<i>The health care manager was recently accused of accepting bribes. I bet he bought low-quality vaccines from some developing country.</i>	Confidence
<i>We live far away from our health care centre, and I have a sick mother who needs care around the clock.</i>	Convenience
<i>Last time, I was late for the second DPT shot because my child had a cold. The doctor scolded me and did not even let me explain. After the shot, my baby cried almost non-stop for two days and was feverish. He probably got a bad batch of vaccine. I think it is not worth it to get the third shot, since we are already late anyway and there is still a long line.</i>	Confidence Complacency

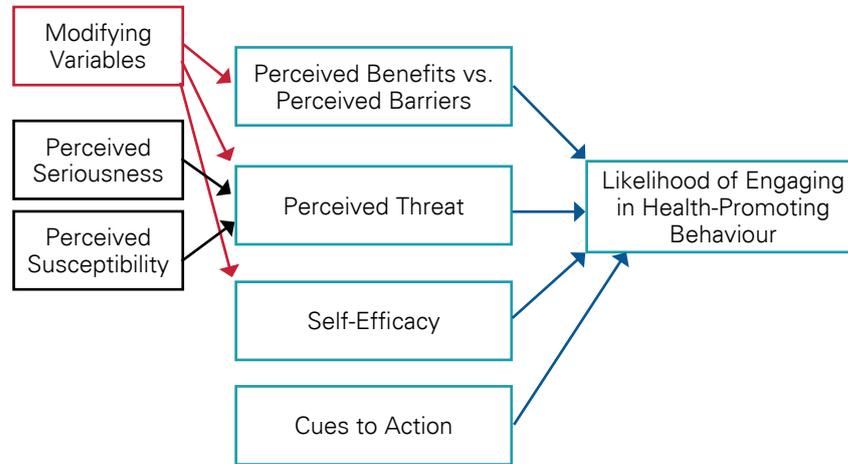
As the home visitor, you want to know about whether **a family is likely to engage in vaccination** (the health promoting behaviour) – the outcome or **action** you hope to achieve. The Health Belief Model overlaps with the three Cs, but looks in more detail at likelihood of a particular behaviour (see Figure 8). It appears complex, but when taking a closer look at its components, it is quite easy to understand and helps our understanding of behavioural choices.

If families perceive the **severity** of vaccine preventable illnesses to be **high** (e.g. they saw in the news that an infant in their community was hospitalized with measles-related encephalitis) and that their child has a high risk of catching measles (**perceived susceptibility is high** because the case occurred close by), they will **perceive** the situation as a **threat** to their child’s health.

Several factors will influence the parents’ action: If the **barriers** to vaccination are very high (e.g. low confidence in the local vaccines, long waiting times or unfriendly doctors), they may be less inclined to vaccinate than when the **perceived benefits are high** (e.g. you were able to tell parents that waiting times have been reduced under new clinic management and that all vaccines follow strict procurement and safety procedures).

Figure 8. Health Belief Model

### The Health Belief Model



Source: U.S. Public Health Service, Health belief model.

**Triggers** or **cues to action** (a reminder SMS from you or your colleagues) can support the decision to go to the immunization clinic, but only if the parents believe they can **perform this behaviour successfully**. For example, a mother frightened of needles may have a low feeling of efficacy and may need support from you and/or the vaccination team. Also, a mother who needs a ride to the clinic or the permission of her husband or mother-in-law will be constrained in her actions, even if she would like to have her child vaccinated. In addition, there are **modifying variables**. These can be **demographic**, such as age, sex, gender, ethnicity, religion; **psycho-social**, such as personality and a person’s peer reference group; and **structural**, such as prior experience with the health system and vaccination. Some of these modifying variables can be found in Table 4 below.

Table 4. Modifying variables that affect vaccination

Individual and group influences	Contextual	Vaccine/vaccination specific issues
<ul style="list-style-type: none"> <li>» Personal or community experience with vaccination, including pain</li> <li>» Beliefs and attitudes about health and prevention</li> <li>» Knowledge and awareness, risk/benefit</li> <li>» Immunization as a social norm v. not needed/harmful</li> <li>» Trust in health provider, experience with provider</li> </ul>	<ul style="list-style-type: none"> <li>» Media and public communication</li> <li>» Anti- or pro-vaccination lobbies</li> <li>» Local politics</li> <li>» Perception of the pharmaceutical industry</li> <li>» Religion, culture</li> <li>» Accessibility of services</li> <li>» Trust in authorities</li> </ul>	<ul style="list-style-type: none"> <li>» Risk/benefit (epidemiological/scientific evidence)</li> <li>» Mode of administration</li> <li>» Reliability/Source of the vaccine</li> <li>» Vaccination schedule</li> <li>» New vaccines, formulations or recommendations</li> <li>» Any costs associated with vaccination</li> <li>» The strength of the recommendation/attitude desk/knowledge base of healthcare professionals</li> </ul>

Source: WHO Sage Working Group (2014)

**c. Perception biases, beliefs, and myths about vaccines – the Internet and social media**

When looking at complex health issues like vaccination, facts alone may not be enough to influence a decision. Emotions, misperceptions, biases and the superstitions that are common in many cultures may also come into play. For example, researchers have noted that when two independent events happen at roughly the same time, they may be perceived as being linked, and causation may be attributed to one of them. Take the statement, “it was Friday the 13<sup>th</sup> when I slipped on ice and broke my leg.” The person may smile about this statement, but still remember that specific Friday the 13<sup>th</sup>, forgetting the many similar Fridays that had passed uneventfully or even very positively. But this is how the measles vaccine and autism were first linked. Parents tended to notice that there was something not quite right with the child’s development (language, social-emotional...) during the second year of life, after the child was vaccinated with MMR, resulting in an incorrect assumption of causation.



© UNICEF/Karahoda

Research in Serbia by Karam et al. (2019a) has shown that if caregivers start out with a negative attitude towards vaccines, they interpret events in a way that differs from others who have favourable attitudes:

- “They tend to interpret events as causing one another (vaccination, because it’s a memorable and stressful event, is seen as causing something bad that occurred later).
- All unwanted effects that happen months after vaccination are attributed to that vaccination, even if they are completely unrelated, because of an existing fear of vaccination.
- They fail to perceive differences between mild and serious adverse effects; rather they perceive both as serious risk of vaccination. This means they give equal weight to the one-in-ten chance that their child will have discomfort, redness and swelling where the injection was given or will have a fever, as they do to the one-in-ten-million chance the child may get a case of encephalitis. These are not equal!
- They do not compare the risks of adverse effects of measles to the risks of adverse effects of vaccines. Measles is feared less than the perceived risks of vaccines, whereas vaccines are much safer than the diseases they prevent.”

The **Internet and social media** have played a critical role as platforms for disseminating misinformation, misperceptions and myths. This is often driven by:

- increasing skepticism in the advances of science by some population groups
- the belief that children are better off developing immunity “naturally” (a view shared by some religious groups, for example)
- and the debunked myth that vaccination is linked to autism because these two issues came to attention roughly during the same time period, the second year of life.

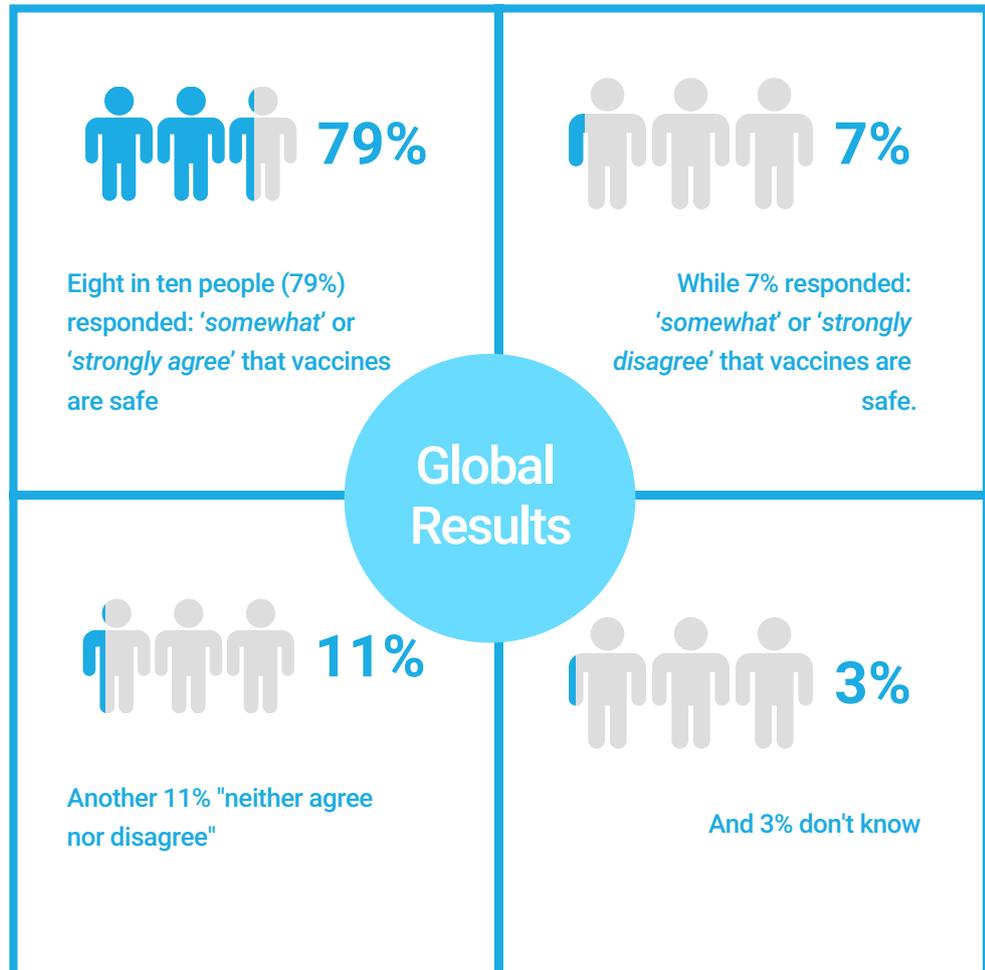
Taken together, these drivers have increased the number of caregivers who are hesitant to have their children vaccinated, with some caregivers refusing vaccines outright.

Even though large-scale meta-analyses and cohort studies – those that involve more than a million children (Taylor et al., 2014) – have demonstrated unequivocally that there is no link between vaccination and autism, you should be aware that this information continues to be promoted actively and vigorously by ‘anti-vaxxers’ on social media. In fact, when searching the Internet, including YouTube, for information on vaccines, you will still find plenty of incorrect information side-by-side with good scientific evidence. Using the evidence available to you, you should be able to address parents’ concerns or misinformation.

Disconcertingly, the first ever global study on public attitudes to science, scientists and health by the Wellcome Global Monitor (Gallup, 2019) showed that caregivers rejecting vaccines tend to be more educated overall than acceptors. This means that you need to be well-informed and that you should rely on reputable sources of information to help correct misinformation and myths.

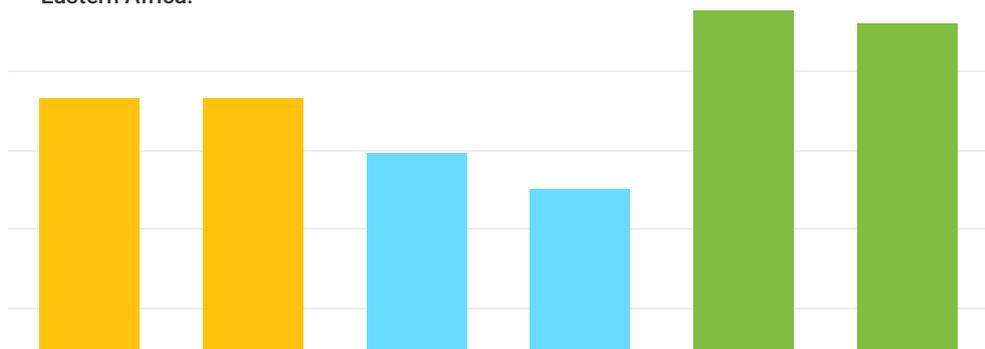
## Attitudes to Vaccines

Gallup, 2019



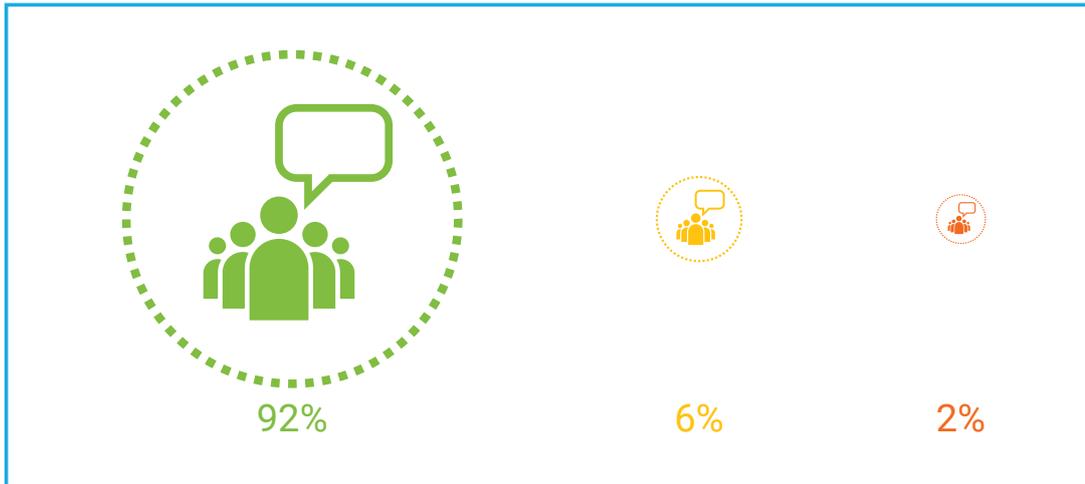
## High-income and low-income regions

- In high-income regions, only 72% of people in Northern America and 73% in Northern Europe agree that vaccines are safe.
- In Western Europe, this figure is lower, at 59% and falls to only 50% in Eastern Europe.
- The proportion of people who think that vaccines are safe tends to be much higher in low-income regions, with highs of 95 per cent of people in South Asia and 92 per cent in Eastern Africa.



## What parents said

- 92% of parents worldwide said that their children had received a vaccine to prevent them from getting childhood diseases.
- 6% said they had not.
- 2% said they did not know.



## Trust in doctors and nurses



In most regions, people who have high trust in doctors and nurses are very likely to consider that vaccines are safe. However, this is less true in Western and Eastern Europe.



There is a positive relationship between overall trust in scientists and attitudes towards vaccines – a relationship that is strongest in high-income countries.



Several informative video clips will help you increase your own knowledge and the information you provide to the families you serve. You can use them to strengthen the way in which you present facts and arguments.

- Asap Science. February 15, 2018. 'Debunking Anti-Vaxxers'. 7:23 minutes. Bill & Melinda Gates Foundation: <https://www.youtube.com/watch?v=b03U6BYF9L0>
- Kurzgesagt – in a Nutshell, February 24, 2015. 'Measles explained – Vaccinate or not?' 5:33 minutes. <https://www.youtube.com/watch?v=y0opgc1W0S4>

#### d. The role of health workers

A review of the attitudes and behaviour of health workers by USAID et al. (2018) concluded that the quality of interactions between health workers and caregivers around vaccinations has far-reaching consequences: high-quality interactions help to reduce the barriers to immunization perceived by families. High-quality interactions:

- achieve better vaccination coverage rates because parents are satisfied
- reduce both drop-out (children who are not fully vaccinated) of children you are focusing on in your visit and their siblings, and
- increase the trust of caregivers and their demand for other health services as their satisfaction with one type of health service has a positive impact on their use of other services.



© UNICEF/Pirozzi

Box 2 below lists barriers that may reduce the trust and willingness of caregivers to accept vaccinations at the point of contact or at a later time.

**Box 2. Caregiver experiences that affect vaccine acceptance**

**Experiences related to health workers**

- Lack of respect or rude treatment of the caregiver:
  - ▶ Caregiver scolded for not bringing their vaccination records or arriving late for a vaccine
  - ▶ Preferential treatment for some caregivers over others
  - ▶ Comments or behavioural responses on the clothing, habits, age, or ethnicity of the caregiver
- Lack of information on side effects or when to come for the next vaccine
- Overall lack of clarity in the information provided by the health worker such as the use of technical jargon)
- Negative non-verbal communication, such as lack of eye-contact, ignoring the caregiver, disdainful facial expressions, and not providing any opening, space or time for the caregiver to ask questions.

**Experiences related to the health system**

- Poor geographical access to the health facility
- Long waiting times for receiving vaccination
- Inconvenient hours of operation
- Lack of equipment, vaccines, or an unwillingness to open a multi-dose vial for one child (parents may be asked to provide syringes or make payments)
- Uncomfortable waiting conditions
- Low confidence in health services and the health system.



**You can help to remove some of these barriers when you visit caregivers in their home, before and after scheduled vaccinations.**

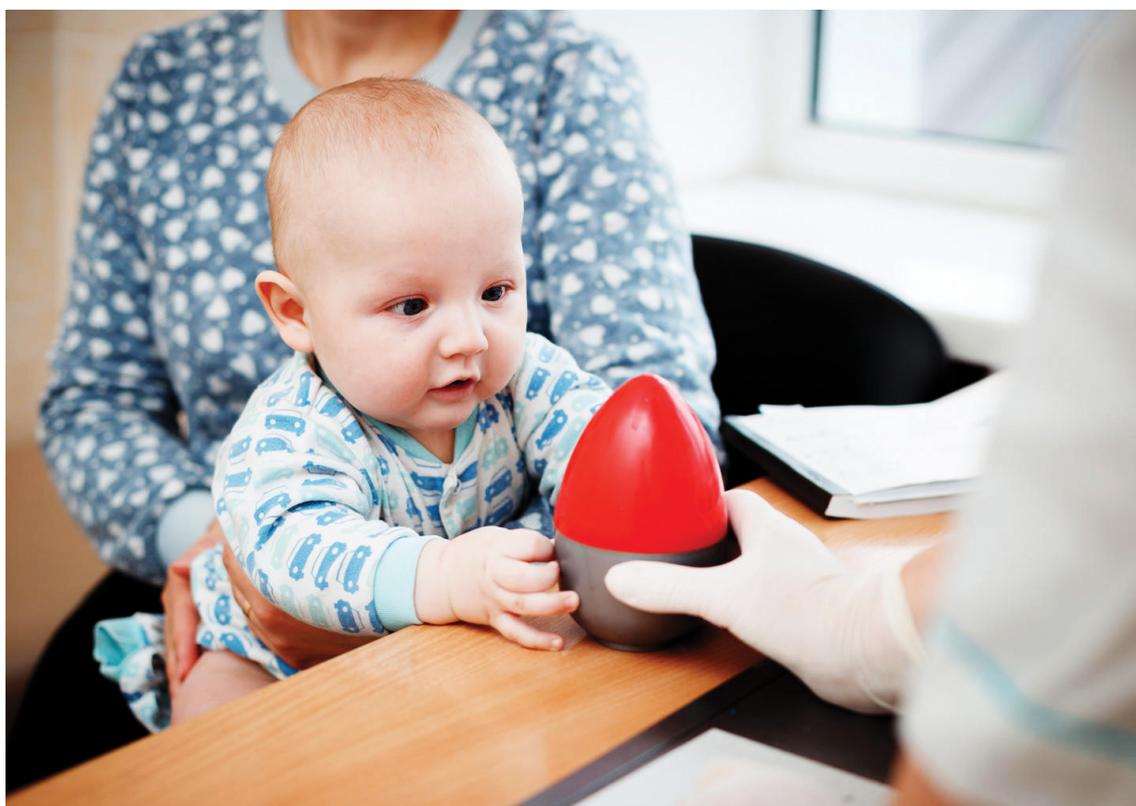


**Reflection and discussion**

- Putting yourself in the shoes of caregivers or reflecting on your own experience as the parent of a young child, what are some of the behaviours of doctors and nurses that have a negative or positive affect on a caregiver’s decision to vaccinate the child in your community?
- Write down some points about how you could provide a good vaccination experience to a family. What would this entail?
- How could you prepare the families you serve for some of the issues they may encounter in the facility where you work? Are there changes that you and your colleagues could promote at your facility? Look at Table 5 for some examples and think about any additional actions that you could take in your own facility.

**Table 5.** Actions to reduce barriers to vaccination

Barriers you might have encountered	Possible actions?
Long waiting time	<ul style="list-style-type: none"> <li>» Advise caregiver to come early or at times that are less busy.</li> <li>» Bring some water, a toy or book for the child.</li> </ul>
Lack of respect...	<ul style="list-style-type: none"> <li>» Discuss feedback from families with colleagues during clinic meetings or supervision.</li> </ul>
Caregiver scolded...	<ul style="list-style-type: none"> <li>» Remind caregivers about their next appointment well in advance.</li> <li>» Remind them to take their vaccination card to the clinic when they go.</li> </ul>
Lack of information on side effects	<ul style="list-style-type: none"> <li>» Explain common side effects and share tips with families on what to do.</li> <li>» Suggest that this topic be addressed during vaccination clinics.</li> </ul>
Caregiver not given time to ask questions during vaccinations	<ul style="list-style-type: none"> <li>» Provide information before they visit the health facility</li> <li>» Provide written information and the contact details of health workers who can provide additional information after vaccination.</li> </ul>
Caregiver afraid of needles and pain inflicted on the child	<ul style="list-style-type: none"> <li>» Make time to discuss the issue during home visits and help caregiver overcome fear before the vaccination visit.</li> </ul>
Additional barrier	
Additional barrier	



© UNICEF/ Krepkih Andrey

## COMMUNICATION SKILLS AND TOOLS TO SUPPORT VACCINE ACCEPTANCE BY CAREGIVER

Your communication skills and tools are important assets in efforts to move families towards the full acceptance of vaccines and vaccination. In this section, we will start with a quick review of general communication skills, focusing on vaccination in general before taking a more in-depth look at how to work with families that are at different stages along the continuum of vaccine acceptance to make home visits more effective.

### 1. Active Listening Skills

Module 10, *Caring and Empowering - Enhancing communication skills for home visitors* has already provided you with some opportunity to strengthen your verbal and non-verbal communication skills. Table 6 below provides a quick review of active listening techniques (UNICEF ECARO & ISSA, 2016).

**Table 6.** Quick review of active listening techniques

Use of active listening techniques	Examples
a) Verbal communication	<ul style="list-style-type: none"> <li>» open-ended questions</li> <li>» reflective listening techniques</li> <li>» avoiding the roadblocks to good communication</li> </ul>
b) Non-verbal communication	<ul style="list-style-type: none"> <li>» use of physical space (distance; avoid barriers, like a desk; staying at the same level, with both people sitting or standing)</li> <li>» careful use of touch (as culturally or personally acceptable)</li> <li>» eye contact and a clear and attentive focus on the other person</li> <li>» care around facial or body expressions (smiling, angry, looking bored, looking interested)</li> <li>» giving caregivers time and space to respond (so they can think and problem-solve)</li> <li>» attire (avoiding clothing that is too formal or informal)</li> </ul>
c) Empathy	<ul style="list-style-type: none"> <li>» showing your understanding of the other person’s perspective or situation, without judging, accusing, blaming or ridiculing (See <b>Information Card 3</b> in annexes for concrete suggestions).</li> </ul>

#### a. Verbal communication

Two aspects of verbal communication are particularly important for you to remember.

- **Use open-ended questions.** If you want to learn more about the caregiver’s questions and concerns and open the door for communication that will give you the opportunity to show empathy or provide good information, avoid questions that will result in answers of *yes*, *no*, or nothing more than *a date*. Questions that start with *How?* or *What?* are helpful. You can also say: *Tell me more about that?* or *This is very interesting. Can you tell me what made you think/feel that way?* You can find additional questions that can engage caregivers in a dialogue and exchange with you in **Information Card 4** in annexes.
- **Use reflective listening.** Reflective listening shows caregivers that you are paying full attention to what they are saying. When you ‘reflect back’ what they have said in your own words, showing what you have understood them to say, you give the mother, father or other caregiver the opportunity and time to provide clarifications and to expand on what they said before. This can then give you new opportunities to clarify, help with problem solving, etc., while the caregiver sees that you have played close attention to their concerns or fears.



**Reflection and discussion**

Look at the two examples shown in Box 3 below. Can you write the next lines for each story? Make sure you **use open-ended questions and reflection** as your tools. Also, look at the third example, and develop a dialogue that you could have with one of your families.

Box 3. Case 1: Non-reflective and reflective listening	
<p><b>Example of non-reflective listening:</b>                      Home visitor: <i>We missed you at the vaccination clinic last week...</i>                      Mother: <i>Well, it seems that every time we are getting ready to go, my baby is particularly fussy...</i>                      Home visitor: <i>Please be at the clinic next week. If people don't come for their appointments, we are wasting our time...</i></p> <p><b>Example of reflective listening:</b>                      Home visitor: <i>We missed you at the vaccination clinic last week...</i>                      Mother: <i>Well, it seems that every time we are getting ready to go, my baby is particularly fussy...</i>                      Home visitor: <i>So, your baby seems fussy and anxious when you want to leave?</i>                      Mother: <i>Well, yes, but not just the baby. When he gets fussy at home, I am worried that he will not be able to handle the shots...</i>                      Home visitor: <i>It sounds like you are both anxious... Going to the doctor for my kid's shots also make me a bit anxious sometimes. What concerns you the most?</i></p> <p><b>Practice scenario:</b>                      Home visitor: <i>We missed you at the vaccination clinic last week...</i>                      Mother: <i>Well, there hasn't been a case of measles in ages, and we will be going on a trip anyway....</i></p>	

In the first example, the home visitor used roadblocks to communication, i.e. admonishing, scolding, and making the mother feel guilty and misunderstood. The home visitor's statement is likely to close down the communication channel. In the second example, by reflecting the mother's statement, the home visitor gets new information about why the mother is not coming to clinic sessions. She then has an opportunity to show her understanding and empathy and to dig deeper into the reasons so that she can work with the caregiver to solve the problem.

- **Avoid the roadblocks to good communication.** Roadblocks to communication give the other person a feeling of being at a disadvantage, i.e. being criticized, lectured to, humoured, shamed, or praised for the sake of praising. We can find ourselves putting up roadblocks to communication even when our intentions are very positive: we want to solve somebody else's problem or share our expertise. These roadblocks may not, however, achieve the outcomes we want, because the caregiver does not feel heard or understood. To improve communication skills, it is helpful to review these roadblocks periodically and discuss them with colleagues when reflecting on past interactions (see **Information Card 5** in annexes for a reminder of these roadblocks from [Module 10, Caring and Empowering - Enhancing communication skills for home visitors](#)).

**b. Non-verbal communication**



Remember that many non-verbal communication features are affected by cultural factors and gender (including the acceptable physical distance between a female home visitor and the mother vs the father, or the use of touch or gaze). Non-verbal communication can make a positive difference when it is seen as appropriate and welcome (a female home visitor placing a hand on a mother who is very upset, for example), but inappropriate in a different context (the female home visitor trying to calm an upset father in the same way).



**Reflection and discussion**

Non-verbal cues can have a significant influence on the outcomes of our interactions. Use Worksheet 2 to reflect back on a recent home visit that is still vivid in your mind or use the worksheet during a role play to look at the non-verbal communication features used by those taking part.

**c. Empathy**

You show your empathy and compassion daily in the way you interact with families. Many verbal and non-verbal communication tools help us to focus fully on caregivers and their situation. It is easier to feel empathy when we are not distracted or rushed, or when we are not busy formulating our next response. The video below provides a useful reminder of what empathy means.



Brené Brown (December 10, 2013) on Empathy.  
<https://www.youtube.com/watch?v=1Evvgu369Jw>

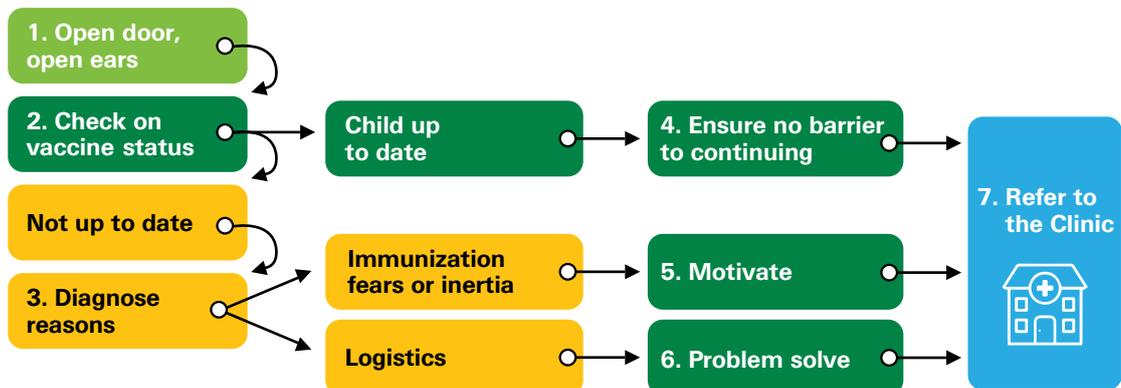
**2. Working with Caregivers Along the Continuum of Vaccine Hesitancy**



© UNICEF/Noorani

The communication algorithm for home visits in Figure 9 is a useful tool that can help you identify families that may be hesitant about vaccines and learn more about the reasons for that hesitancy. Following this algorithm, you can provide the varied information that families need during your home visit and help them problem-solve.

**Figure 9. Communication algorithm to guide your home visit**



Source: Karam et al., 2019, p. 233.

The two key steps in this algorithm are as follows:

- Check vaccine status and assume that parents will continue with their child’s vaccinations. Remind them about the date for the next vaccination, and listen carefully to their response. **Remember, the attention you give here to removing potential barriers will keep these families on the path to getting the child’s next vaccinations.**
- If a child’s vaccine status is not up to date, see if you can understand the caregivers’ reasons for this and try to build a case that will motivate them to get their child vaccinated. For example, if they have a problem with access to services in general, support them by referring them to, for example, health centres and clinics.



Stay open-minded, listen with respect and empathy. Remember to avoid the roadblocks to communication and use open-ended questions to open the door for parental concerns and questions.

As families move through the different stages of behaviour change, they may not always move in the precise direction we would like them to, but many will accept vaccines when they have information and encouragement from health workers, like you, who they trust. Figure 10, which is based on experience in this field, sets out these different stages.

Figure 10. Continuum of Vaccine Hesitancy



Source: Karam et al., 2019b, p.33.

### a. Vaccine-accepting families

It is often easy to ignore these families, because their children’s vaccinations are up-to-date. Remember, however, that this group includes families who are enthusiastic and who could act as promoters or champions for vaccination in your community. This part of the spectrum also includes families who went along with having their child vaccinated, but harboured some doubts that could create barriers the next time around.



### Reflection and discussion

In Box 4 below, reflect on how vaccine-accepting families may respond differently, and why they still need your attention. You can do this exercise either as a reflection on your own or with your colleagues. In a face-to-face course, you could use this case as a role play, responding to the two mothers who have accepted vaccines so far.

**Box 4. Case 2: Not all vaccine-acceptance is the same**

Home visitor: *Oh, I see you Maia is now almost 12 months. She is such a healthy-looking little girl. It is almost time for her next vaccine against measles, mumps, and rubella. Your appointment is next week.*

**Version 1**

Mother 1: *Yes, isn't this great! You gave me such good information about handling her soreness and fever last time. Also, I saw in the news that in some countries children are dying from measles. How sad!*

**Version 2**

Mother 2: *Yes, I know. She handled all the vaccines very well, but I have seen on Facebook that the next vaccine is different and could affect her development.*

Your first action will always be to praise the mother or caregiver both for vaccinating their child in the past and for managing any side effects. You can also remind caregivers that they not only protected their child, but did a service to other children in the community by preventing disease transmission. After that, you will need to adapt to the situation of the particular family.

Table 7 below provides some responses you could consider providing to each to mother in the scenario provided above.

**Table 7.** Sample responses to vaccine acceptors

Responses to Mother 1	Responses to Mother 2
» <i>You have done very well helping Maia through those vaccinations! Let me know if you have any questions.</i>	» <i>Almost all children do very well, and there are only small side-effects. You have already shown that you handle these very well.</i>
» <i>Unfortunately, there are mothers in your neighbourhood who have not yet vaccinated their children. Would you be willing to come with me and talk to one of the families after Maia has had her next shot? You could tell them how she did and share your tips so they can also protect their child.</i>	» <i>I hear your concerns about the vaccine. Quite a few children have died last year from measles in some countries, often because their parents heard similar stories and did not immunize their children. Even though this been disproven by many good scientific studies (including one study that followed more than half a million children over many years) there are some people on social media that are still spreading this myth and putting our child at risk of contracting measles and getting severely ill, even dying from the disease. Would it help if we discuss this? I can share some information about this with you...</i>

**b. Vaccine-hesitant caregivers**

Vaccine-hesitant caregivers are a diverse group. To develop effective communication behaviour approaches, some (e.g. Karam et al., 2019a) have divided caregivers along two continuums: one that spans the level and correctness of the information they have, ranging from un-informed, to mis-informed, to well-informed; and a second continuum that centres on their level of open-mindedness.

As a health worker, you can have the greatest impact on the behaviour of caregivers who are un-informed, mis-informed, or well-informed (with remaining concerns), but who are prepared to listen to the information (and sometimes persuasion) that you and your colleagues can provide. Box 3 below outlines some basic actions that have been suggested in relation to these caregivers (Karam et al., 2019b, p. 49)..

**Box 3. Basic actions for caregivers who are vaccine-hesitant**

**Caregivers who are un-informed but want more information**

These caregivers are un-informed about vaccination, but they will listen to you because of your expertise as a healthcare professional and the trust they have in you. They want you to assure them that vaccines are safe and effective.

- Listen to their concerns.
- Answer their questions.
- Explain basic facts in easily understood terms.
- Share experiences that demonstrate the benefits of vaccines.
  - ▶ It may be helpful to tell them about how your child(ren) are fully vaccinated and that vaccination is something you strongly recommend.
  - ▶ Some caregivers may also like printed information.

**Caregivers who have been mis-informed but who are open to your information**

These caregivers have inaccurate information about vaccines and the diseases they prevent. They may believe the misinformation, myths or rumours they have heard about immunization.

- Listen to their beliefs.
- Provide them with relevant information or evidence.
- Discuss the strong benefits of vaccines and its ability to prevent serious disease and even death.
- See if you can identify the sources of the misinformation they have received, as these may be persistent and can have a negative effect on efforts to persuade families to vaccinate their children. (See also **Information Card 8** in annexes, on dealing with rumours in your community).

**Caregivers who are well-informed and open-minded**

These caregivers are aware of arguments for and against vaccination, but may have some remaining questions and concerns that they want to have resolved. Help them to assess the merits of each argument by placing them in a proper context.

- Discuss each concern and be prepared to share validated evidence to counter any anti-vaccination points.
- Discuss the strong benefits of vaccines.
- Point caregivers to appropriate and fact-based resources from well-respected sources.
- Offer to follow up with them to dispel any further worries or doubts.

For all three groups, avoid rushing the parent or being pushy. Offer to come back with additional information. If you continue to sense hesitancy, refer the caregivers to their paediatrician or family doctor, or involve one of your community’s ‘vaccine champion’ caregivers, if your reluctant caregiver agrees to talk to them.

**A closer look at two approaches to help hesitant parent to move to vaccine acceptance**

We will look more closely at two approaches – motivational interviewing and CASE – that when combined with good communication, provide you with a structure and logical sequence to help you engage your caregivers, while making your case.

**Motivational interviewing** uses the caregiver’s own motivation to change a behaviour by exploring and resolving vaccine-related questions, concerns, and points of ambivalence ([American Academy of Pediatrics. Motivational Interviewing](#)). Motivational interviewing uses the communication tools we have already discussed, such as open-ended questions, reflective listening, eliciting the pros and cons for making a behaviour change, finding out how important the change would be for the caregiver and how confident they are in making that change, and then summing up the conversation.

Four steps are proposed for motivational interviewing around vaccine hesitancy with caregivers (Oliver, K. **Techniques and talking points to address vaccine hesitancy**):

- Step 1: Ask the parent(s) to share concern(s).
- Step 2: Ask permission to share information.
- Step 3: Provide info to change a parent's perspective.
- Step 4: Make a personalized recommendation to vaccinate.

CASE is another method that follows four steps:

- Step 1: **C**orroborate. Acknowledge the parent's concerns without judgement.
- Step 2: **A**bout me. Describe your own vaccination expertise and experience.
- Step 3: **S**cience: Explain relevant science findings.
- Step 4: **E**xplain/advise. Explain why the science suggests the child should be vaccinated and recommend vaccination.



© UNICEF/Noorani

You can see that these two approaches are similar: both start with the caregiver's concerns, then bring in your own personal and professional experience and expertise, and lead to a strong recommendation to immunize. After your recommendation, you should also **agree with the caregiver on at least one action**. These actions could include:

- scheduling another home visit to share more information on concerns you were not able to address in full during your visit
- have the caregiver talk with local 'vaccine champion', or perhaps a neighbour who knows to handle side effects competently or who has overcome a fear of needles and vaccines
- a joint meeting with the paediatrician to confirm that there are no counter-indications to vaccinating a baby who was premature at birth, if this has been raised as a concern
- or in the best case, just say *"see you tomorrow at the clinic for the vaccination!"*

It is important that you allow enough time so that you do not rush this part of your home visit. Even in the best scenario, you may need a minimum of 10-20 minutes, depending on the caregiver's level of knowledge and their willingness to consider your personal inputs, as well as the facts. This is also why it is worth spending a bit of time to ensure that caregivers who have accepted vaccines in the past continue to do so, as this may save time in the long-run.



Box 4 sets out a practice example using the CASE approach. You can use this example on your own or as a role play with colleagues. In addition, **Information Card 6** in annexes, provides two more scenarios, while Practical Communication Skills and a more generic description of the CASE Approach can be found in **Information Card 7** in annexes.

**Box 4. Practice example of the CASE approach (Corroborate, About me, Science, Explain)**

**Scenario:** Five-month old baby Elena was born one month prematurely and received her first vaccines without difficulty.

**Health visitor** (after greeting the caregiver and reviewing Elena’s vaccination card): *“Oh, Mrs. K. It looks like we missed Elena’s last vaccination somehow. Can you tell me what happened?”*

**Mrs. K:** *“Oh... I guess so. Elena has had a hard time gaining weight, as she should have, and she had a cold, so I decided to wait a bit. She is just too fragile to have so many vaccines at once at this time.”*

**Health visitor: (corroborates, using reflection):** *Yes, Mrs. K. I understand that you are concerned about Elena’s health.*

(Health visitor uses the **‘About me’** approach). *As a mother, I know what you mean. She had a rough start, and I see you want to do all you can to protect her from harm, just like I would with my own children.*

(Health visitor talks about the **Science**) *Elena is a tough little girl despite the cold she had, and you have continued to protect her with your breastmilk. Do you know that even babies born prematurely have an amazing immune system? They are fighting millions of germs every day. And by giving her your breastmilk with other foods and this vaccine, you are stimulating her own defence system further. This highly effective vaccine protects Elena against several diseases at once. And even more, its components are much weaker than the actual diseases, and Elena’s immune system can handle them very well. It will build her resistance against diseases that are way more deadly than the cold she just had.*

(Health visitor **Explains/advises**) *Would you be able to bring her in tomorrow? Your paediatrician will be in the clinic, and I’ll let her know you will be coming. I will also leave you the information sheet about the vaccine, but if you have any more questions, Dr. M. will answer them. And you can talk with her about Elena’s weight and see what else you might try. Next time I come by, let’s look at her diet together.*

**Mrs. K:** *Well, I am still not sure it is the best time for us.*

**Health visitor:** *Are there any other issues we could discuss? Do you have a problem getting to the clinic?*

**Mrs. K:** *Not really, my mother would gladly take us...*

**Health visitor:** *Mrs. K, it would be so good to see you at the clinic tomorrow. I would love to see Elena protected with this important vaccine, just like my own little girl.*

Working with your colleagues, you can prepare similar scenarios for some of the main concerns of caregivers, which are listed below (Karam et al., 2019b, p. 118). Remember that these may differ from country to country and from community to community, and you may want to replace some of them with the worries caregivers have shared with you, as needed:

- Quality of imported vaccines
- Not enough quality checks
- Side effects of vaccines
- Multiple vaccines at once
- Vaccines too early, better wait until the child is older
- Trigger other diseases
- Too many vaccines will hamper the child’s immunity.

**c. Vaccine refusers and anti-vaccine advocates**

These will be the most challenging caregivers you encounter. Fortunately, they are only a small group in most countries. However, because their minds are made up, or because they are active opponents of vaccination, they are far less likely to listen to your personal experience or to the facts. In Box 5 below (Karam et al., 2019b, p.50), you will find recommended actions for these caregivers.



The three most important actions with these caregivers are:

- point out the risk for their child and others of not vaccinating;
- ask them to share with health workers that their child has not been vaccinated, so they can be alert to the signs and symptoms of a vaccine-preventable illness; and
- never close the door on these caregivers and treat them with respect. People can and do change. Your first success may be to have them listen to you and read or look at some of the facts you can share. Maybe you or others will find the argument that changes their mind.

### Box 5. Caregivers who refuse vaccination

These caregivers, whether un-informed, mis-informed or well-informed, are convinced that they do not want their child(ren) to be vaccinated.

- Ask the caregiver to describe their concerns about vaccines.
- Ask the caregiver what it is about vaccines that makes them concerned.
- Acknowledge their concerns.
- Address any misinformation with evidence and experiences.
- Discuss the strong benefits of vaccines.
- Point them to appropriate and fact-based resources from well-respected sources or to other providers, like their paediatrician or a trusted vaccine champion in your community.
- Explain the risks of not vaccinating their child and their responsibilities for protecting their child and others. They should also know the signs and symptoms of vaccine-preventable illnesses.

**In addition:** Identify those who have an influence on these caregivers and work with them as allies.

#### Anti-vaccine activists

- Establish trust with these caregivers by listening to their perspective.
- While it is important to respect their opinion, it is necessary to explain the importance of vaccines for the overall health of their children.
- Correct any anti-vaccine myths and misinformation.
- Re-focus the conversation towards the positive effects of vaccines.
- Explain the risks of not vaccinating their child and their responsibilities for protecting their child and others. They should also know the signs and symptoms of the vaccine-preventable illnesses.
- Point them to appropriate and fact-based resources from well-respected sources or to other providers, like their paediatrician or a well-respected vaccine champion in your community.

**In addition:** Commit to continuing a dialogue with these caregivers about vaccines. Some members of this group will never be convinced, but nevertheless, it is important to continue your efforts to motivate change.



### 3. Helping Caregivers Overcome Barriers to Vaccination

#### a. Preparing caregivers for vaccination and helping them manage mild side-effects

In **Information Card 6 (Practical Communication Skills), in annexes**, Svetlana shared that she is afraid of needles and cannot stand seeing her baby in pain. As you know, these two issues are very common – a sign that some health workers do not have enough time to address these fears among caregivers. As the family’s home visitor, you have an excellent opportunity to find out if such fears are acting as a deterrent to vaccination. You can use **Information Card 9, in annexes. Reducing pain**, as well as the video below to prepare your caregivers.



CDC (March 15, 2019). What to expect when your child is vaccinated.  
<https://www.youtube.com/watch?v=0voOSqFeqCk>

Table 8 lists some key actions you can take to ease these fears. You and your colleagues can also share other ways to support your caregivers before and after vaccination that have worked well in your community.

**Table 8.** Fears of caregivers and your potential actions

Fears and concerns of your caregivers	Your potential actions
Fear of needles	<ul style="list-style-type: none"> <li>» Show your empathy to the caregiver.</li> <li>» Explain that the pain of injection is brief, but the protection against a serious and even deadly disease lasts a life-time.</li> <li>» Discuss positive options with the caregiver (looking away, deep breathing, focusing on breastfeeding the baby, or having somebody else hold the child if necessary).</li> </ul>
Not wanting to see the baby “hurt”	<ul style="list-style-type: none"> <li>» Focus on actions the caregiver can use to soothe the baby or young child (breastfeeding, distraction, humming a song...), or have somebody else hold the baby as a last resort.</li> </ul>
Fear of side effects	<ul style="list-style-type: none"> <li>» Review mild side effects and actions.</li> </ul>
Fear or more serious reaction	<ul style="list-style-type: none"> <li>» Ensure the caregivers know how to contact you or a responsible health worker if the side effects are more than they can handle.</li> </ul>

#### b. Helping caregivers problem-solve

Helping caregivers to clarify their concerns and address barriers or obstacles to vaccination is key to ensuring that children receive their vaccines. As we have mentioned in other modules, it is essential that you problem-solve **with** caregivers and not **for** them. Your goal is always to strengthen their sense of efficacy and their ability to problem-solve on their own.

You have some important tools:

- The family’s **ecomap** (UNICEF & ISSA 2016). [Module 2: The new role of the home visitor](#) helps you to identify the family’s resources and network. These could be people who can provide transport to the clinic, but also those who could help you persuade the caregiver to accept vaccination.

- **Your own listening skills** can help caregivers clarify their concerns and their barriers to vaccination. By reflecting their concerns back to them and giving them time and space, you encourage and empower them to problem-solve and come up with solutions.
- **Your access to evidence-based information.** Knowing your families well, you will know when to provide printed and/or visual information to help caregivers to problem-solve and make decisions.

### c. Addressing rumours in the community

Of all professionals who come into contact with families, you may be one of the most likely to hear about anti-vaccine rumours in your community. If any of the following are happening in your community, **it is your responsibility to report back to your clinic management** so that a community meeting can be organized immediately:

- vaccination rates at your clinic or across your community start to drop
- you find a number of children are not returning after having received their first vaccines
- you realize that some families are not coming at all to vaccinate their children
- you are told by several families about the same rumour or misinformation
- you hear concerns from multiple caregivers about an adverse reaction in your community or country that has received prominent coverage in the media.

A failure to alert your clinic could increase the problem and result in painstaking efforts to regain acceptable coverage rates. **Information Card 7** in annexes provides some information to help you and your colleagues deal with rumours.



© UNICEF/ALEKSEY FILIPPOV



## SUMMARY OF KEY POINTS AND POST-TEST

### 1. Summary of Key Points

Vaccination programmes are among the world’s most cost-effective public health interventions. They save lives, improve child health, wellbeing and achievement and, therefore, make a significant contribution to the achievement of the Sustainable Development Goals.



Whether children are vaccinated or not depends in great part on the quality of the interactions between health workers, including home visitors, and parents/caregivers.



Good communication skills, a solid knowledge based on the facts, and empathy for families are all critical to support the uptake of vaccines. What’s more, caregivers who are satisfied with the services provided by informative and empathetic health workers during home and clinic visits are likely to increase their uptake of other health services.



Home visitors have a unique opportunity to check a child’s vaccination status and identify families that are reluctant about vaccinations or that reject vaccines. With good communication and problem-solving skills, coupled with empathy, home visitors can help many hesitant families move towards vaccine acceptance.



Home visitors need to be well-versed in vaccine-preventable diseases, and equipped to promote vaccination with confidence, offering practical tips and advice to help families take up this service and manage mild side effects. Home visitors should be “fit for purpose,” that is able to respond in a sensitive and differentiated way to the issues and concerns families have, taking into account their diverse knowledge and psycho-social influences.



Communication skills can be learned and strengthened throughout the life-long process of professional learning. They are the best tool a home visitor has to help them engage families and reduce vaccine-preventable deaths and illness.



## 2. Post-Test with Answers

1. Costing studies have shown that childhood vaccinations constitute one of the most cost-effective public health interventions. (True/False)

*This is **true**. There are cost-savings as a result of the prevention of death, serious illness, and the impact of vaccine-preventable diseases on child health nutritional status and achievement.*

2. The number of parents refusing vaccinations for their infants and young children is increasing. This group should, therefore, be the main target for education by home visitors. (True/False)

*This is **false**. While we should never close the door on respectful discussions and presentation of the evidence to these caregivers, they generally constitute a smaller group and can be less open-minded. The primary groups to be targeted are parents who are hesitant about vaccines and parents who have vaccinated their children in the past, but have concerns, have had more difficulties in managing side-effects or are influenced by vaccine opponents.*

3. Increasing herd/community immunity is not a good argument for increased support for immunization programmes. (True/False)

*This is **false**. Investing in solid immunization programmes to achieve herd/community immunity is an excellent rationale. It means that the youngest age group (who are not yet fully vaccinated) and children who may have counter-indications to vaccination are also protected.*

4. Several countries in Europe have had a high number of measles cases. Some of the reasons for this include (please mark all answers that apply)
  - a. Shortages in measles vaccine in these countries
  - b. Parents have become complacent, because they do not know that measles is a dangerous and very infectious disease
  - c. Researchers who have been unable to dis-prove the myth that measles vaccine causes autism
  - d. Measles brought in by travellers from poor, under-developed countries
  - e. Falling immunization coverage

***a., b., and e. are correct.** Several countries in Europe (Albania, the Czech Republic, Greece and the UK) were once free of measles, but have lost their measles-free certification. Low-income countries can have higher vaccination coverage rates than some countries in Europe and Central Asia and transmission from their regions is probably rare.*

5. The reason for vaccine hesitancy is simple: caregivers just lack the evidence about the benefits of vaccines. (True/False)

***This is false.** Vaccine hesitancy is influenced by many factors, such as perceived susceptibility and the perceived seriousness of the disease, as well as access and system barriers, including the way in which caregivers are treated by health workers, as well as psycho-social characteristics.*

6. Some of the strategies to overcome vaccine hesitancy among parents include (please mark all answers you consider correct):
  - a. Improving the interpersonal and communication skills of health workers
  - b. Listening to the concerns of caregivers and showing empathy
  - c. Understanding how behaviour change takes place and using a solid behavior-change approach
  - d. Ensuring that health workers welcome caregivers who may feel socially excluded and stigmatized
  - e. Telling caregivers that health professionals know best and that they should not question immunization, as they are not experts.
  - f. Improving the quality of health services

**All options are correct, with the exception of e.** *Telling caregivers not to questions health workers would be a roadblock to good communication and dialogue.*



© UNICEF/ALEKSEY FILIPPOV

7. Some of the challenges to the achievement of high immunization rates for measles and rubella include (please circle the answers you consider correct)

- a. The rejection of vaccination by some families in small communities and urban creates pools of unprotected individuals, increasing the risks of the rapid spread of an epidemic.
- b. Measles vaccine is routinely provided to children when they are one year of age: a time when some parents may feel that their young children have already received enough vaccines to be protected
- c. Lack of trust in vaccine safety
- d. Shortages of vaccines in some countries as a result of recent epidemics.

**Options a., b., and c. are correct.** *Stock-outs (shortages) of vaccine have not been a significant cause of falling immunization rates in most cases.*

8. Home visitors should be prepared to respond flexibly to the concerns of parents about vaccinations with brief, tailored and fact-based “elevator speeches (short enough to be presented during an elevator ride of just a few floors). (True/False)

**This is true.** *Elevator speeches are a persuasive way to combine the most compelling facts with the commitment or passion of the presenter to make a convincing argument in a short period of time.*

9. Polio has been eradicated and will soon be removed from the immunization schedule. (True/False).

**This is false.** *Only the wild polio virus strains two and three have been eradicated so far, and the vaccine will continue to be provided until full eradication has been achieved.*

10. Arrange the following stages into the correct sequence for an expanded behaviour-change model:

Stages	Step
Decision	5 (fifth step)
Advocacy	9 (ninth step)
Pre-contemplation	1 (first step)
Maintenance	8 (eight step)
Preparation	3 (third step)
Contemplation	2 (second step)
Trigger	4 (fourth step)
Fine-tuning	7 (seventh step)
Trial	6 (sixth step)

**Answer:** *Pre-contemplation, contemplation, preparation, trigger, decision, trial, fine-tuning, maintenance, advocacy.*

11. List some non-verbal communication features you can use to make caregivers feel more comfortable:

Decision

- .
- .
- .
- .

**Suggestions:** *Provide time and space for responding, appropriate touch and physical closeness, removal of barriers (e.g. desks), facial expressions (i.e. smile).*

12. Giving young infants multiple vaccines at the same time can overwhelm their immune system. (True/False)

**This is false.** *Infants, even those born prematurely, have a fully functional immune system and deal effectively with a host of pathogens every day.*

13. Naturally acquired immunity works better and is safer than vaccine-acquired immunity. (True/False)

**This is false.** *To acquire natural immunity, the child has to suffer through the disease, facing a significant risk of complications, even death, as well as increasing the risk of infecting other children.*

14. The following approaches need to be avoided when addressing caregiver concerns with vaccines (mark all that apply):

- a. Reflective listening
- b. Solving any problems the caregiver has in getting to the clinic
- c. Empathy for their concerns about whether they are making the best decision for their child
- d. Praising them by telling them that they are your 'best parents' and that you are so proud of them
- e. Rebuking caregivers for missing vaccination appointments
- f. Reminding caregivers that they are not experts and should not question immunization.

**Approaches b., d., e., and f. should not be used.** *Your strategy is to support the caregiver with problem-solving, not solve their problems; to use real praise, not exaggerations; and to pose open-ended questions to find out why an appointment was missed.*

15. Caregivers who refuse vaccines are likely to include individuals with some of the following characteristics (mark all that apply)

- a. They are from marginalized populations
- b. They question science and are often highly educated
- c. They come from poor and uneducated families in urban areas
- d. They don't trust their health care system or health workers.

**All of the above are correct.**

16. The 'three Cs' are (mark all that apply)

- a. Complacency
- b. Concern
- c. Convenience
- d. Confidence.

**b. (parental concern) is not one of the three Cs.**



© UNICEF/Nemanja Pancic

17. Vaccination programmes are expensive because of the costs of vaccines, cold-chains and the salaries needed to deliver so many vaccines to so many children. It is an important public health intervention, but not very cost-effective. (True/False)

**This is false.** Costing studies have shown that childhood vaccinations constitute one of the most cost-effective public health interventions.

18. Measles is so dangerous because ... (mark all that apply)
- a. The disease kills most unvaccinated children because the vaccine only starts working when a child is around two years old
  - b. It is so infectious that herd immunity cannot be achieved
  - c. It can wipe out much of the immune 'memory' that a young child had acquired before contracting measles
  - d. Survivors of measles have an increased likelihood of death in the 2-3 years after contracting the disease
  - e. The infection spreads rapidly when a group of unvaccinated individuals is exposed to a case of measles.

**c. , d., and e. are correct.** Measles is very contagious, and an individual who has just had the disease can have an impaired immune system for some time, making other infections more likely and more severe.

19. There are no good sources of credible information about vaccines and vaccine safety. (True/False)

**This is false.** WHO and UNICEF provide websites that meet all of the criteria for providing fact-based information about vaccines.

20. Vaccine 'rejectors' have a responsibility to inform health workers that their child has not been protected against vaccine-preventable diseases and should know about the signs and symptoms of these diseases. (True/False)

**This is true.** These caregivers are placing their own and other children at risk and need to be reminded of their responsibilities.

21. While vaccination contributes primarily to Sustainable Development Goal 3 (SDG 3) on good health and wellbeing by reducing the number of vaccine-preventable deaths, it also contributes indirectly to other SDGs. (True/False)

**This is true.** Vaccinations have a direct impact on the health goal, but also contribute to achieving a number of the other SDGs, from poverty reduction to economic growth.

## VI

## WEBSITES AND VIDEO CLIPS

This section and the following Annex include a list of frequently asked questions and answers from the European Centre for Disease Prevention (ECDC). In addition, the World Health Organization (2020) provides access to vetted, credible websites on vaccine safety in a number of languages. The websites that are of greatest relevance for your country can be consulted to answer questions that take your context into account. The number of these websites that follow strict criteria is growing. Another source of FAQs may be your Ministry or Department of Public Health, if they have collected such information.

### 1. Websites

- **UNICEF Europe and Central Asia**, 'Interpersonal communication for immunization':  
<https://www.unicef.org/eca/reports/interpersonal-communication-immunization>
- **World Health Organization (WHO)**, 'Access to credible national vaccine safety websites at WHO in different languages':  
[https://www.who.int/vaccine\\_safety/initiative/communication/network/approved\\_vaccine\\_safety\\_website/en/](https://www.who.int/vaccine_safety/initiative/communication/network/approved_vaccine_safety_website/en/)
- **World Health Organization (WHO)**, 'Health Worker Training Materials':  
<https://www.who.int/immunization/documents/training/en/>
- **European Centre for Disease Prevention and Control (ECDC)**, 'Vaccine preventable disease programme':  
<https://www.ecdc.europa.eu/en/about-us/who-we-are/disease-programmes/vaccine-preventable-diseases-programme>
- **UK Department of Health**:  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/844123/PHE\\_Immunisations\\_Up\\_to\\_one\\_year\\_A5\\_booklet\\_2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/844123/PHE_Immunisations_Up_to_one_year_A5_booklet_2019.pdf)
- **Oxford Vaccine Group**, 'Vaccine Knowledge Project. FAQs':  
<https://vk.ovg.ox.ac.uk/vk/faqs-about-vaccines>

### 2. Relevant Video Clips

- Washington Post (5 September, 2019). **'200 years of vaccine skepticism | The Vaccines Project, Episode 1.'** Vaccine hesitancy has existed for over two centuries, fuelled by confusion about how vaccines and our immune system work. Reporter Anna Rothschild explores the origins of vaccines, how they make you immune to disease, and the rise of the first anti-vax sentiments.  
<https://www.youtube.com/watch?v=Stv3SZ7toPI>
- Washington Post (5 September, 2019). **'What ingredients are in vaccines? | The Vaccines Project, Episode 2.'** To understand what is in modern vaccines – and why – let's look back at one of the first lab-created vaccinations, which prevented a gruesome childhood illness. Reporter Anna Rothschild will explore why there are things like aluminum, formaldehyde and mercury in vaccines, and the new vaccine technology that is around the corner.  
<https://www.youtube.com/watch?v=joysFaVX0Q>
- Washington Post (5 September, 2019). **'Are vaccines safe? | The Vaccines Project, Episode 3.'** How are vaccines tested for safety? Why do kids get so many shots at once? And is anyone looking out for

the long-term effects? Reporter Anna Rothschild heads to the National Institutes of Health to figure out just how safe vaccines really are.

<https://www.youtube.com/watch?v=pVPxLNPr11>

- Kurz gesagt – In a Nutshell (12 May, 2019). 'The Side Effects of Vaccines - How High is the Risk?'  
<https://www.youtube.com/watch?v=zBkVCpbNnkU>
- Centers for Disease Control and Prevention (CDC). 'The Journey of Your Child's Vaccine.'  
<https://www.youtube.com/watch?v=Fcvgp6gNh6o>
- BBC (19 June, 2019) 'Measles vaccine fears cost me my children'. Personal stories are a powerful way to counter misinformation on vaccines. In this three-minute video we hear how misinformation led a young woman in the Philippines to withhold measles vaccine from her two children, with tragic consequences.  
<https://www.bbc.co.uk/news/av/world-asia-48644136/measles-vaccine-fears-cost-me-my-children>
- Centers for Disease Control and Prevention (CDC). 'What to expect when your child is vaccinated | How Vaccines Work.'  
<https://www.youtube.com/watch?v=0voOSqFqCk>
- **European Centre for Disease Prevention and Control (ECDC).**(25 February, 2015). 'Measles in Europe.' 1.12 minutes. Measles is a highly contagious disease, more contagious than influenza. It does not only affect young children but also teenagers and young adults. Get vaccinated against measles to protect yourself and your loved ones.  
[https://www.youtube.com/watch?time\\_continue=39&v=BX2ZHdt4Gfo](https://www.youtube.com/watch?time_continue=39&v=BX2ZHdt4Gfo)
- Kurz gesagt – In a Nutshell (24 February, 2015). '**Measles Explained — Vaccinate or Not?**'  
<https://www.youtube.com/watch?v=y0opgc1WoS4>



© UNICEF/ Tamar Jibuti

## ANNEXES: INFORMATION CARDS

### Information Card 1

#### Common Vaccine-Preventable Diseases

Disease	Signs, symptoms, complications	How it is transmitted	Vaccine	Application*
Tuberculosis	<ul style="list-style-type: none"> <li>» In young children, only sign of pulmonary Tb may be stunted growth or failure to thrive</li> <li>» Tb in bones and joints causes pain and swelling</li> <li>» Complication: death</li> </ul>	Air, cough, sneeze, saliva, raw milk	Bacille Calmette-Guérin (BCG)	As soon after birth as possible
Diphtheria	<ul style="list-style-type: none"> <li>» Usually begins with a sore throat, slight fever, loss of appetite, and can quickly cause breathing problems; bluish-grey or white film on throat.</li> <li>» Complications: blocked airway, heart and nervous system problems, paralysis, lung infection. In severe cases, death by suffocation.</li> </ul>	Cough, sneeze, close physical contact, via droplets from the respiratory tract (or lesions in the cutaneous form); patient may be infectious for up to four weeks. Persons exposed can be given a preventative course of antibiotics. The incubation period is 2-5 days.	<ul style="list-style-type: none"> <li>» Diphtheria, pertussis, and tetanus (DTP)</li> <li>Tetanus and diphtheria (Td);</li> <li>» Pentavalent [DTP + hepatitis B (HepB) + Haemophilus influenzae type B (Hib)]</li> </ul>	DTP containing vaccine, 3 doses: First dose at 6 weeks, intervals 4-8 weeks
Pertussis (whooping cough)	<ul style="list-style-type: none"> <li>» Cold-like symptoms and cough lasting at least two weeks, causes long bouts of coughing and choking, breath intake accompanied by a whooping sound, making it hard to breathe; vomiting after coughing; can last for up to 10 weeks.</li> <li>» Complications include pneumonia, convulsions, and seizures. Babies under one year of age are most at risk, and the disease can be very serious and kill. Pertussis is usually less serious in older children.</li> </ul>	Air, Cough, sneeze	<ul style="list-style-type: none"> <li>» Diphtheria, tetanus, and pertussis (DTP) for infants and children Pentavalent (DTP+HepB+ Hib)</li> </ul>	DTP containing vaccine, 3 doses. First dose at 6 weeks, intervals 4-8 weeks
Haemophilus influenzae Type b	<ul style="list-style-type: none"> <li>» Severe pneumonia (difficulty breathing and swallowing, cough, sore throat, chest pain, headache)</li> <li>» Meningitis (fast-rising fever, headache, stiff neck, loss of alertness)</li> <li>» Complications: severe swelling of the face, mouth, blood, throat, joints, heart and bones; brain damage; death.</li> </ul>	Air, Cough, sneeze	<ul style="list-style-type: none"> <li>» Hib</li> <li>» Pentavalent (DTP+HepB +Hib)</li> </ul>	3 doses, first dose at 6 weeks, intervals 4 weeks

Disease	Signs, symptoms, complications	How it is transmitted	Vaccine	Application*
Tetanus	<ul style="list-style-type: none"> <li>» Affects the nervous system which can lead to muscle spasms, cause breathing problems</li> <li>» Complications: respiratory failure, pneumonia, fractures, death</li> </ul>	Caused by germs found in soil and manure, on dirty tools, splinters, or charcoal that enter the body through open wounds, cuts or burns; cannot be passed from person to person.	<ul style="list-style-type: none"> <li>» Tetanus Toxoid (TT)</li> <li>» DTP</li> <li>» Diphtheria, tetanus (DT)</li> <li>» Td Pentavalent (DTP+HepB +Hib)</li> </ul>	DTP containing vaccine, 3 doses: First dose at 6 weeks, intervals 4-8 weeks
Pneumococcal disease	<ul style="list-style-type: none"> <li>» Pneumonia (lung infection); fever, chills, cough, rapid breathing, chest pain</li> <li>» Meningitis, ear infection, sinusitis, etc.</li> <li>» Complications: bloodstream infection, hearing loss, brain damage, death</li> </ul>	Cough, sneeze, close contact with infected person	<ul style="list-style-type: none"> <li>» Pneumococcal conjugate vaccine (PCV)10</li> <li>» PNC13</li> </ul>	3 doses, first does at 6 weeks, intervals 4 weeks
Polio	<ul style="list-style-type: none"> <li>» Fever, headache, sore throat. Is a virus that attacks the nervous system and can cause permanent paralysis of muscles.</li> <li>Complications: paralysis and death</li> </ul>	Fecal-oral	<ul style="list-style-type: none"> <li>» Oral polio vaccine (OPV) Inactivated polio vaccine (IPV)</li> </ul>	3-4 doses, first dose at 6-8 weeks, intervals 4-8 weeks
Measles	<ul style="list-style-type: none"> <li>» High fever, runny nose, cough, red and watery eyes, small white spots inside cheeks</li> <li>» Dry rash</li> <li>» Complications: encephalitis, blindness, severe diarrhea and dehydration, ear infections pneumonia</li> </ul>	One of the most infectious vaccine preventable diseases (infectivity close to 100%); by air: cough, sneeze, close personal contact; can significantly reduce child's immune response	<ul style="list-style-type: none"> <li>» Measles</li> <li>» Measles, mumps, rubella (MMR)</li> <li>» Measles, rubella (MR)</li> </ul>	2 doses, first does at 9-12 months
Mumps	<ul style="list-style-type: none"> <li>» Fever, loss of appetite, muscle pain, pain chewing or swallowing, headache, fatigue</li> <li>» Swollen glands in front of ears or under jaw</li> <li>» Complications can include brain infection, meningitis, hearing loss, male infertility</li> </ul>	Cough, sneeze, direct contact with infected person	<ul style="list-style-type: none"> <li>» MMR Measles, mumps, rubella, varicella (MMRV)</li> </ul>	2 doses, at 9-12 months, interval 4 weeks to school entry

Disease	Signs, symptoms, complications	How it is transmitted	Vaccine	Application *
Rubella (German measles)	<ul style="list-style-type: none"> <li>» Mild fever, pink eye, swollen, tender lymph nodes, usually in the back of the neck or behind the ears</li> <li>» Rash begins on the face and spreads downward</li> <li>» Complications: brain infection and bleeding problems</li> </ul>	Cough, sneeze, mother-to-child	<ul style="list-style-type: none"> <li>» MMR</li> <li>» MR</li> </ul>	1 dose at 9-12 months
Varicella (chickenpox)	<ul style="list-style-type: none"> <li>» Nausea, loss of appetite, aching muscles, headache</li> <li>» Skin rash with itchy blisters</li> <li>» Complications (rare in children): bacterial infections of the skin and soft tissues, pneumonia, encephalitis, bleeding problems, blood stream infections (sepsis), dehydration, death</li> </ul>	Droplets or direct contact with skin lesions	<ul style="list-style-type: none"> <li>» Varicella vaccine</li> <li>» MMRV</li> </ul>	1-2 doses, first dose at 12-18 months, interval of 4-12 weeks
Hepatitis B	<ul style="list-style-type: none"> <li>» Children rarely have symptoms</li> <li>» Adults may have yellow skin or yellow in the white of the eye, dark urine, anorexia, malaise, extreme fatigue, right upper quadrant tenderness</li> <li>» Complications: Liver diseases, including cancer</li> </ul>	Mother-to-child transmission, cuts, bites, scratches, unprotected sex, shared needles	<ul style="list-style-type: none"> <li>» HepB</li> <li>» Pentavalent (DPT+HepB+Hib)</li> </ul>	3-4 doses, 1 <sup>st</sup> as soon as possible after birth, with 4-week intervals between doses
Rotavirus	<ul style="list-style-type: none"> <li>» Loose stools, watery diarrhea, fever, vomiting, stomach pains</li> <li>» Complications: dehydration, shock, kidney and liver failure, death if untreated</li> </ul>	Fecal-oral	Rotavirus vaccine	2-3 doses, 1 <sup>st</sup> dose at 6 weeks, interval of 4 weeks

## Information Card 2

### Frequently Asked Questions (FAQs) about Childhood Vaccinations

**Note:** If your country has a list of FAQs, use that list first to see if you can find the answer you need.

<p><b>Because some children could receive as many as 25 injections by the time they are two-years-old and as many as five injections in a single visit to the doctor, many parents wonder whether it is safe to give children so many vaccines.</b></p>	
<p><b>Q.</b> How do vaccines work?</p>	<p><b>A.</b> Vaccines contain either a very weakened form of the virus or bacterium that causes a disease, or a small part of it. When the body detects the contents of the vaccine, its immune system will produce the antibodies required to fight off infection and eliminate the disease-causing virus or bacterium. When a person later comes into contact with the virus or bacterium, the immune system will recognize it and protect the person by producing the right antibodies before any disease can be caused.</p>
<p><b>Q.</b> Are children receiving too many vaccines too soon?</p>	<p><b>A. No. Newborns commonly manage many challenges to their immune systems at the same time.</b> The mother’s womb is free from bacteria and viruses, so newborns immediately face a host of different challenges to their immune systems. From the moment of birth, thousands of different bacteria start to live on the surface of the intestines. By quickly making immune responses to these bacteria, babies keep them from invading the bloodstream and causing serious diseases. In fact, babies are capable of responding to millions of different viruses and bacteria because they have billions of immunological cells circulating in their bodies. Therefore, vaccines given in the first two years of life are a drop in the ocean of what an infant’s immune system successfully encounters and manages every day (Offit et al., 2002).</p>
<p><b>Pre-vaccination: should my child get immunized today?</b></p>	
<p><b>Q.</b> What if my child is ill?</p>	<p><b>A.</b> There are very few medical reasons to delay immunization. Babies and children with minor coughs and colds, or those on antibiotics, can be immunized safely and effectively. However, If your child has a high temperature, the health provider may recommend postponing the vaccination temporarily. If you are worried about whether your child is fit to be immunized, talk it over with your child’s doctor before putting off the immunization.</p>
<p><b>Q.</b> What if my child was premature, had a low birth weight or had jaundice?</p>	<p><b>A.</b> In general, premature babies should be immunized as normal. It is important that premature babies are protected because they are more vulnerable to certain infections. If your child had a very low birth weight, you should discuss their immunization needs with your paediatrician. Babies who had jaundice after being born and those who are being breast fed should be immunized as normal.</p>
<p><b>Q.</b> What if my child has a serious disease?</p>	<p><b>A.</b> It is very important that children with serious diseases are immunized because they are often more at risk from complications of infections. Children with stable neurological conditions such as cerebral palsy or Down syndrome should be immunized as normal. However, care is needed if the child’s illness, or its treatment, may lower their immunity. Immunization should be carefully considered for children with cancer or an immune deficiency disorder, or who are taking medicines which may reduce their ability to fight infection. Discuss this with your doctor. Children who have had a blood transfusion or received blood products should delay their MMR vaccination.</p>
<p><b>Q.</b> What if my child has asthma, eczema or hay fever?</p>	<p><b>A.</b> Children with asthma, eczema, hay fever and allergies should be immunized, even if they have a severe allergy to eggs (for example, hives, which are red itchy bumps), swelling of the mouth or throat, difficulty breathing, wheezing, low blood pressure and shock. Children taking steroids by inhaler or in a low-dose steroid cream should be immunized as normal. If you have any doubts, talk to your child’s doctor or health provider giving the immunization.</p>

<p><b>Q.</b> Can my child get the MMR and other vaccines if they are allergic to eggs?</p>	<p><b>A.</b> The MMR vaccine can be given to children with an egg allergy. Only children who develop allergic shock when in contact with egg should avoid the MMR vaccination. Your child simply disliking eggs or having diarrhoea or stomach pains after eating eggs is not a reason to avoid it, and you do not need to take any special precautions. If you have any doubts, talk to the doctor or nurse giving the immunization. The flu vaccine, however, should not be given to those who have a severe allergy to eggs.</p>
<p><b>Q.</b> What if my child has epilepsy or has had convulsions (fits)?</p>	<p><b>A.</b> These children should still be immunized if their condition is stable. Some children get fits if they have a high temperature or a fever. If they get a high fever (over 39.5°C) after they have been vaccinated, give them paracetamol or ibuprofen. Children with a family history of fits or epilepsy should be immunized as normal.</p>
<p><b>Q.</b> What if my child has recently had, or is due to have surgery?</p>	<p><b>A.</b> Do not put the immunization off if your child is due to have an operation or has recently had one. Having surgery is not a reason to put off immunization, and a recent immunization is not a reason to put off surgery.</p>
<p><b>Q.</b> What if my child has already had one of the vaccine-preventable diseases?</p>	<p><b>A.</b> You should still immunize your child against vaccine preventable diseases, even if they had them before. Some diseases, such as measles, can be very harmful and make your child's immune system vulnerable to other infections. Therefore, getting the vaccine is extremely important to strengthen the body's protection even after an infection. Moreover, as there are vaccines that protect the child against more than one disease, a previous infection to one disease will not ensure protection to all of them. For instance, the MMR vaccine protects against measles, mumps and rubella.</p>
<p><b>Q.</b> Can my child be immunized while they are in close contact with someone who is pregnant?</p>	<p><b>A.</b> Yes. There is no problem with giving routine immunizations to a child who is in close contact with someone who is pregnant. In fact, immunizing the child will protect the pregnant women from being exposed to diseases like rubella. When a woman is infected with the rubella virus early in pregnancy, she has a 90% chance of passing the virus on to her fetus. This can cause the death of the fetus, or it may cause congenital rubella syndrome (CRS). Children with CRS can suffer hearing impairments, eye and heart defects and other lifelong disabilities, including autism, diabetes mellitus and thyroid dysfunction.</p>
<p><b>Q.</b> Should my child be vaccinated with other vaccines that are not recommended in the national immunization schedule?</p>	<p><b>A.</b> It is extremely important to vaccinate your child according to the national immunization calendar. However, you may also want to consider other vaccines available in your country, such as the one against the flu. If your child has any long-term illness, ask your doctor if they need to be immunized against other diseases, such as hepatitis A. Remember to check if your child needs any other vaccine if they travel to another location.</p>

<b>Delaying vaccination</b>	
<p><b>Q.</b> Is it ok to delay vaccination?</p>	<p><b>A.</b> No evidence to date reveals any benefits to delaying vaccines. A study in 2010 (Smith and Woods, 2010) showed that children who received delayed vaccinations performed no better at ages seven to 10 on behavioural and cognitive assessments than children who received their vaccines on time. Delaying vaccines will increase the period of time during which children are at risk for vaccine-preventable diseases. Several of these diseases, like chickenpox, pertussis (whooping cough) and pneumococcus (which causes bloodstream infections, pneumonia and meningitis) are very common and may severely affect very young children. Although the vaccine schedule can look intimidating, it is based upon the best scientific information available. Separating, spacing out or withholding vaccines causes concern because infants will be susceptible to diseases for longer periods of time. When a child should receive a vaccine is determined by balancing when the child is at highest risk of contracting the disease and when the vaccine will generate the best immune response. Finally, changing the vaccine schedule requires additional doctor’s visits. Research measuring cortisol, a hormone associated with stress, has determined that children do not experience more stress when receiving two injections as compared with one injection. Therefore, an increased number of visits for individual injections will mean more stressful situations for the child. In addition, there is an increased potential for administration errors, more time and travel needed for appointments, and potentially increased costs.</p>
<p><b>Autism</b> Some parents of children with autism are concerned that vaccines are the cause. Their concerns centre on the combination measles-mumps-rubella (MMR) vaccine and thiomersal, a mercury-containing preservative previously contained in several vaccines.</p>	
<p><b>Q.</b> Does the MMR vaccine cause autism?</p>	<p><b>A.</b> No. In 1998, a British researcher named Andrew Wakefield raised the notion that the MMR vaccine might cause autism. In the medical journal <i>The Lancet</i>, he reported the stories of eight children who developed autism and intestinal problems soon after receiving the MMR vaccine. To determine whether Wakefield’s suspicion was correct, researchers performed a series of studies comparing hundreds of thousands of children who had received the MMR vaccine with hundreds of thousands who had never received the vaccine. They found that the risk of autism was the same in both groups. The MMR vaccine didn’t cause autism. Furthermore, children with autism were not more likely than other children to have bowel problems (Deer, 2011).</p>
<p><b>Q.</b> Does thiomersal cause autism?</p>	<p><b>A.</b> No. Multiple studies have shown that thiomersal in vaccines does not cause autism. Thiomersal is a mercury-containing preservative that is used in some vaccines that come in multi-dose vials to increase their safety - thiomersal is used to prevent germs from growing in the vaccines. Vaccines that contain thiomersal have an extremely small amount of the substance which does not cause harm to the human body. In 1999, professional groups called for thiomersal to be removed from vaccines as a precaution. Unfortunately, the precipitous removal of thiomersal from all but some multi-dose preparations of influenza vaccine scared some parents. Clinicians were also confused by the recommendation. Since the removal of thiomersal, studies have been performed to determine whether thiomersal causes autism. Hundreds of thousands of children who received thiomersal-containing vaccines were compared to hundreds of thousands of children who received the same vaccines free of thiomersal. The results were clear: the risk of autism was the same in both groups (Gerber and Offit 2009; Andrews et al., 2004; Heron and Goldin, 2004; Madsen et al., 2003).</p>

<p><b>Vaccine ingredients</b> Some parents are concerned about ingredients contained in vaccines, specifically aluminium, mercury, gelatine and antibiotics. However, parents can be reassured that ingredients in vaccines are minuscule and necessary.</p>	
<p><b>Q.</b> Why do some vaccines contain mercury?</p>	<p><b>A. Mercury is contained in some multi-dose preparations of influenza vaccine as a preservative.</b> Preservatives prevent contamination with bacteria or other germs. Early in the 20th century, most vaccines were packaged in vials that contained multiple doses. Doctors and nurses would draw up a single dose and place the vaccine back in the refrigerator. Unfortunately, sometimes bacteria would inadvertently enter the vial and cause abscesses at the site of the injection or bloodstream infections that were occasionally fatal. Preservatives, originally added in the 1930s, solved this problem. The most common preservative used was thiomersal, a mercury-containing compound. As more vaccines were given, children received greater quantities of thiomersal. By the late 1990s, the American Academy of Paediatrics and the Public Health Service requested that mercury be removed from vaccines to make ‘safe vaccines safer’. No evidence existed to suggest that thiomersal was causing harm, but they wanted to be cautious. Unfortunately, their caution worried parents who wondered whether mercury in vaccines was causing subtle signs of mercury poisoning or autism. Addressing these concerns, scientists performed several studies, all of which showed that thiomersal at the level contained in vaccines hadn’t caused harm. Further, because mercury is a naturally occurring element found in the earth’s crust, air, soil and water, we are all exposed to it. In fact, infants who are exclusively breast-fed ingest more than twice the quantity of mercury than was contained in vaccines.</p>
<p><b>Q.</b> Why do some vaccines contain antibiotics?</p>	<p><b>A. Many vaccines contain trace quantities of antibiotics or stabilizers.</b> Antibiotics are used during the manufacture of vaccines to prevent inadvertent contamination with bacteria or fungi. Trace quantities of antibiotics are present in some vaccines. However, the antibiotics contained in vaccines (neomycin, streptomycin or polymyxin B) are not those commonly given to children. Therefore, children with allergies to antibiotics such as penicillin, amoxicillin, sulfa, or cephalosporins can still get vaccines.</p>
<p><b>Q.</b> Why do some vaccines contain aluminium?</p>	<p><b>A. Aluminium is used in vaccines as an adjuvant.</b> Adjuvants enhance the immune response by allowing for lesser quantities of active ingredients and, in some cases, fewer doses. Adjuvants were first used in vaccines in the United States in the 1930s – specifically, aluminium salts. Some people wonder whether aluminium in vaccines is harmful. The facts are reassuring. First, aluminium is present in our environment; the air we breathe, the water we drink and the food we eat all contain aluminium. Second, the quantity of aluminium in vaccines is small. For example, in the first six months of life, babies receive about 4 milligrams of aluminium if they get all of the recommended vaccines. However, during this same period they will ingest about 10 milligrams of aluminium if they are breast-fed, 40 milligrams if they are fed regular infant formula, and up to 120 milligrams if they are fed soy-based infant formula (Baylor et al., 2002).</p>
<p><b>Q.</b> Why do some vaccines contain gelatin?</p>	<p><b>A. Gelatin is used in some vaccines as a stabilizer.</b> Stabilizers are added to vaccines to protect the active ingredients from degrading during manufacture, transport and storage. Gelatin, which is made from the skin or hooves of pigs, is of concern because some people (about 1 of every 2 million) might have a severe allergic reaction to it. Also, because some religious groups follow dietary rules that prohibit pig products, some parents are concerned about using vaccines that contain gelatin. However, all religious groups have approved the use of gelatin-containing vaccines for their followers for several reasons: first, vaccines are injected, not ingested (except the rotavirus vaccine, which does not contain gelatin). Second, gelatin in vaccines has been highly purified and hydrolysed (broken down by water), so that the amount is much smaller than that found in nature. Finally, leaders from these religious groups believe that the benefits of receiving vaccines outweigh adherence to religious dietary laws (Atkinson et al., 2008).</p>

<p><b>Q.</b> Why do some vaccines contain formaldehyde?</p>	<p><b>A. Formaldehyde is used during the manufacture of some vaccines to inactivate viruses</b> (like polio and hepatitis A viruses) or bacterial toxins (like diphtheria and tetanus toxins). While the formaldehyde is diluted during the manufacturing process, small quantities remain. Because formaldehyde is associated with the preservation of dead bodies, its presence in vaccines seems inappropriate. However, it is important to realize that formaldehyde is also a by-product of protein and DNA synthesis, so it is commonly found in the bloodstream. The quantity of formaldehyde found in blood is 10 times greater than that found in any vaccine (Children’s Hospital of Philadelphia (CHOP), 2012).</p>
<p><b>Q.</b> Are some vaccines made using foetal cells?</p>	<p><b>A. Foetal cells are used to make four vaccines: rubella, chickenpox, hepatitis A and rabies.</b> Foetal cells used to grow the vaccine viruses were isolated from two elective abortions performed in Sweden and England in the early 1960s. Some parents wonder why scientists would choose to use foetal cells at all. There are several reasons for this. First, viruses, unlike bacteria, require cells to grow. Second, human cells are often better than animal cells at supporting the growth of human viruses. Third, foetal cells are different from other types of cells in that they are virtually immortal, meaning they can reproduce many, many times before dying. Other cells reproduce only a limited number of times before they die (Offit, 2007).</p>
<p><b>Q.</b> Can the ingredients in vaccines cause allergic reactions?</p>	<p><b>A. In addition to gelatin, other ingredients in vaccines such as egg proteins and antibiotics might cause an allergic reaction.</b> Because the influenza and yellow fever vaccines are grown in eggs, the final products contain sufficient quantities of egg proteins to cause an allergic reaction, albeit rarely, in people allergic to eggs. Antibiotics are used to prevent bacterial contamination during production of some vaccines, such as neomycin, streptomycin, polymyxin B, chlortetracycline and amphotericin B. People who are allergic to any of the antibiotics used during production should consult with the doctor or nurse responsible for the immunization before any vaccine is administered.</p>

### Information Card 3

#### Simple ways to show empathy

Say things such as:	<p><i>"I feel badly when my baby cries, too."</i></p> <p><i>"Being a mother, these days, is so challenging."</i></p> <p><i>"It's hard to make these decisions."</i></p> <p><i>"We all want the best for our children."</i></p> <p><i>"I hate when that happens to me."</i></p> <p><i>"That must have been very difficult for you."</i></p>
Pay full attention to the speaker	Allowing them to speak. Do not interrupt to propose a solution. Letting someone be heard is actually part of the solution.
Allow silence	This gives the caregiver time to reflect, consider their next words, and begin to come to terms with what they are feeling.
Support and encourage the caregiver	Instead of critiquing them or their story, or telling them what they should have done differently.
Let them know they are not alone	If it's true, tell them it is normal to feel the way they do and that you have felt the same.
Use empathy to show that you share your caregiver's concerns	"I understand that you want the best for your child, and I do too. I care very much about your concerns."
Avoid focusing on a solution	Stay in the moment of letting the person express themselves and letting yourself hear them and feel what they are saying.
Avoid saying "I know just what you are going through".	That is almost never true, and it can make people angry.
When you are having a hard time feeling empathy...	<p>Try to imagine that the person you are talking to has just suffered a loss or a difficult situation like one you might have recently encountered.</p> <p>Think about how you felt then, and how you wanted people to treat you. Just a minute of remembering your own difficulties and how you felt might give you a bit more understanding of the person in distress in front of you.</p>
None of us know what someone else is going through.	Always try to give people the benefit of the doubt.
Showing empathy is a skill you can strengthen through practice.	Let your warmth shine through and your caregivers will feel it.

## Information Card 4

### Responses that encourage communication

<p><b>Ask your caregiver/s:</b></p>	<p><i>"I'm not sure I am following you. Can you help me understand?"</i>  <i>"Did I understand you correctly? Did you mean .....?"</i>  <i>"Can you tell me more about what you've heard?"</i></p>
<p><b>A few more questions that can help draw out your caregiver's concerns, and help negotiate decisions and solutions include:</b></p>	<p><i>"How do you feel about this?"</i>  <i>"What part of this do you agree with?"</i>  <i>"What part of this do you have a problem with?"</i>  <i>"What would make you feel more comfortable about this?"</i>  <i>"How can I help you think through this?"</i>  <i>"What would help you make a decision?"</i>  <i>"Could you tell me a little more about what you heard?"</i>  <i>"Is there anything else you need to know before you make a decision?"</i></p>
<p><b>Buying yourself time to answer questions</b></p>	<p>When someone asks you a question, and you need a minute to think about your response, here are a couple of phrases to use while you think:</p> <p><i>"I hear what you're saying..."</i>  <i>"That's a good question."</i>  <i>"Let me think about that for a minute."</i></p>
<p><b>When you don't know the answer</b></p>	<p>It is important to acknowledge when you don't know the answer, and to above all not to say something that isn't true.</p> <p>If you don't know the answer, you can say (again):</p> <p><i>"That's a good question, and I'm afraid I don't have a good answer."</i></p>
<p><b>Make sure you continue with an opportunity to find out and share the information back.</b></p>	



© UNICEF/Pirozzi

## Information Card 5

### Roadblocks to Communication

Roadblock	Effects	Bad example
1. Ordering, directing, commanding	Sends a message that the father or mother is not important. Create feelings of mistrust, anger or fear.	<i>"You must come to the clinic tomorrow or I will report you to your doctor."</i>
2. Warning, admonishing, threatening	Evokes resentment and hostility or fear and submissive reactions.	<i>"If you do not vaccinate your child, your child will get sick, and then we cannot treat her."</i>
3. Exhorting, moralizing, preaching	Provokes feeling of guilt and can harm self-esteem, is a message of distrust.	<i>"Only irresponsible parents can act like this. You do not care about your child's wellbeing."</i>
4. Advising, giving suggestions or solutions	Harms self-esteem and self-confidence. Sends a message that the parent is not competent. Sometimes provokes resistance.	<i>"Why did you not ask your mother-in-law for a ride to the clinic?"</i>
5. Lecturing, giving logical arguments	Makes a mother or father feel inferior, subordinated and inadequate. Parents can become defensive.	<i>"If you had listened to me and followed my instructions that are based on scientific evidence, your baby would be healthy now."</i>
6. Judging, criticizing, disagreeing, blaming	Probably more than any message, makes parents feel inadequate, inferior, stupid, unworthy and bad.	<i>"You are so irresponsible. Why do you have a child when you are not ready to do what is the best for her?"</i>
7. General/vague praising, agreeing	General praising makes parents feel confused and creates a feeling of mistrust.	<i>"You are the best parents I have ever seen. You are doing everything that you are told, and this is why your child is doing so well."</i>
8. Name calling, ridiculing, shaming	Such messages can have a devastating effect on the self- image of a parent.	<i>"Oh, it is so popular now to say no to vaccines. I did not expect anything better from you, you only trust the Internet and do not care what is good for your child."</i>
9. Interpreting, analyzing, diagnosing	Sends a message that you feel superior, wiser and cleverer.	<i>"I am sure you have some issues with authority. You do not want to vaccinate your child because you do not want to listen to me."</i>
10. Reassuring, sympathizing, consoling, supporting	Such messages are not as helpful as most believe. To reassure a parent when s/he is feeling disturbed about something, may simply convince him/her that you don't understand him/her.	<i>"Oh poor you, I know how you feel, and I feel so sorry for you and your child. It is not easy to make a decision when you are scared."</i>
11. Probing, questioning, interrogating	To ask questions may convey to parents your lack of trust, your suspicion or doubt. It is also sending a message that we do not really care how others feel and what they need.	<i>Why are you not ready to vaccinate your child? What is wrong? Who told you that you should not do that?</i>
12. Withdrawing, distracting, humoring, diverting	Such messages can communicate to parent that you're not interested in him/her, don't respect his/her feelings, or that you are downright rejecting him/her.	<i>"Oh, come on, this is nothing. Even if there are some problems with vaccine safety it will not happen to your child. Do not worry, relax. Let us have a cup of coffee/tea and you will be OK."</i>
13. Ignoring	Asking just one parent's opinions, addressing and looking at them undermines the other's confidence and disrupts and fails to support cooperative parenting, which is very important in raising happy, self-confident children.	<i>"Mothers should make decisions about their children. Not fathers. They do not understand what young children need."</i>

## Information Card 6

### Practical Communication Skills

#### Case Study

Identify some of the key verbal and non-verbal communication barriers in this case study. What 'roadblocks' does Anja, another home visiting nurse, put up during this visit? How could this case be rewritten (or if you are using role-play, how could you change this story) to increase the chances that Victor will be vaccinated?

#### Case Study

##### Part 1.

Svetlana is 16 when she becomes pregnant. She and her boyfriend, Nikola, decide to get married despite the opposition of their families. During your first home visit, you find the young couple in their living quarters with Nikola's parents. You advise them on the importance of antenatal care and encourage Nikola to accompany Svetlana to her next ultra-sound, knowing that her doctor loves to share the growing miracle of life with young fathers. You also mention that fathers are welcome to accompany mothers and babies to the well-child visits and to every vaccination after birth.

Both young parents look at you blankly. This is not something they have thought about yet. They ask you what other families are doing about vaccinating their babies. Svetlana mentions that she thinks she had many vaccines when she was younger, but she has heard some rumours that vaccines are dangerous. You overhear Nikola's mother in the background muttering that the baby will become stronger if he goes through childhood illnesses, just as it has always happened in her family.

##### Part 2.

Because you were assigned to a different catchment area, you did not see the teenage parents Svetlana and Nikola or their baby boy Victor until he is already three months old. Today, you are introducing the family to their new home visiting nurse, Anja.

After entering the house, Anja asks Svetlana for Victor's immunization records. Svetlana searches for them and finds them next to a stack of Victor's clothes and diapers. Anja rolls her eyes at you and wrinkles her nose at the documents. She tells Svetlana that these are very important papers that need to be kept clean and in a safe space. Then she asks Svetlana to hand them over.

After she sees the blank spaces where the vaccines should have been recorded, she becomes irritated and asks Svetlana why Victor was not vaccinated. Svetlana becomes very red in her face and her eyes fill with tears. She confesses that she is afraid of needles and cannot stand to see the pain in Victor's face. Anja turns to you and says, in a low voice, "children should not be allowed to have children." Svetlana also tells her that she has been ill and has had no transport, because Nikola is away at a construction site. Anja tells Svetlana that she could ask her mother-in-law for a ride. She mentions that she was also sick a year ago, but still managed to get her own baby vaccinated on time.

Svetlana's mother-in-law tells Anja that Victor should develop his own immunity. Anja turns away from her and does not respond. She also tells Svetlana to show up at the clinic tomorrow, or a doctor will be sent to the house. When you both leave the family, Anja tells you that this is another of these families that is messing up the polyclinic's vaccination coverage rate. You have seen Svetlana in tears and decide to have a discussion on communication during the next staff meeting.

## Information Card 7

### The CASE Approach

<p><b>Before the following discussion begins, the health provider has already welcomed the caregiver, put them at ease, and with active listening skills, she has helped them articulate their concern.</b></p>	
<p><b>Health Provider:</b> <i>“I understand you have some concerns about your child’s vaccinations.”</i></p>	
<p><b>Caregiver:</b> <i>“Yes, I want to spread out the vaccinations, so they won’t overwhelm my child’s immune system.”</i></p>	
<p><b>Health Provider:</b> [This is a case for CASE!] (The health provider responds to this concern using the numbered phrases below)</p>	
<p><b>1. Corroborate:</b> <i>“You are right; children today certainly get more vaccinations than children did years ago.”</i></p>	<p><b>Other example phrases for Corroborate (not for this concern, just for this step):</b> <i>“You and I both want your child to be protected against things that might harm her.”</i> <i>“It’s true, some children may have mild side effects from vaccines like sore arm or fever. But these are normal side effects that produce a bit of discomfort then pass quickly. And they are nothing compared to the pain and suffering a child would go through, if they got the disease.”</i> <i>“We both want the best for your child.” “I know it’s hard to watch your child crying while getting a shot or having a sore arm.”</i></p>
<p><b>2. About Me:</b> <i>“Our practice follows the national schedule because it is carefully designed to protect children at the time they are most vulnerable to disease. I served on a committee that reviewed the schedule and I feel very confident that it’s the best approach.”</i></p>	<p><b>Other example phrases for About Me:</b> <i>“I just attended a conference that emphasized the risks of late vaccination during the current measles outbreak.”</i> <i>“As a result of my own questions, I have read the latest studies to ensure I have all the facts.”</i> <i>“I went to a refresher training on immunization last month which gave me a lot of up to date information that gives me even more confidence in our vaccines.”</i> <i>“I just read a new study that said XYZ.”</i> <i>“I have vaccinated tens of thousands of patients, so I have some experience with this.”</i></p>
<p><b>3. Science:</b> <i>“Although children get more vaccinations today, they actually receive smaller amounts of material than back when got fewer vaccinations, because technology has enabled us to make vaccines that have only the part of the cell that creates the immune response.”</i></p>	<p><b>Other example phrases for Science:</b> <i>“Studies involving hundreds of thousands of children demonstrate the vaccine’s safety with only a tiny risk of major side effects- about the same risk as the risk of being hit by lightning.”</i> <i>“The immunological challenge from a vaccine is nothing compared to what kids get every day. An ear infection is a bigger immunological challenge for your child’s system, or even playing on the playground.”</i></p>
<p><b>4. Encourage/Advice:</b> <i>“We want all the children in our practice to be immunized so that they are well protected and have the greatest chance for a long, healthy life. If it were my child, I would follow the schedule, to protect her as much as I could.”</i></p>	<p><b>Other example phrases for Explain/Advice:</b> <i>“It’s worth the slight discomfort to know he is getting the protection he needs for a long, healthy life. I know you will be able to comfort your baby afterwards, and you will feel good about having given him the protection he needs. If it were my baby, I would go ahead and vaccinate.”</i></p>

## Information Card 8

### Steps to address negative rumours in the community

The following suggested actions cannot be carried out by you alone. Immediate reporting is important, and advice should be sought before you take action.

First, try to identify:

- What the rumour is
- Who was the original source of the rumour?
- Who is spreading the rumour now?
- Whether there is any reason for the rumour spreading — there might be a political or religious reason, or it might simply have arisen from lack of information or incorrect information about the immunization programme?

Remember, we need to distinguish between negative stories that may be true, such as an AEFI (a child who gets an abscess) and negative stories that are not true - which we will call false rumours. True stories about AEFI need to be met with careful handling in one way, whereas false rumours need a different approach. Here we will focus on dealing with false rumours.

Once you have gathered this information, **arrange a meeting with opinion leaders** such as local government officials, traditional and religious leaders, community leaders and other health workers.

In the meeting, begin by providing information about the immunization programme and the diseases it can prevent. Try to ensure that those present are free to ask questions and express concerns. Discuss and reach agreement on collective ways to correct the negative rumour and the wrong information about the immunization service. Key steps include:

Identify the correct information about vaccines and how to deal with the rumour.

Disseminate correct information about immunization to the public. This can be done through community meetings, communication materials, regional or national campaigns, radio programming, etc.

Strategies that can be used to reach the hard-to-convince include the following:

- Identify the groups that are involved in perpetuating the rumours/misinformation;
- Engage key informants to find out the nature and reasons for rumours/misinformation;
- Visit influential people/leaders for one-on-one discussions;
- Hold discussions with leaders and community member to address the rumours/misconceptions;
- Seek endorsement statements from credible authorities (government, church leaders, medical professionals, etc.); Invite respected/trusted authorities to participate and discuss the issues with community members.

It is important to remember that, unless you have specialized training on dealing with media, you should avoid doing interviews or other media appearances.

## Information Card 9

### Reducing Pain

*Pain during vaccination is expected and normal, but it can be modified. Health workers have an ethical obligation to minimize pain caused during vaccination.*

#### 1. The experience of pain at the time of vaccination

- Unpleasant physical sensation caused by the needle penetrating skin and muscles, and the chemical properties of the vaccine
- May be described as a poke or a sting, and some pushing
- Perception of pain is very variable among individuals
- Children often perceive needles to be more painful than adults and describe any procedure related to needles to be one of the most frightening health related events
- Anticipation of pain can cause fear.

#### 2. Health worker actions

##### BEFORE VACCINATION

- If giving vaccines to a young child, ask caregiver if and how much the child understands about vaccination
- Use language appropriate to the caregiver's and patient's level of understanding
- Acknowledge and normalize the feelings of the patient/caregiver:  
*"It is normal to feel nervous before getting a needle."*  
BE HONEST that the needle may hurt, but is normal, only brief, and resolves on its own. Do NOT say *"It doesn't hurt"* or attempt to reassure by saying *"It'll be over soon."* These approaches are not helpful and may promote distrust or actually increase distress.?
- Prepare the patient/caregiver by briefly explaining to them what to expect in terms of:
- What the vaccine or vaccines prevent against: *"Remember that these vaccines provide important protection against..."*
- How you will carry out the vaccination and take steps to minimize discomfort: e.g. *"I will inject the vaccine as carefully and quickly as possible"*
- Describe how the vaccination will feel without inferring that they may or may not happen: *"You may feel a poke or pinch and some pushing for a few seconds."*
- If aiming to provide distraction, offer limited but realistic choices and let the child/ patient choose:  
*"Would you like to sing a song or look at this book while I give you the vaccine?"*

##### DURING VACCINATION

- If patient is an infant, ask the caregiver to hold the infant in a position that is comfortable for both of them
- Encourage breastfeeding at the time of vaccination (if appropriate) as it also helps with relaxation
- If a patient is an older child or an adult, ask them to relax their arm (they can rest their hand on the upper leg if sitting)
- Give neutral verbal signal before administering the needle:  
*"I'm going to count 3,2,1"*  
*"Here I go!"*
- If caregiver is holding the child, a request to stay still is important during the injection

### AFTER VACCINATION

- Smile, encourage and praise patient for their bravery:  
*"Well done, you stayed very calm / very still!"*
- Ask for feedback and use that to plan for next time:  
*"How did that feel?"*
- Provide instructions on aftercare:  
*"Make sure to move your arm around.  
Keeping it too still may make your arm hurt more"*
- Inform about signs and symptoms they should watch out for, i.e. adverse events following immunization (AEFI)  
*"It is normal to see some redness and swelling at the site of injection, and this should go away after a few days"*

### 3. Pain during vaccination is different from pain that develops after vaccination

Pain that develops AFTER immunization may present with redness, tenderness and/or swelling at the injection site:

- Usually mild and not serious
- May be associated with other common, mild adverse events following immunization (AEFI) such as:
  - ▶ Fatigue
  - ▶ Headache
  - ▶ Nausea
  - ▶ Dizziness or fainting (most common in adolescents)

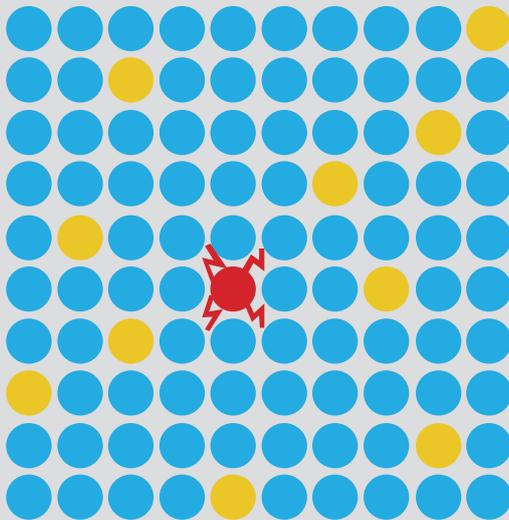


© UNICEF/Yurko Dyachyshyn

## Information Card 10

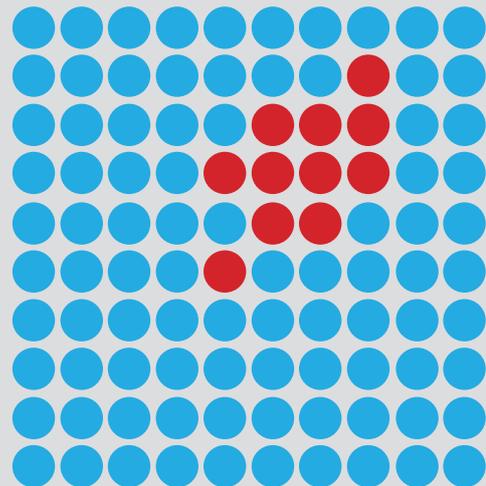
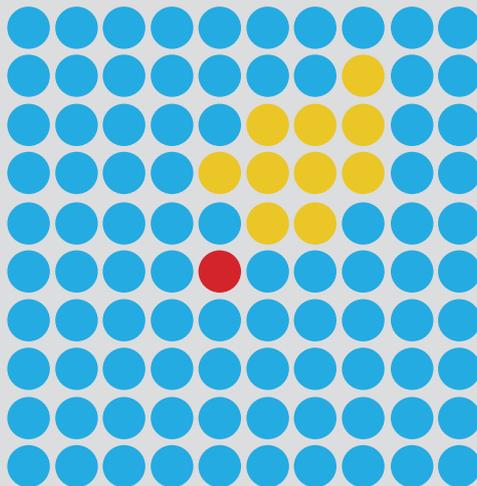
### What is community or herd immunity and why is it important?

Vaccination protects you and your family, and it also helps protect others. It contributes to 'community immunity'. This is achieved when enough people in a population are immune to an infectious disease (through vaccination and/or prior illness) so that it is unlikely to spread from person to person. Even those who cannot be vaccinated because they are too young, are allergic to vaccine components, or for whom vaccination is contraindicated are offered some protection because the disease cannot spread in the community and infect them. This is also known as 'herd immunity'.



**When enough people are protected (blue dots) in a community, they can protect those who are not yet vaccinated (yellow dots) from those who are infectious (red dots). When groups of unvaccinated people build up and are in close proximity, community immunity doesn't work and the disease spreads."**

**When groups of unvaccinated people build up and are in close proximity, community immunity doesn't work and the disease spreads.**



#### Prevention of outbreaks

Low measles vaccination uptake in a group of people can lead to dramatic increases in measles infections. This has happened in some areas and specific communities in Europe and has led to measles outbreaks. Because measles is highly contagious, it is important to achieve high levels of immunity in all communities in order to prevent and control this disease.

## WORKSHEETS

### Worksheet 1. Reasons for not vaccinating the child

Stage	Reasons provided by caregivers	Actions home visitors can take
<b>Pre-contemplation</b> – has not heard vaccination and vaccines		
<b>Contemplation</b> – has heard about vaccines and why individuals gets vaccinated		
<b>Preparation</b> – is thinking about getting the child vaccinated		
<b>Action: a. Trigger</b> – best friend shares good immunization experience, trusted health workers gives warm invitation to		
<b>Action: b. Decision</b> – Decides to go to the vaccination session		
<b>Action: c. Trial</b> – Sees how the child manages the first vaccines		
<b>Action: d. Fine-tuning</b> – decides to also go for the next vaccine		
<b>Action: e. Maintenance</b> – comes back following the vaccine schedule		
<b>Advocacy</b> – tells families in the neighborhood about vaccination		

**Worksheet 2. Non-Verbal Communication Reflection Sheet**  
 (Adapted from Karam et al.)

During a role play during this course or focusing on a recent home visit, use this sheet to reflect on your nonverbal behaviour.

Type	Positive	Negative
Gestures		
Utterances		
Tone of voice		
Eye contact		
Facial expression		
Taking time		
Physical distance/ barriers		

## REFERENCES

- Andrews N., Miller E., Grant A., Stowe J., Osborne V., and Taylor B. (2004). Thimerosal exposure in infants and developmental disorders: a retrospective cohort study in the United Kingdom does not support a causal association. **Paediatrics**. **114**:584-591.
- American Academy of Pediatrics. Motivational Interviewing. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/HALF-Implementation-Guide/communicating-with-families/Pages/Motivational-Interviewing.aspx>
- Atkinson, W.L., Kroger, A.L., and Pickering, L.K. (2008). General Immunization Practices. In: Plotkin, SA, Orenstein, WA, & Offit PA (Eds.). **Vaccines**. Fifth Edition. Saunders Elsevier.
- Baylor N.W., Egan W., and Richman P. (2002) Aluminium salts in vaccines – U.S. perspective. **Vaccine**. 2002, **20**:S18-S23.
- Center for Disease Control. Epidemiology and prevention of vaccine-preventable diseases. <https://www.cdc.gov/vaccines/pubs/pinkbook/meas.html>
- Children’s Hospital of Philadelphia (CHOP) (2011). Vaccines Hot Topics: Formaldehyde. [Internet]. CHOP: Philadelphia; c2011. <http://www.chop.edu/centers-programs/vaccine-educationcenter>.
- Deer, B. (2011). Secrets of the MMR scare. How the case against the MMR vaccine was fixed. *BMJ*;342:c5347. Institute of Medicine (IOM). Adverse Effects of Vaccines. Evidence and Causality. Enhancing childhood vaccination uptake from: <http://www.iom.edu/Reports/2011/Adverse-Effects-of-Vaccines-Evidence-and-Causality.aspx>
- European Centre for Disease Prevention and Control (ECDC). Questions and answers about childhood vaccinations. <https://www.ecdc.europa.eu/en/immunisation-vaccines/childhood-vaccination/faq?pdf=yes&preview=yes>
- European Centre for Disease Prevention and Control (ECDC) (9.7.2015). Leaflet – What is community immunity? <https://www.ecdc.europa.eu/en/publications-data/leaflet-what-community-immunity>
- European Union and World Health Organisation (2019). **Vaccines protecting everyone, everywhere: galvanising a global response to ensure health, security and prosperity through immunisation Global Vaccination Summit**. [https://ec.europa.eu/health/sites/health/files/vaccination/docs/ev\\_20190912\\_rt3\\_en.pdf](https://ec.europa.eu/health/sites/health/files/vaccination/docs/ev_20190912_rt3_en.pdf)
- Gallagher, J. (31 October, 2019). Measles makes body “forget” how to fight infection. **BBC News**. [https://www.bbc.com/news/health-50251259?intlink\\_from\\_url=https://www.bbc.com/news/topics/c1038wnxy50t/medical-research&link\\_location=live-reporting-story](https://www.bbc.com/news/health-50251259?intlink_from_url=https://www.bbc.com/news/topics/c1038wnxy50t/medical-research&link_location=live-reporting-story)
- Gallup (2019). **Welcome Global Monitor – First Wave Findings**. <https://wellcome.ac.uk/sites/default/files/wellcome-global-monitor-2018.pdf>
- Gavi, the Vaccine Alliance. (29.1.2019). Gavi in 30 slides. Retrieved on 4.11.2019. <https://www.gavi.org/gavi-30-slides>
- Gavi – The Vaccine Alliance. September 2019. Immunisation and the Sustainable Development Goals. <https://www.gavi.org/sites/default/files/document/2019/Immunisation%20and%20the%20SDGs%20%281%29.pdf>

Gerber J.S. and Offit P.A. (2009). Vaccines and autism: A tale of shifting hypotheses. **Clinical Infectious Diseases**. **48**:456-461.

Global Health NOW. One hundred objects that shaped public health. Retrieved from <https://www.globalhealthnow.org/object/vaccines>

Heron J. and Golding J. (2004). Thimerosal exposure in infants and developmental disorders: a prospective cohort study in the United Kingdom does not support a causal association. **Pediatrics**. **114**:577-583.

Hviid A., Vinsløv Hansen J., Frisch M. and Melbye M. (16.4.2019). Measles, Mumps, Rubella Vaccination and Autism: A Nationwide Cohort Study *Annals of internal Medicine*. <https://annals.org/aim/fullarticle/2727726/measles-mumps-rubella-vaccination-autism-nationwide-cohort-study>

Karam R., Rennie W., and Clayton S. (2019a). **Interpersonal communication for immunization. Training for frontline workers. Facilitator Guide**. UNICEF. <https://www.unicef.org/eca/media/8566/file/interpersonal-communication-immunization.pdf>

Karam R., Rennie W. and Clayton S. (2019b). **Interpersonal communication for immunization. Training for frontline workers. Participant manual**. UNICEF. <https://www.unicef.org/eca/media/8576/file/interpersonal-communication-participant.pdf>

Madsen K.M., Lauritsen M.B., Pedersen C.B., et al. (2003). Thimerosal and the occurrence of autism: negative ecological evidence from Danish population-based data. **Pediatrics**. **112**:604-606.

Mina, M.J, Kula T., Leng Y., Li M., de Vries R.D., Knip et al. (2019). Measles virus infection diminishes preexisting antibodies that offer protection from other pathogens. **Science** 01 Nov 2019: Vol. **366**, Issue 6465, pp. 599-606. DOI: 10.1126/science.aay6485. <https://science.sciencemag.org/content/366/6465/599/tab-pdf>

Offit P., Quarles J., Gerber M., Hackett C., Marcuse E., Kollman T., et al. (2002). Addressing Parents' Concerns: Do Vaccines Weaken or Overwhelm the Infant's Immune System? **Pediatrics**. **109**(1):124-9. 61

Oliver, K. Techniques and talking points to address vaccine hesitancy. [https://www.health.ny.gov/commissioner/grand\\_rounds/vaccine\\_hesitancy/docs/oliver.pdf](https://www.health.ny.gov/commissioner/grand_rounds/vaccine_hesitancy/docs/oliver.pdf)

Ozawa S., Clark S., Portnoy A., Grewal S., Brenzel L. and Walker D. (2020). Return on Investment from Childhood Immunization in Low- and Middle-Income Countries, 2011–2020. **Health Affairs**.

Smith M.J. & Woods C.R. (2010). On-time vaccine receipt in the first year does not adversely affect neuropsychological outcomes. **Pediatrics**. **125**(6):1134-41. doi: 10.1542/peds.2009-2489. Epub 2010 May 24.

Taylor L.E., Swerdfeger A.L. and Eslick G.D. (2014). Vaccines are not associated with autism: An evidence-based meta-analysis of case-control and cohort studies. **Vaccine**, **32**(29), 3623-9. <https://www.sciencedirect.com/science/article/pii/S0264410X14006367>

The Guardian (21.12.2018). Measles cases at highest in 20 years in Europe, as anti-vaccine movement grows. <https://www.theguardian.com/world/2018/dec/21/measles-cases-at-highest-for-20-years-in-europe-as-anti-vaccine-movement-grows>

Offit P. (2007). **Vaccinated: One man's quest to defeat the world's deadliest diseases**. New York: Smithsonian Books; 2007.

UNICEF ECARO & ISSA. (2016). Module 10. Caring and empowering: Communication skills for home visitors. [https://www.issa.nl/knowledge-hub?tid%5B%5D=146&tid\\_3=All](https://www.issa.nl/knowledge-hub?tid%5B%5D=146&tid_3=All)

UNICEF et al. (2019). IPC for Immunization Package. UNICEF, New York, 2019. [https://ipc.unicef.org/sites/ipcfi/files/2019-06/UNICEF\\_Participant\\_Manual\\_FINAL\\_2.pdf](https://ipc.unicef.org/sites/ipcfi/files/2019-06/UNICEF_Participant_Manual_FINAL_2.pdf)

The WHO SAGE Vaccine Hesitancy Working Group (March 18, 2013). What influences vaccine acceptance: A model of determinants of vaccine hesitancy [https://www.who.int/immunization/sage/meetings/2013/april/1\\_Model\\_analyze\\_driversofvaccineConfidence\\_22\\_March.pdf](https://www.who.int/immunization/sage/meetings/2013/april/1_Model_analyze_driversofvaccineConfidence_22_March.pdf)

USAID, WHO, UNICEF, MCSP & JSI (2018). A guide for exploring health worker/caregiver interactions on immunization. Final draft June 2018. [https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEWjX7uXJha3IAhVEQEEAHUYrAJYQFjAAegQIBBAC&url=https%3A%2F%2Fwww.who.int%2Fimmunization%2Fprogrammes\\_systems%2FHW\\_KAP\\_2018\\_final\\_draft\\_June2018.docx&usq=AOvVaw2FS3rG9Hnpk\\_n1dhGlopmx](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEWjX7uXJha3IAhVEQEEAHUYrAJYQFjAAegQIBBAC&url=https%3A%2F%2Fwww.who.int%2Fimmunization%2Fprogrammes_systems%2FHW_KAP_2018_final_draft_June2018.docx&usq=AOvVaw2FS3rG9Hnpk_n1dhGlopmx)

World Health Organization. Vaccine safety websites meeting good information practices criteria. [https://www.who.int/vaccine\\_safety/initiative/communication/network/approved\\_vaccine\\_safety\\_website/en/](https://www.who.int/vaccine_safety/initiative/communication/network/approved_vaccine_safety_website/en/)

World Health Organization (2017). Vaccination and Trust - How concerns arise and the role of communication in mitigating crises. [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0004/329647/Vaccines-and-trust.PDF](http://www.euro.who.int/__data/assets/pdf_file/0004/329647/Vaccines-and-trust.PDF)

World Health Organization (May 2017). Conversations to build trust in vaccinations. A training module for health workers. [https://www.who.int/immunization/programmes\\_systems/vaccine\\_hesitancy/en/](https://www.who.int/immunization/programmes_systems/vaccine_hesitancy/en/)

World Health Organization (2019). Ten threats to global health in 2019. <https://www.who.int/emergencies/ten-threats-to-global-health-in-2019>

World Health Organization (6.12.2019). Immunization coverage. <https://www.who.int/news-room/fact-sheets/detail/immunization-coverage>

World Health Organization (October 24, 2019). Two out of three wild poliovirus strains eradicated - Global eradication of wild poliovirus type 3 declared on World Polio Day. <https://www.who.int/news-room/feature-stories/detail/two-out-of-three-wild-poliovirus-strains-eradicated>

World Health Organization (April 2019). Table 2: Summary of WHO position papers – Recommended Routine Immunizations for Children. [https://www.who.int/immunization/policy/immunization\\_routine\\_table2.pdf?ua=1](https://www.who.int/immunization/policy/immunization_routine_table2.pdf?ua=1)

World Health Organization Europe (2017). Vaccine safety and false contraindications to vaccination. [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0009/351927/WHO-Vaccine-Manual.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0009/351927/WHO-Vaccine-Manual.pdf?ua=1)

World Health Organization Europe (2020). Table 1. Reported measles cases for the period January—December 2019 (07.02.2020). [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0007/427930/2020-01-Epi\\_Data\\_EN\\_January-December-2019.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0007/427930/2020-01-Epi_Data_EN_January-December-2019.pdf?ua=1)

Wikipedia, citing the U.S. Public Health Service, Health belief model. [https://en.wikipedia.org/wiki/Health\\_belief\\_model](https://en.wikipedia.org/wiki/Health_belief_model)

